4/08

DEPARTMENT OF ECOLOGY
State of Washington

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

SWRO SITE CLEANUP DECISION DOCUMENT

A. ADMINISTRATIVE

Step 1: Identify the Project

1. Site

- Site Name: City of Tacoma 35th Street Landfill
- Site Address: 35th Street and Pacific Avenue, Tacoma
- Facility / Site No.: 5774537

2. VCP Project

- VCP Project No.: SW0938
- VCP Customer Name: Mr. Eric Weber
- Ecology's Site Manager: Chuck Cline

Step 2: Reminder Checklist

Priority: ☐ **High** (pending property transaction, bank loan, etc.) ☒ Normal

☒ Yes ☐ No Have you reviewed the VCP application to ensure all information is current (correct applicant name, correct billing name, correct mailing addresses, etc)?

☒ Yes ☐ No Have you informed the VCP Unit Manager and the Data Coordinator of any site reports submitted to Ecology by the applicant?

☐ Yes ☒ No Is this a *regulated* UST/LUST site? (Please coordinate with UST/LUST staff)
☐ Yes ☐ No If so, has the LUST database manager been notified of this current activity?

☐ Yes ☒ No Is the site ranked? If yes, what is its rank: (1 2 3 4 5)?
☐ EEOS notified of pending delisting (only if site is ranked)?
☐ Public notice completed for delisting?

☒ Yes ☐ No Has Site Manager coordinated with Local Government/County Health Department?

☒ Yes ☐ No Site logs submitted to VCP data manager at the end of the pay period?

Step 3: Identify your Opinion

1. Remedial Action: What proposed or completed remedial action did the Customer request an opinion on?

Pre-cleanup actions
☐ Remedial investigation work plan
☒ Remedial investigation report
☒ Feasibility study report
☐ Other – please specify:

Cleanup actions

☒ Cleanup plan
☐ Cleanup report
☐ Other – please specify:

2. **Opinion Provided:** What opinion are you providing the Customer? If you are providing an opinion on a pre-cleanup action or on a proposed cleanup, specify the opinion below.

☐ No Further Action at Site.
☐ Further Action at Site.
☒ Other – please specify: Opinion that no further action will likely be necessary

Project Activity Initiation Date: August 7, 2008 report received.

Due Date for Response to Applicant (90 days from Initiation Date): November 7, 2008

Step 4: Determine Compliance with Reporting Requirements

1. **Licensing:** Were documents submitted containing geologic, hydrologic, or engineering work under the seal of an appropriately licensed professional?

☒ Yes ☐ No ☐ N/A

2. **Electronic Data Submittal:** Has the environmental sampling data been entered into the EIM system?

☐ Yes ☒ No If Yes: Date

Step 5: Describe the Site

1. **Description of the Site.**

The Site is defined by the nature and extent of contamination associated with the following releases:

- Petroleum hydrocarbons as carcinogenic polynuclear aromatic hydrocarbons (cPAHs) into the Soil.
- Methane as Soil Vapor into the Air.

The Site is further described and illustrated in the enclosure to the opinion letter.

2. **Identification of other sites that affect the parcels of real property affected by this Site.**

a. Do you know whether parcels within the Site are affected by other sites (such as the Tacoma Smelter Plume or other area-wide contamination)?

☐ Yes ☒ No Parcels are not affected by other sites.

b. If so, then identify those sites below (Site Name and F/S Number):

B. TECHNICAL
Step 6: Describe and Analyze the Site Cleanup

1. Characterization of the Site.

a. Identify:

(1) Basis for characterization of the Site: Briefly describe the basis for the characterization of the Site, including:

- The nature and extent of any investigations.
- Whether off-property areas were investigated.
- Whether alternatives to off-property investigations were used, such as assuming off-property affects, modeling off-property affects, or establishing cleanup levels to protect off-property media or receptors.

See Enclosure A of the opinion letter.

(2) Conceptual model of the Site: Briefly describe the conceptual model of the Site, or reference the plan or report in the site file that provides equivalent information.

See Enclosure A of the opinion letter.

(3) Nature and extent of contamination at the Site: Briefly describe the nature and extent contamination at the Site, or reference the plan or report in the site file that provides equivalent information.

See Enclosure A of the opinion letter.

b. Analysis:

(1) Characterization to establish cleanup standards: Is further investigation necessary to establish cleanup standards for the Site, including both cleanup levels and points of compliance? Please consider the following points in your explanation:

- Contaminants of concerns identified (list them);
- Extent of contamination delineated (lateral & vertical extents);
- Media affected (soil, groundwater, air, surface water, sediments);
- Pathways for each media;
- Discussion of applicable land use;
- Classification: ground water and beneficial use of surface water.

Explain: *Further investigation may be necessary to establish cleanup standards. Additional characterization is planned as part of the Cleanup Action Plan (CAP) to investigate the extent of cPAHs in the landfill area. A grid would be established for the area of the landfill and samples collected in each gridded area. The area of capping would be extended to include the area of cPAH concentrations above MTCA Method A soil cleanup standards. In addition, if the development design indicates that excavation for construction may go deeper than 15 ft below ground surface (bgs), the point of compliance would be extended to that depth.*

(2) Characterization to select a cleanup: Is further investigation necessary to define the extent of contamination to select a cleanup for the Property? Please consider the following points in your explanation:

- Conceptual Model of the Site Developed for each contaminant;

- All Site Exposure Pathways Identified for each media;
- All Potential Site Receptors Identified for each media;
- Cleanup alternative for the Property consistent with land/groundwater/surface water uses;
- Considerations on off-property impacts and nearby surface waters issues.

Explain: *No additional characterization would be required to select a cleanup for the property.*

2. Establishment of Cleanup Standards for the Site.

a. Substance-specific standards:

(1) Analysis: For each media, identify the following:

- The indicator hazardous substances and cleanup standards (cleanup levels and points of compliance) established for those substances.
- The land or resource use the cleanup levels are based on (e.g., for soil, cleanup levels may be based on unrestricted land use).
- The method used to establish the cleanup levels (e.g., Method B), and whether that method was modified.
- The pathway the cleanup levels are based on (e.g., for soil, the cleanup levels may be based on protection of ground water quality).
- Whether the point of compliance is standard or conditional, and the basis for the point of compliance (e.g., for soil, the point of compliance may be based on protection of ground water quality).

If the number of cleanup standards is significant, then reference the applicable plan or report in the site file that identifies them.

Explain: *Field observations during test pit and drilling activities conducted for the Remedial Investigation (RI) indicate that mixed fill material and soil exists to the full depths of the test pits and direct push borings (maximum depth 30 feet below ground surface [ft bgs]). It is also likely that fill is present to the full depth of the hollow-stem auger boring (81 ft bgs) based on the presence of wood debris and gravel observed in the auger hole. Analytical results indicate that none of the soil concentrations from the RI or the historical results exceed MTCA Method A cleanup levels, except for the following:*

- ***Motor Oil Range Petroleum Hydrocarbons*** *– Total Petroleum Hydrocarbons (TPH) was analyzed in 41 RI samples. Only one soil sample exceeded the MTCA Method A cleanup level of 2,000 milligram per kilogram (mg/kg) TPH as motor-oil range hydrocarbons in auger hole B-LAI-01 at 35-36.5 ft bgs. This soil sample concentration was 4,000 mg/kg. While a single RI sample exceeded the MTCA Method A soil cleanup level, the RI TPH data set is in compliance with TPH cleanup levels based on the Ecology three-part decision rule for demonstrating compliance with a cleanup level.*
- ***Arsenic*** *– Arsenic was analyzed in 41 RI samples. A single soil concentration of arsenic of 21.5 mg/kg was observed at direct push boring GP-LAI-04 at 16-20 ft bgs, exceeding the MTCA Method A cleanup level of 20 mg/kg. While a single RI sample exceeded the MTCA Method A soil cleanup level, the RI arsenic data set is in compliance with arsenic cleanup levels based on the Ecology three-part decision rule for demonstrating compliance with a cleanup level.*
- ***cPAHs*** *– cPAHs were analyzed at 11 locations where soil was estimated to have the highest potential for cPAH impact. Concentrations, adjusted to Toxicity Equivalency Factors (TEFs), exceeding the MTCA Method A soil cleanup level of 0.1 mg/kg were*

observed at eight locations with total cPAH concentrations ranging from 0.103 to 0.614 mg/kg at depths ranging from 4 to 20 ft bgs.

- ***Methane*** *– Methane measurements were made in six gas probes during three events in May 2008. Methane exceeded the Lower Explosive Limit (LEL) at LAI-05 and LAI-06 during the first sampling event, but not in two subsequent sampling events. The highest methane concentration was 27% (May 15, 2008 event) and declined to 1.7% (May 29, 2008 sampling event). Multiple methane measurements have been conducted historically by the City or Tacoma-Pierce County Health Department (TPCHD) between 1990 and 2006. These measurements indicated that relatively high methane concentrations were detected initially, but concentrations decreased over time to well below cleanup levels. During the six sampling events conducted between 2004 and 2006, overall methane levels were low, with the highest sampling result being 3.1% LEL (i.e., 0.15 % methane).*

A ground-water seep sample was collected from the seep located beneath the 34th Street bridge. The sample represents ground water that infiltrates through the fill and discharges along the base of the old ravine. Ground-water seep samples did not detect any constituents above cleanup levels. Multiple ground-water seep samples were collected by the City of Tacoma or its contractors between 1999 and 2004. None of the samples exceeded MTCA Method A values for drinking water.

Soil cleanup levels for unrestricted land use were developed in accordance with WAC 173-340-740, using exposure pathways based on the following:

- *Human contact through dermal, incidental ingestion, or inhalation with contaminants in soil at the site.*
- *Human ingestion of constituents in ground water affected by contaminants leached from site soil.*
- *Uptake of contaminants in site soil by terrestrial biota is not considered a potential exposure pathway because the site qualifies for an exclusion according to WAC 173-340-7491.*
- *Exposures to methane in air are not addressed by the MTCA. Therefore, the Minimum Functional Standards for Solid Waste Handling regulations (WAC 173-350-400) were used to assess acceptable levels for human exposure.*

Based on the known contaminants present at the site, MTCA Method A residential soil cleanup levels and MTCA Method A ground water as drinking water levels (WAC 173-340-740 and WAC 173-340-720, respectively) have been established as conservative cleanup levels for the site. The site has relatively few hazardous substances, and is expected to undergo a routine cleanup action.

To evaluate whether the residual TPH concentrations would be protective of ground water, Extractable Petroleum Hydrocarbon (EPH) method concentrations were used to develop TPH cleanup levels for six of the test pit samples. The EPH evaluations indicated that the soil concentrations sampled are protective of ground water.

For assessing exposures to methane in air, the LEL for methane of 5% was used. This is the allowable level for protection of human health at the property boundary, as specified in the Minimum Functional Standards for Solid Waste Handling.

Under MTCA, the point of compliance is the location on a site where the cleanup levels must be attained. The point of compliance for soil at the City of Tacoma 35th Street Landfill site is throughout the site to a depth of 15 ft bgs for human exposure due to direct contact, in accordance with WAC 173-340-740. The point of compliance for protection of ground water is soil throughout the site. The point of compliance for ground water is throughout the site in accordance with WAC 173-340-720. The point of compliance for methane in air is assumed to be throughout the site to a depth of 15 ft bgs.

(2) Terrestrial Ecological Receptors: Was a Terrestrial Ecological Evaluation or Exclusion completed?

☒ Yes ☐ No

If so, are the soil cleanup standards protective of terrestrial ecological receptors?

☒ Yes ☐ No

b. Action-specific and location-specific standards:

(1) Did the Customer identify any applicable action-specific or location-specific requirements or permits (such as shoreline, wetland, stormwater discharge, etc.)?

☒ Yes ☐ No

If so, please identify the requirements or permits or reference the plan or report that identifies them: *See the Feasibility Study from the Cleanup Action Plan.*

(2) Do you know of any other applicable action-specific or location-specific requirements or permits?

☐ Yes ☒ No

If so, please identify them here:

3. Selection of Cleanup Action for the Site.

a. Identify: Briefly describe the selected cleanup action for the Site.

The recommended cleanup action for this site consists of the following combination of active and passive cleanup actions:

- *In-situ containment of impacted soil left in place.*
- *Venting and monitoring of soil gas for methane.*
- *Deed restrictions in the form of an environmental covenant.*
- *Preparation of an Operations & Maintenance (O&M) manual for the site for compliance monitoring.*
- *Preparation of a health and safety plan.*

b. **Analysis:** Does the selected cleanup action meet the minimum cleanup requirements in WAC 173-340-360(2)?

☒ Yes ☐ No

Explain:

4. Cleanup of the Site.

a. **Achieve standards:** Did the cleanup achieve cleanup standards? Consider the following in your answer:

- Performance monitoring results of the cleanup action met criteria for the direct contact, vapor, and soil to groundwater, and groundwater to surface water exposure pathways?

☐ Yes ☐ No *NA*

b. **Maintain compliance with standards:** Will the cleanup maintain compliance with cleanup standards? Consider the following in your answer:

- Are engineering controls (e.g., slurry wall) in place to maintain cleanup standards and preclude recontamination?
- Are confirmational monitoring wells/tools in place to evaluate ongoing effectiveness of the engineering controls to maintain cleanup standards?

☒ Yes ☐ No

c. **Post-cleanup controls and monitoring:** Are post-cleanup controls or monitoring necessary to maintain compliance with cleanup standards?

☒ Yes ☐ No

If so, complete steps 7 and 8 below.

Step 7: Identify Post-Cleanup Controls and Monitoring (if applicable)

1. Institutional Controls.

a. Are institutional controls necessary at the Site?

☒ Yes ☐ No

b. If so, then what controls are necessary?

- Engineered cap to prevent direct contact with any cPAH concentrations present above cleanup levels.
- Soil gas venting and monitoring to prevent impact from methane in soil vapor.

c. On which tax parcels are controls necessary?

Apparently, the site is encompassed by six Pierce County Parcels (see Figure 3).

- 2084140040
- 2084140050
- 2085130060

- 2085130070
- 2085140040
- 2085140070

d. What mechanism is used to impose those controls on those parcels?

☒ Environmental Covenant
☐ Other (please identify):

e. If an Environmental Covenant is used, has any entity (person or business or government) with an interest in the Property (e.g. with a ROW easement) either signed the covenant or signed a subordination agreement?

☐ Yes ☒ No

f. Have the covenants been signed by Ecology and recorded by the Customer?

☐ Yes ☒ No

2. Engineered Controls.

a. Are engineered controls necessary at the Site?

☒ Yes ☐ No

b. If so, then describe the engineered controls to be used at the Property.

- Engineered cap to prevent direct contact with any cPAH concentrations present above cleanup levels.
- Soil gas venting and monitoring to prevent impact from methane in soil vapor.

c. Did the Customer submit and Ecology approve an operation and maintenance plan for those controls?

☐ Yes ☒ No

3. Performance of Confirmational Monitoring.

a. Is confirmational monitoring necessary at the Site?

☒ Yes ☐ No

b. Did the Customer submit and Ecology approve a confirmational monitoring plan?

☐ Yes ☒ No

Step 8: Identify Periodic Reviews (if applicable)

1. Are periodic reviews necessary at the Site (instances include: where engineered controls & non-permanent remedies are part of the cleanup action)?

☒ Yes ☐ No

2. If so, then:

   a. By what date should the first review be completed? *NA*

   b. Identify a schedule for performing reviews after that date: *NA*

Step 9: De-list the Site (if applicable)

1. Is the Site eligible to be de-listed based on an opinion issued under the VCP?

   ☐ Yes ☐ No

2. Is the Site listed on the Hazardous Sites List (HSL)?

   ☐ Yes ☒ No

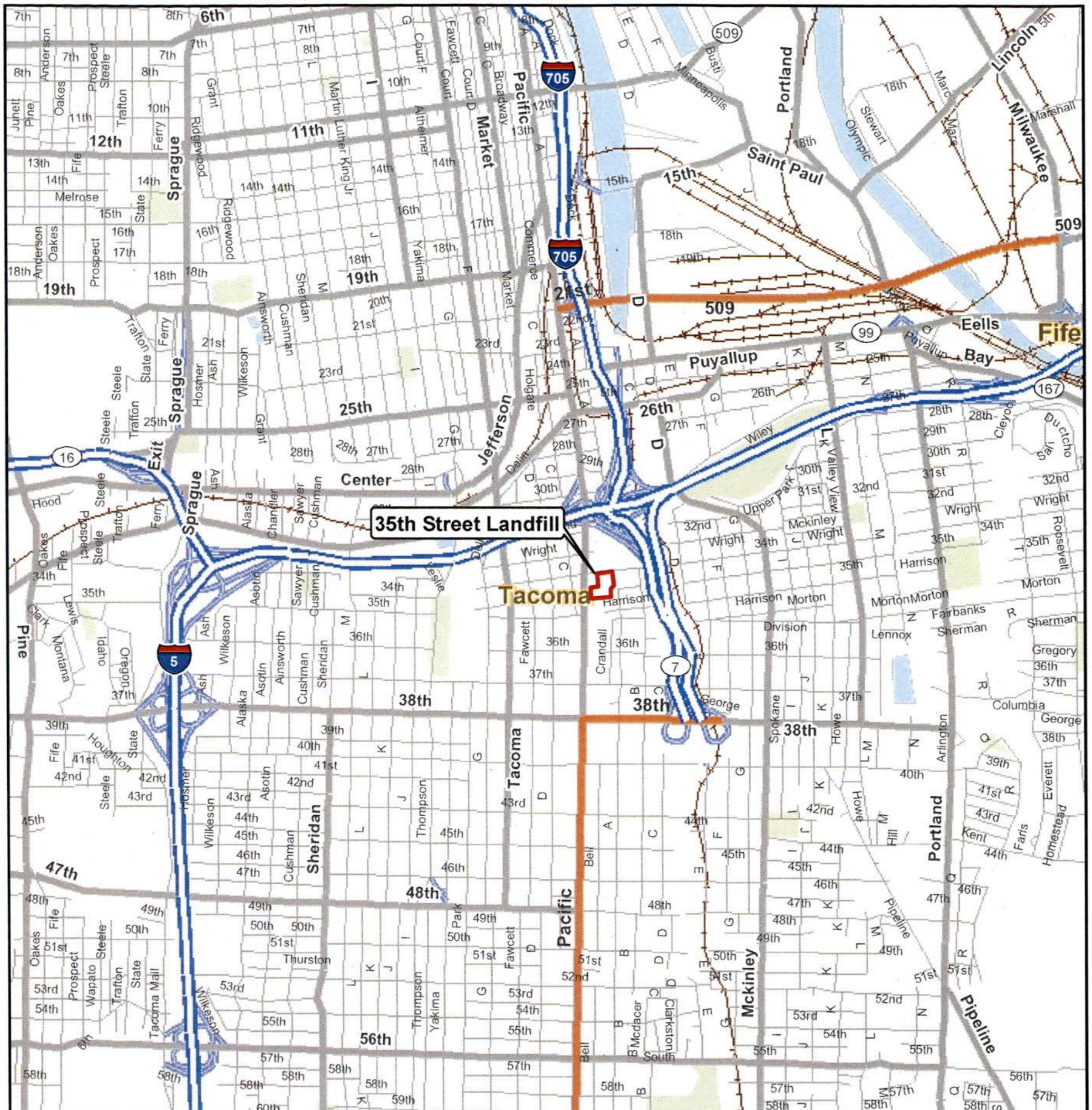
3. If so, by what date should the de-listing process be initiated?

Site Manager — Date: 9/24/08

Peer Reviewer (if applicable) — Date

Unit Manager — Date: 10/1/08

Section Manager — Date: 10/2/08



0 0.5 1

Miles

N

Data Source: ESRI 2006

Y:\Projects\094042\MapDocs\Fig1.mxd 8/5/2008

LANDAU ASSOCIATES

35th Street Landfill Tacoma, Washington	**Vicinity Map**	Figure 1

SWRO
VCP SITE REVIEW SUMMARY

not delinquent 2015

Site Name: City of Tacoma 35th Street Landfill, Tacoma **VCP Number: SW0938**
Site Manager: Chuck Cline **F/S Number: 5774537**

☐ **Final NFA** (attach draft NFA/opinion letter and previous opinion or NFA letter(s))
☒ **Opinion Letter** ☐ **Other: Explain:**

Part I: Administrative Information

Priority: ☒ **High** (pending property transaction, bank loan, etc.)
☐ **Normal**

☒ Yes ☐ No **Have you reviewed the VCP application to ensure all information is current (correct applicant name, correct billing name, correct mailing addresses, etc)?**

☒ Yes ☐ No **Have you informed the VCP Unit Manager and the Data Coordinator of any site reports submitted to Ecology by the applicant?**

Project Activity Status: (What is the purpose of this Opinion Letter?)

☐ **Remedial Investigation Work Plan**
☐ **Remedial Investigation Report**
☐ **Feasibility Study Report**
☐ **Interim Action Work Plan**
☐ **Interim Action Report**
☐ **Cleanup Action Plan (CAP)**
☒ **Final Cleanup Report**
☐ **Other (Explain below):**

Provide description of the purpose of this Opinion Letter: This opinion letter reflects the need for further action based on the request for removal from the Confirmed and Suspected Contaminated Sites List (CSCSL).

Project Activity Initiation Date: February 28, 2008

Due Date for Response to Applicant (90 days from Initiation Date): May 28, 2008

Was technical assistance provided or currently being ?
☐ **No (received VCP application/cleanup report after cleanup completed)**
☒ **Yes (If yes, then check box(s) below that apply)**
☒ **before cleanup activities**
☐ **during cleanup activities**
☐ **after cleanup activities**

☐ Yes ☒ No **Is this a *regulated* UST/LUST site? (Please coordinate with UST/LUST staff)**
☐ Yes ☐ No **If so, has the LUST database manager been notified of this current activity?**

☐ Yes ☒ No **Is the site ranked? If yes, what is its rank: (1 2 3 4 5)?**
☐ **EEOS notified of pending delisting (only if site is ranked)?**
☐ **Public notice completed for delisting?**

☒ Yes ☐ No **Has Site Manager coordinated with Local Government/County Health Department?**

☐ Yes ☒ No **Is this site in the Tacoma Smelter Plume area?**
☐ Yes ☐ No **Has Site owner been notified of potential for arsenic/lead contamination?**

☐ Yes ☒ No **Policy 840 Compliance: EIM Data Submitted?**
Date Final EIM Data Received: _____

☒ Yes ☐ No **Site logs submitted to VCP data manager at the end of the pay period?**

Part II: Cleanup/Decision Summary

☐ Yes ☒ No **Does the cleanup meet substantive requirements of MTCA?** Example: Required reports (e.g., RI/FS, CAP, Sampling and Analysis plan, etc) need not be the same in title or format; however, the documents must still contain sufficient information to serve the same purpose. The scope and level of detail in these documents may vary from site to site depending on the site specific conditions and the complexity.

☐ Yes ☒ No **Has site (anywhere contamination has come to be located) been fully characterized (all media)?**

☒ Yes ☐ No ☐ Unknown **Does contamination remain on-site (definition of "site/facility")?**

☐ Yes ☐ No **Restrictive covenants/deed restrictions /institutional controls required?**
☐ Yes ☐ No **Has a filed restrictive covenant been received and entered into database?**

1. **Site Description (include site address [street, city, county], physical description, current and historical uses of site, etc):**

The site is an approximate 5-acre parcel of land, which over a 30-year period has been filled with various construction spoils and street sweepings. The site is bordered on the west by Pacific Avenue, on the north by the 34th Street Bridge, on the east by "A" Street, and on the south by a vacant parcel at 35th Street. Apparently, the site is encompassed by Pierce County Parcels #2084140040, 2084140050, 2085130060, and 2085130070, and may impact Parcels #2085140040, and 2085140070 (see Figure 3). The site is situated within the City of Tacoma boundaries, Pierce County, Washington State. The surrounding area is mostly residential. Figures 1 and 2 show the approximate location, and site configuration, respectively.

The 35th Street Landfill site is located within what had been a natural ravine that drained into Commencement Bay. The underlying soil consists of glacially derived sand and silty sand. The southern limits of the ravine are uncertain, but extended at least as far as South 38th Street at one time. The ravine is now filled at the southern end, with the fill now extending to an area between South 34th Street Bridge and South 35th Street. The 35th Street Landfill Site was used by the City of Tacoma to dump waste materials from the early 1960's through 1992. The construction debris originated, primarily, from the Interstate-5, Interstate-705, and Highway 7 extensions, Tacoma Public Utilities construction projects, and various large private construction projects. Reported materials dumped included waste concrete, asphalt, other inert materials, street sweepings, and vactor waste (catch basin cleanings). The Tacoma-Pierce County Health Department (TPCHD) state that the street sweepings and vactor waste were placed primarily at the northern end of the fill. Interviews with area residents confirm that organic materials were disposed at the site. Apparently, cleanings from catch basins were dumped at the site from 1985 until 1990. The Environmental Site Assessment (ESA) conducted by the City of Tacoma indicates that most of the organic materials were disposed at the eastern edge at "A" Street and 35th Street, which conflicts with TPCHD.

In November 1990, organic vapors (methane) were detected in shallow probes at the site. This prompted the TPCHD to request an environmental investigation of the site. City of Tacoma Public

Works Department personnel conducted a site assessment that addressed gas generation, surface-water contamination potential, and characterized the soil material comprising the fill. TPCHD also expressed concerns about site stability. City personnel determined that a three-to-one slope for the site would be needed to address this concern. In 1991, the City of Tacoma regraded the fill to provide better stability, covered the site with topsoil, and hydro seeded. Figure 4 shows a photograph of the fill area as it looked in 1990.

2. **Describe affected media (soil, groundwater, surface water, sediment, air):**

Various studies, including the ESA conducted by the City of Tacoma in 1991, have detected constituents in the soil and in run-off surface water down-gradient of the site. Sampling for the ESA included total petroleum hydrocarbon (TPH), metals, and volatile organic compounds (VOCs), with most results below detection levels or MTCA cleanup levels. Samples were analyzed at the City Technical Support Laboratory. Nine test pits were dug to depths ranging from 12 to 15 feet below ground surface (ft bgs), and soil samples were collected from five of the pits at various depths. Figure 5 is the figure from the ESA that shows the locations of the test pits. Concentrations of 21.7 milligrams per kilogram (mg/kg) and 228 mg/kg arsenic were obtained above the MTCA cleanup level of 20 mg/kg at two locations. TPH in soil ranged from 500 to 1330 mg/kg. Observations recorded in the field notes for the test pits also indicated diesel odors and indications of street sweepings. Hand-written notes in the TPCHD file indicated that sample splits were obtained by TPCHD personnel and analyzed for TPH, which was detected in two soil samples at concentrations of 84,000 mg/kg and 3,800 mg/kg. Both TPCHD analyses exceed the old MTCA TPH diesel-range soil cleanup level of 200 mg/kg and the amended MTCA cleanup level (amended February 2001) of 2,000 mg/kg. It is not certain whether the TPH was gasoline-range, diesel-range, or oil-range TPH (or representative of the full range).

Two water samples were collected at the northern end of the fill following a 24-hour rain event and submitted for analysis of TPH, metals, and VOCs. The samples were collected from the end of a culvert pipe that extends below the fill and terminates below the 34th Street Bridge, and a run-off stream at the base of the fill. The TPH results were 25.6 milligrams per liter (mg/l), and 32.0 mg/l. Xylene was detected in the culvert sample at 8.5 micrograms per liter (ug/l) and erroneously attributed to 1,1,1-trichloroethane in the ESA report. Arsenic, chromium, copper, and zinc were also detected at relatively low levels (for possible surface water cleanup levels) in the surface water samples. The highest concentration of arsenic detected was 13 ug/l, chromium was 7 ug/l, copper was 18 ug/l, and zinc was 42 ug/l. Lead was also detected in the run-off stream at 39 ug/l. At the time of the ESA, the MTCA ground-water cleanup levels for arsenic, chromium, and lead were 5 ug/l, 50 ug/l, and 5 ug/l, respectively. Presently, the ground-water cleanup levels for these constituents are 5 ug/l, 50 ug/l, and 15 ug/l, respectively. It is not clear whether the run-off samples reflect run-off from the surface of the fill or water from the base of the fill that is perched on the glacial materials underlying the fill.

Soil and surface water samples have been collected over time since the ESA. However, sampling has been inconsistent and locations of sample collection are not reproducible. The investigative work conducted by the City is not considered adequate to characterize the site. The annual sampling provides little information about the extent of contamination or about the overall constituency of the buried waste. Sampling methodology and quality assurance are unknown for most of the samples collected. Because of the potential impact of TPH, metals, and residual organic materials (that may contribute to methane gas production in the buried waste), additional characterization should be required. Further, it is the understanding of Ecology that this area is proposed for a land swap by the City of Tacoma and that development may include condominiums.

3. **Cleanup method used:**

   ☒ **Method A**
   ☐ **Method B**
   ☐ **Method C**

4. **Describe cleanup activities (for each media) and if contamination remains on site (including confirmational sampling/analysis, points of compliance, etc):**

NA

5. **Describe restrictive covenant (e.g., contamination remains under structure, groundwater restrictions, 5-year review):**

NA

Site Manager	**Date** 4/15/08
Peer Reviewer	**Date**
Unit Manager	**Date** 4/15/08
Section Manager	**Date** 4/19/08