STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Bellingham Field Office • 1440 10th Street, Ste 102 • Bellingham, WA 98225
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September 2, 2014

Mr. Jeff Schlaack
Sudden Valley Resort
4 Clubhouse Circle
Bellingham, WA 98229

Re: Further Action at the following Site:

- **Site Name:** Sudden Valley Resort
- **Site Address:** 2650 Lake Louise Road, Bellingham, WA 98229
- **Facility/Site No.:** 47652753
- **VCP Project No.:** NW2897
- **Cleanup Site ID No.:** 6154
- **LUST No.:** 3929 - Sudden Valley Area Z

Dear Mr. Schlaack:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Sudden Valley Resort facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and it's implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Gasoline-, diesel- and oil-range petroleum hydrocarbons into the soil.
- Diesel-range petroleum hydrocarbons into the ground water.

Enclosure A includes a diagram that illustrates the approximate location of the Site.

Please note a parcel of real property can be affected by multiple sites. At this time, we are uncertain that the parcel associated with this Site is affected by other sites.

Ecology understands that a Voluntary Cleanup Program opinion was requested for only a portion of the Site (i.e., the soil stockpile). However, Ecology has determined that your characterization of the overall Site is not sufficient to establish cleanup standards and select a cleanup action for the soil stockpile portion of the Site.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. John A. Pinner & Associates, *Sudden Valley 2145 Lake Whatcom Blvd, Bellingham, Washington, Multiple Underground Storage Tank Removal,* November 6, 1992.
2. John A. Pinner & Associates, *Final Report, Treatment Bed Area Z, Sudden Valley, Washington,* July 16, 1993.
3. GeoEngineers, Memorandum – *Environmental Drilling and Sampling Results for Area Z,* September 14, 1999.
4. GeoEngineers, *Report of Remedial Excavation Activities, Area Z, Sudden Valley Community Association, Bellingham, Washington*, May 23, 2000.
5. GeoEngineers, *Report of Environmental Services, Monitoring Well Replacement and Ground Water Sampling, Area Z, Bellingham, Washington*, December 27, 2000.
6. GeoEngineers, *February and May 2001 Ground Water Sampling, Area Z, Bellingham, Washington*, June 4, 2001.
7. GeoEngineers, *February 2002 Ground Water Sampling, Sudden Valley Community Association, Area Z, Bellingham, Washington*, February 26, 2002.
8. GeoEngineers, *Report of Environmental Services, Area Z Soil Stockpile Sampling*, May 14, 2014.

These documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or by emailing nwro_public_request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action.

Additional remedial investigation work is necessary to fully characterize the nature and extent of soil contamination, establish points of compliance for the soil Site and to meet the substantive requirements of the MTCA. Based on the following history of potential contaminant sources, the entire soil Site should be characterized.

Four gasoline underground storage tanks (USTs) were removed from the Sudden Valley community Property in 1992:

1. One 300-gallon gasoline UST was removed from the area of the restaurant and golf course. There is no report of contaminated soil being removed from this area.
2. One 1,000-gallon gasoline UST was removed from the golf course maintenance shop area. An unknown quantity of contaminated soil was transferred to Area Z from this area.
3. Two 1,000-gallon gasoline USTs were removed from Area Z. There is no report of contaminated soil being removed from this area.

Petroleum hydrocarbon-contaminated soil above the MTCA Method A soil cleanup levels was encountered during geotechnical work associated with the expansion of a proposed sewer lift station at Area Z in 1999. The aforementioned USTs all contained gasoline but the petroleum hydrocarbon-contaminated soil associated with the sewer lift station remedial excavation was reported in the diesel- and oil-range. The source of this petroleum hydrocarbon-contaminated soil has not been reported.

Approximately 2,500 cubic yards of diesel- and oil-range petroleum hydrocarbon - contaminated soil were excavated as part of the development of the new sewer lift station in 2000. It is not clear if the diesel-range contaminated soil was mixed with the gasoline-range contaminated soil generated from the UST removals in 1992 and stockpiled at Area Z.

In 2014, a total of ten test pits (TP-1 through TP-10) were completed in the soil stockpile and one soil sample was collected from each test pit. Each test pit was completed to a

depth ranging from 5 to 10 feet below the ground surface bgs. Subsurface conditions encountered in each of the test pits consisted of fill soil comprised of brown and gray silty sand with varying gravel content. Buried visqueen, assumed to be from the cover of the original stockpile was observed at approximately 3 feet bgs in some areas – indicating that clean fill may have been placed on the stockpile. The soils above the visqueen did not exhibit evidence of petroleum contamination by field screening. The gray colored soils below the visqueen intermittently exhibited field screening evidence of petroleum contamination. Occasional wood, concrete rubble, cobbles and asphalt concrete fragments were encountered in several test pits. Significant amounts of asphalt concrete fragments were encountered in test pit TP-5 approximately 3 to 5 feet bgs. Shallow perched groundwater seepage was encountered approximately 5 feet and 4 feet bgs in test pits TP-3 and TP-5, respectively. Petroleum sheen was not observed on the groundwater seepage. The bottom of the stockpile and condition of the original visqueen liner was not identified. The sources of the wood, concrete rubble, cobbles and asphalt concrete fragments were not reported.

Oil-range petroleum hydrocarbon contamination was detected in two shallow surface soil samples (TP-11 and TP-12) collected southeast of the community garden area at concentrations below Method A soil cleanup levels in 2014. No potential source for this oil-range petroleum hydrocarbon contamination has been reported or identified.

The Site is defined by the nature and extent, both lateral and vertical, of contamination that resulted from the above-referenced releases. The nature and extent of soil and ground water contamination at the overall Site has not been completely characterized. Ecology recommends that additional soil and ground water sampling and analysis be conducted to characterize the entire Site.

The MTCA 173-340-350(7) WAC provides elements of a remedial investigation necessary to fully characterize a site. An annotated outline of the MTCA remedial investigation requirements are presented in an attachment to this letter. Additional remedial investigation information necessary to characterize the nature and extent of contamination at the Site should include:

- Preparing a narrative or diagram that shows the relationship between the sources of the releases and the current location of impacted soil and groundwater associated with those releases.

- Determining the quantity and fate of contaminated soil excavated from each of the four underground storage tanks (USTs) removed in 1992 (presumably part of the current stockpile) and included with the 2000 remedial excavation stockpile.

- Preparing a cross-section of the 2000 remedial excavation (and possibly the 1992 UST removal excavations) showing soil sample locations and depths, excavation depths and estimated depth to groundwater relative to the bottom of the excavation.

- Preparing a cross-section of the soil stockpile including soil sample locations and depths, stockpile thickness and estimated depth to groundwater beneath the bottom of the stockpile.

- Remediating the soil stockpile in the vicinity of soil sample TP5-4-032515 including collection and analysis of confirmation soil samples in accordance with Ecology's current standards as described in *Guidance for Remediation of Petroleum Contaminated Sites*, Ecology Publication 10-09-057 and *Guidance on Sampling and Data Analysis Methods*, Ecology Publication 94-49).

- Remediating the sewer lift station excavation (i.e., remedial excavation) in the vicinity of sample EX-25-10.0 including the collection and analysis of confirmation soil samples.

- Ground water monitoring well MW-4 should be checked for free product (NAPL) based on the detection of diesel-range petroleum hydrocarbons at 16,000 micrograms per liter (µg/L).

- Completing a minimum of two additional ground water monitoring wells necessary to determine depth to ground water, seasonal ground water variation in water quality and the ground water hydraulic gradient.

- Ground water characterization should consider potential discharge to Beaver Creek and ground water cleanup levels protective of surface water may be needed.

2. Establishment of cleanup standards.

Ecology has determined that the soil cleanup levels you established for the Site do not meet the substantive requirements of the MTCA.

The MTCA Method A soil cleanup levels may be appropriate for the Site. However, Ecology cannot determine if the MTCA Method A cleanup levels are protective of human health and the environment until the soil and ground water at the Site are completely characterized and a subsequent terrestrial ecological evaluation (TEE) is completed or an appropriate TEE exclusion is demonstrated.

No ground water cleanup levels have been established for the Site.

3. Selection of cleanup action.

No cleanup action has been selected for the Site at this time.

It has not been demonstrated that natural attenuation of petroleum contamination in the soil stockpile soil has occurred. One stockpile and one remedial excavation soil sample results are above the MTCA Method A soil cleanup levels. The combined diesel- and oil-range petroleum hydrocarbons detected in stockpile soil sample TP5-4-032515 is 2,410 milligram per kilogram (mg/kg). Diesel-range petroleum hydrocarbons were detected in remedial excavation soil sample EX-25-10.0 at 5,900 mg/kg. It was also reported that sample EX-25-10.0 was located near Beaver Creek and possibly in contact with ground water. The MTCA Method A soil cleanup level for diesel-range petroleum hydrocarbons is 2,000 mg/kg.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (360) 715-5213 or e-mail at john.guenther@ecy.wa.gov.

Sincerely,

John Guenther, LHG
Site Manager
Toxics Cleanup Program

cc: Ron Bek, GeoEngineers
Sonia Fernandez, VCP Coordinator, Ecology

Enclosures: A - Description and Diagram of the Site
B – Remedial Investigation Outline

Enclosure A

Description and Diagram of the Site

Site Description

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site Definition
The Site is defined by the nature and extent of gasoline-, diesel- and oil-range petroleum hydrocarbons into the soil and diesel-range petroleum hydrocarbons into the ground water at 2650 Lake Louise Road, Bellingham, Washington. The Site is located within a Property known as Sudden Valley Resort Area Z.

Area/Property Description
The Property (Area Z) is a developed maintenance and service area consisting of gravel surfaced roads and parking areas, a couple of maintenance shop buildings, boat storage, slash piles and an underground sewer lift station. The Property is identified as Whatcom County Tax Parcel 3704073823790000.

Property History and Current Use
The Property was undeveloped and forested until sometime during the 1970s when it was developed as part of the Sudden Valley residential and recreational community. Current use consists of materials storage, equipment maintenance and an underground sewer lift station. The Property is zoned "Rural" according to the Whatcom County Title 20 Zoning Designation map dated 2013.

Contaminant Source and History
The source of gasoline-range petroleum hydrocarbon contamination in soil is from four gasoline underground storage tanks. The sources of diesel- and oil-range petroleum hydrocarbon contamination in soil and ground water are unknown.

Physiographic Setting
The Site is located within the northern portion of the Puget Sound Lowland Physiographic Province, a north-south trending structural and topographic depression bordered on its west side by the Puget Sound and San Juan Islands and to the east by the Cascade Mountain foothills. The San Juan Islands form the division between the Puget Sound Lowland and the Strait of Georgia in British Columbia. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and non-glacial sediments.

Repeated advances and retreats of the continental glaciers that flowed through the area out of Canada more than 10,000 years ago created the low undulating plains that are characteristic of the Puget Sound Lowland. Current land surfaces reflect the most recent changes that are directly related to glacial events, including the regionally expansive Fraser River Delta, occurring between 13,000 and 20,000 years ago.

Ecological Setting
The ecological setting is forested with two creeks (Beaver and Austin) within relatively close proximity to the Site. Beaver Creek is located approximately 200 feet to the northeast of the soil stockpile. Austin Creek is located approximately 400 feet to the southeast of the soil stockpile. Considerable terrestrial wildlife habitat surrounds the Property.

Geology
According to a U.S. Geologic Survey (USGS) geologic map for the project area, "Geologic Map of Western Whatcom County, Washington" by Don J. Easterbrook, 1976, the Site lies within an area mapped as being underlain by bedrock of the Chuckanut Formation. However, based on our previous exploration and excavation activities, the Area Z has modified ground (fill has been historically placed in this area) over alluvium from the nearby Beaver and Austin Creeks, glacial deposits and then bedrock.

According to the "Soil Survey of Whatcom County Area, Washington," United States Department of Agriculture Soil Conservation Service (SCS), 1992, the Site lies within an area mapped as Sehome loam, described as gravelly loam underlain by dense glacial till at depth. Permeability is moderate in the upper part of the Sehome soil and very slow in the dense glacial till.

Ground Water
The nearest drinking water well is located at 2097 Lake Whatcom Boulevard, approximately 1.7 miles northeast from the site according to Ecology's Washington State Well Log Viewer online mapping application.

Depth to ground water in monitoring well MW-4, the only known ground water monitoring well on the Property, has ranged from 9.16 to 10.05 feet bgs. The ground water hydraulic gradient has not been determined but is presumed to be eastward toward Beaver Creek.

Surface Water
Natural surface water features proximal to the Property include Beaver Creek, Austin Creek, Lake Louise and Lake Whatcom. Beaver Creek is located approximately 200 feet to the northeast, Austin Creek is located approximately 400 feet to the southeast, Lake Louise is located approximately 2,000 feet to the east and Lake Whatcom is located approximately 1 mile east of the Site.

Water Use/Water Supply
Potable water is supplied to the Sudden Valley Resort and surrounding community via a water intake located in Lake Whatcom that is owned, operated and maintained by the Lake Whatcom Water and Sewer District.

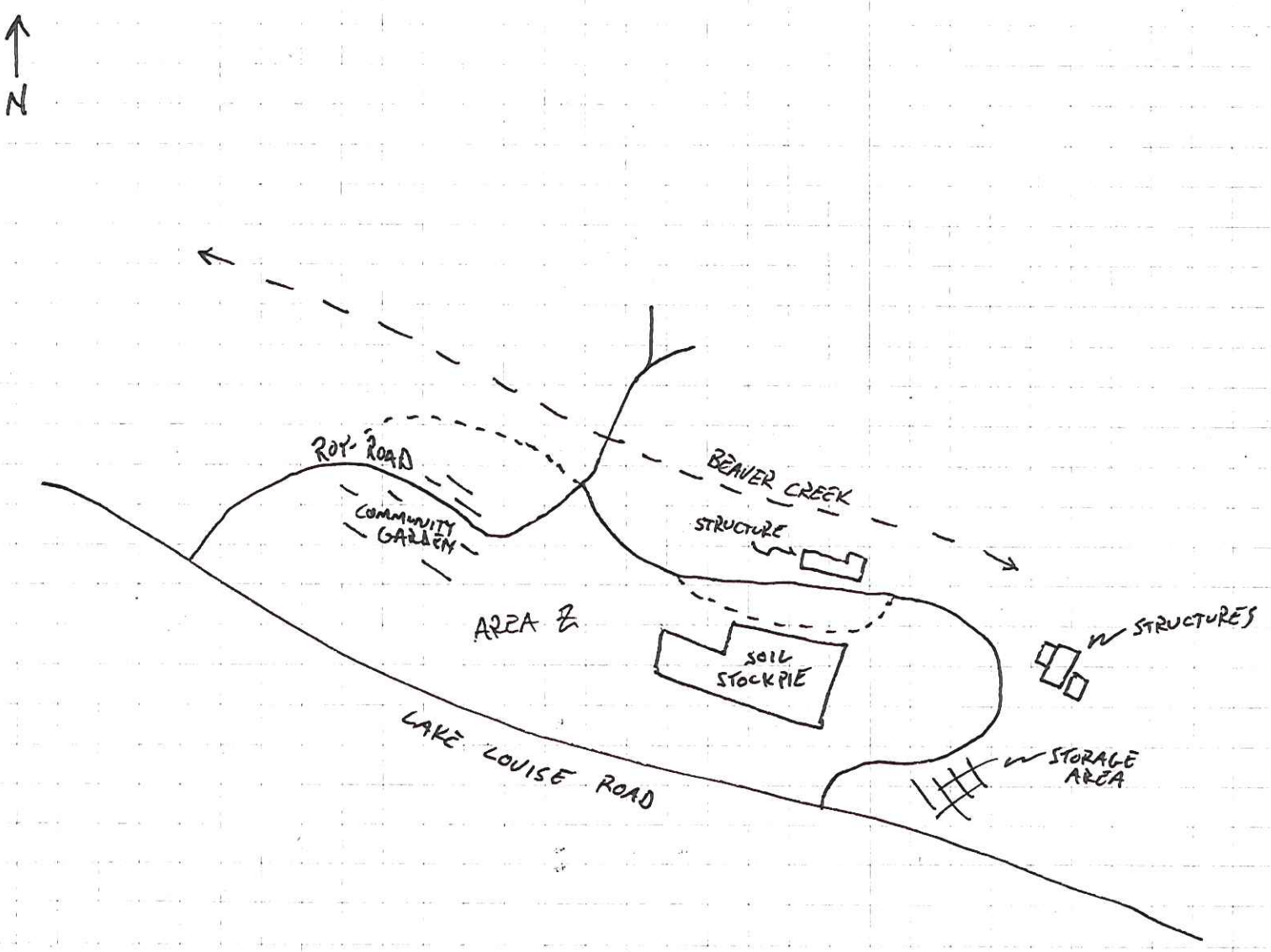
Release and Extent of Contamination – Soil
Diesel- and oil-range petroleum hydrocarbon contaminated soil was encountered during geotechnical work associated with the expansion of a proposed sewer lift station at Area Z in 1999. Approximately 2,500 cubic yards of diesel- and oil-range petroleum hydrocarbon contaminated soil were excavated as part of the development of the new sewer lift station in 2000. It is not clear if the 2,500 cubic yards of diesel- and oil-range petroleum hydrocarbon contaminated soil generated as part of the sewer lift station development in 2000 was mixed with gasoline-range petroleum hydrocarbon contaminated soil generated from the removal of the four USTs in 1992 and stockpiled at Area Z.

In 2014, a total of ten test pits (TP-1 through TP-10) were completed in the soil stockpile and one soil sample was collected from each test pit. Each test pit was completed to a depth ranging from 5 to 10 feet below the ground surface bgs. Subsurface conditions encountered in each of the test pits consisted of fill soil comprised of brown and gray silty sand with varying gravel content. Buried visqueen, assumed to be from the cover of the original stockpile, was observed at approximately 3 feet bgs in some areas – indicating that clean fill may have been placed on the stockpile. The soils above the visqueen did not exhibit evidence of petroleum contamination by field screening. The gray-colored soils below the visqueen intermittently exhibited visual field screening evidence of petroleum contamination. Occasional wood, concrete rubble, cobbles and asphalt concrete fragments were encountered in several test pits. Significant amounts of asphalt concrete fragments were encountered in test pit TP-5 at approximately 3 to 5 feet bgs. Shallow perched groundwater seepage was also encountered approximately 5 feet and 4 feet bgs in test pits TP-3 and TP-5, respectively. Petroleum sheen was not observed on the groundwater seepage. The bottom of the stockpile and condition of the visqueen liner below the stockpile was not identified. The sources of the wood, concrete rubble, cobbles and asphalt concrete fragments were not reported.

Oil-range petroleum hydrocarbon contamination was detected in two soil samples (TP-11 and TP-12) collected near the community garden area in 2014. No potential source for this oil-range petroleum hydrocarbon contamination has been reported.

Release and Extent of Contamination – Ground Water
Ground water contamination beneath the Site has not been characterized. Three ground water monitoring wells (MW-1 through MW-3) were completed on the Property in 1999. Monitoring wells MW-1 and MW-2 were removed during remediation activities at a later unknown date. Monitoring well MW-3 was covered or destroyed and has not been re-located. No ground water data from monitoring well's MW-1, MW-2 or MW-3 have been reported. A fourth ground water monitoring well (MW-4) was completed to 20 feet bgs on the Property in 2000. Ground water samples have been collected from monitoring well MW-4 on six occasions in August and November 2000, February, May and August 2001 and in February 2002. Diesel-range petroleum

hydrocarbons were detected in each of the MW-4 ground water samples ranging from 1,400 to 16,000 micrograms per liter (µg/L). The MTCA Method A groundwater cleanup level for diesel-range petroleum hydrocarbons is 500 µg/L.



1) LUST LOCATIONS UNKNOWN
2) REMEDIAL EXCAVATION LOCATION UNKNOWN

NW 2897 SITE DIAGRAM
ECOLOGY 2014

DEPARTMENT OF ECOLOGY
NORTHWEST REGIONAL OFFICE
REMEDIAL INVESTIGATION OUTLINE
MTCA VCP SITES

The following annotated outline is a suggested schematic for elements to be included in a Remedial Investigation report. It is not intended to replace MTCA's specific requirements as presented in 173-340-350(7) WAC.

The main purpose of the outline is to facilitate the preparation of a document that is clear, comprehensive, and to the point. A secondary, but important, purpose is to make document preparation and review more efficient.

INTRODUCTION *(Concise, bulleted if possible)*

- **Site name, VCP number, Name, address, and phone number of project consultant, Current owner/operator**
- **Purpose of document** *(very brief restatement of what an RI is for, reference the WAC)*

SITE IDENTIFICATION AND LOCATION *(Focus on defining the site in the context of its location)*

- **Site discovery and regulatory status** *(describe how the site was identified and where it is in the MTCA process)*
- **Site and property location/definition** *(define actual MTCA site location relative to property or study area)*
- **Neighborhood setting**

Figure – Vicinity Map *(preferably with topography)*
Figure – Property/Site Map *(preferably with topography)*

Appendix – Legal description of property, present owner and operator, chronological listing of past owners and operators

ENVIRONMENTAL INVESTIGATION/INTERIM ACTION SUMMARY *(Concise summary presentation of the investigations that have been done at the site, along with prior remedial actions. Focused mostly on figures and tables. Details of and methods used in former investigations and remediation in appendices)*

- **Constituents of Concern** *(brief discussion about which specific compounds were chosen for analysis and why)*
- **Soil**
- **Surface water**
- **Ground water**
- **Sediment**
- **Air/soil vapor**

- **Natural resources/wildlife**
- **Cultural history/archeology**
- **Interim actions** *(brief intro to prior remediation activities)*

Figure – Soil investigation data points *(show potential source areas)*
Figure – Surface water/groundwater investigation data points *(show potential source areas)*
Figure – Air investigation data points *(show potential source areas)*
Figure – Prior remediation activities

Table – Exploration Summary
Table – Analytical Schedule per media *(include analytical methods and reporting limits, as possible)*

Appendix – Previous Investigations *(detailed discussion goes here)*
Appendix - Exploration and sampling methodology *(may combine with Previous Investigations)*
Appendix – Boring / Well logs
Appendix - Prior Interim Actions

PROPERTY DEVELOPMENT AND HISTORY *(This section focuses on the built environment, both current and historical, and presents the sources of contamination and release mechanisms.)*

- **Past site uses and facilities**
- **Current site use and facilities**
- **Proposed or potential future site uses**
- **Zoning** *(if appropriate)*
- **Transportation/roads**
- **Utilities, water supply**
- **Potential sources of site contamination**
- **Potential sources of contamination from neighboring properties** *(discuss nearby sources if known)*

Figure – Historical site features *(may be combined with Figure 2)*
Figure – Potential contaminant sources
Figure – Utilities *(may be combined with Figure 2)*

Table – Potential Contaminants

NATURAL CONDITIONS

- **Physiographic setting/topography**
- **Geology** *(focus on interpretation)*
    - Regional Setting *(brief)*

- Property Geologic Conditions *(synthesis, not a copy of boring logs, provide cross sections)*
- Physical Properties *(unlikely to need this section, but in some cases may be useful to present data on soil adsorptive capacity, organic content, strength, etc.)*

Figure – Plan view of geologic unit distribution *(if helpful)*
Figure - Cross section A-A' *(show borings, wells, screened intervals, water levels)*
Figure – Cross section B-B' *(if necessary)*

- **Surface Water** *(brief description of the surface water system)*
  - Property drainage
  - Area surface water/floodplain issues
  - Regulatory classifications, if any *(e.g. surface water classification)*

Figure – Surface water Conditions *(only if information not already in a prior figure)*

- **Ground Water** *(focus on interpretation, show on cross sections)*
  - Occurrence *(aquifers, water levels, confinement, geometry, continuity, physical properties)*
  - Movement *(directions, gradient if important, seasonal fluctuations, tidal influence)*
  - Discharge
  - Recharge *(if significant for site)*
  - Regulatory classifications, if any *(e.g. sole source aquifer)*

Figure – Cross section with ground water information *(if not already included above)*
Figure – Water table/potentiometric surface maps *(for various seasons or tidal conditions, show surface water)*

Appendix – Ground water elevation data *(a table)*

- **Natural Resources and Ecological Receptors** *(preparatory to a Terrestrial Ecological Evaluation)*
  - Greenbelts and other natural habitat
  - Wildlife
  - Other Information required to conduct evaluations under WAC 173-340 -7491, -7492, or if necessary -7493

Figure – showing natural areas, as appropriate

CONTAMINANT OCCURRENCE AND MOVEMENT *(Very little text, mostly figures and tables, main point is to provide easy-to-understand figures showing the depth and breadth of contamination.)*

- **Waste Material** *(sludges, fluids, stockpiles)*
- **Soil**
- **Surface Water**
- **Ground Water**
- **Sediment**
- **Air/Soil Vapor**

Figures – Cross sections showing soil contamination with depth
Figures – Plan views showing soil contamination across site *(relative to releases if known)*
Figures – Cross section showing ground water contamination with depth *(if appropriate)*
Figures – Plan views showing ground water contamination in each aquifer *(relative to soil contamination and P-head map)*
Figures – XY plots of specific contaminants with time *(as appropriate)*
Figures – Others as appropriate to show the distribution of surface water, ground water, or air data

Tables – All of the analytical data against final cleanup levels *(exceedances highlighted, no need to develop screening levels)*
Tables – Summary of exceedances *(if helpful)*

Appendix – QA report
Appendix – Analytical lab reports

CONCEPTUAL MODEL *(Putting the whole story together, graphic illustrations are best.)*

- **Contaminant release/fate and transport/potential or actual receptors**
- **Data gaps** *(is anything missing)*

CLEANUP STANDARDS *(Developing appropriate cleanup standards based on receptors and pathways.)*

- **Soil**
    - Reasonable maximum exposure
    - Cleanup levels protective of direct contact, ground water, inhalation, terrestrial species, surface water, sediment
    - Points of compliance
    - Regulatory classifications *(classification of soil as dangerous or solid waste)*

- **Ground Water**

    - Highest beneficial use/reasonable maximum exposure
    - Cleanup levels protective of potable use, inhalation, surface water, sediment
    - Points of compliance

- **Other Media as appropriate**

    - Cleanup levels protective of ….
    - Points of compliance

Table – Cleanup Levels *(all potentially applicable values with final selected cleanup level noted)*

AREAS REQUIRING CLEANUP *(The final story detailing where the contamination exceeds an applicable cleanup standard, brief text, mostly tables, figures.)*

- **Constitutuents of Concern** *(a brief summary of compounds that exceed cleanup levels or "indicator hazardous substances" under MTCA. For most service station sites, the COCs should be the same)*
- **Soil – vertical and lateral**
- **Ground water – vertical and lateral**
- **Sediment**
- **Surface Water**
- **Soil Vapor/air**

Figures – Plan view and vertical sections of areas requiring cleanup

REFERENCES

Revised 8/21/14