



Fourth Periodic Review Sparks & Buttercup Subdivision

**12th Avenue and Eastern Street, Spokane
Facility Site ID: 695, Cleanup Site ID: 1140**

Toxics Cleanup Program, Eastern Region

Washington State Department of Ecology
Spokane, Washington

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Document Information

This document is available on the Department of Ecology's [Sparks & Buttercup Subdivision cleanup site page](#).¹

Related Information

- Facility Site ID: 695
- Cleanup Site ID: 1140

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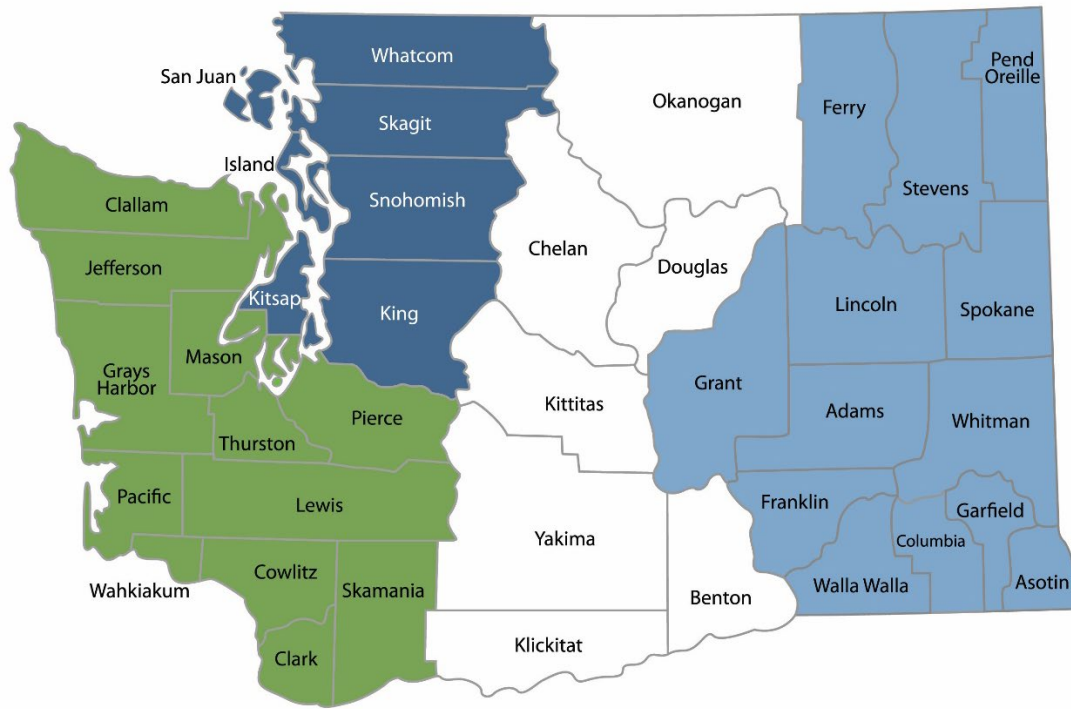
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¹ <https://apps.ecology.wa.gov/cleanupsearch/site/1140>

² <https://ecology.wa.gov/About-us/Who-we-are/Our-Programs/Toxics-Cleanup>

Department of Ecology's Region Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400
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Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 47600 Olympia, WA 98504	360-407-6000

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Introduction

The Washington Department of Ecology (Ecology) reviewed post-cleanup site conditions and monitoring data to ensure human health and the environment are being protected at the Sparks & Buttercup Subdivision cleanup site (Site). Site cleanup was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). This is the fourth periodic review conducted for this Site. Previous periodic reviews were completed in October 2008, May 2014, and November 2019.

Cleanup activities at this Site were completed under the Voluntary Cleanup Program (VCP). Residual concentrations of heavy metals, pesticides, and petroleum hydrocarbons in soil that exceeded MTCA cleanup levels remain on the property. The MTCA cleanup levels for air, soil, sediment, surface water, and groundwater are established under [WAC 173-340-750](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-750),³ [WAC 173-340-740](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-740),⁴ [WAC 173-340-760](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-760),⁵ [WAC 173-340-730](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-730),⁶ and [WAC 173-340-720](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-720),⁷ respectively.

Ecology determined institutional controls in the form of a restrictive covenant would be required as part of the cleanup action for the Site. [WAC 173-340-420\(2\)](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-420(2))⁸ requires Ecology to conduct a periodic review of certain sites every five years. For this Site, a periodic review is required because we issued a no further action opinion, and institutional controls were required as part of the cleanup action.

When evaluating whether human health and the environment are being protected, Ecology must consider the following factors (WAC 173-340-420(4)):

- a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site
- b) New scientific information for individual hazardous substances or mixtures present at the site
- c) New applicable state and federal laws for hazardous substances present at the site
- d) Current and projected site and resource uses
- e) The availability and practicability of more permanent remedies
- f) The availability of improved analytical techniques to evaluate compliance with cleanup levels

³ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-750>

⁴ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-740>

⁵ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-760>

⁶ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-730>

⁷ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-720>

⁸ <https://app.leg.wa.gov/wac/default.aspx?cite=173-340-420>

Summary of Site Conditions

Site description and history

The Site is about 2.42 acres and includes portions of Spokane County tax parcels 35243.0503 and 35243.0504. The Site is bounded by a thin forest perimeter, with single-family residential properties beyond.

East Spokane Township No. 49 (Spokane County) operated a landfill at the Site from around 1928 until 1960. The landfill reportedly received domestic refuse, construction debris, scrap metal, and other types of debris. No permits were issued for the landfill operation.

No other activities are known to have taken place at the Site before or after landfill activities. The Site remained undeveloped when remedial investigations began in 1991. The landfill debris thickness ranges from 1 to 20 feet, and the volume is estimated to be between 30,000 and 62,500 cubic yards. The debris is underlain by native fine-grained alluvial deposits and granitic and basaltic bedrock deposits providing semi-confined or confined conditions for the underlying Spokane-Valley Rathdrum-Prairie Aquifer. Prior to remediation, the landfill debris were overlain by a thin, sandy soil and vegetative cover with exposed debris in some areas.

A vicinity map is in Appendix A, and a Site plan is in Appendix B.

Site investigations

A Phase II Environmental Site Assessment was conducted at the Site in 1991. Soil samples were collected from eight test pits and three soil borings, which were advanced to a maximum depth of 15 feet below ground surface (bgs). Total petroleum hydrocarbons (TPH), antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, and zinc were all detected at concentrations exceeding MTCA Method A cleanup levels. The pesticide 4,4-dichloro-diphenyl-trichloroethane (DDT), and its breakdown product 4,4-dichloro-diphenyl-dichloroethane (DDE) were reported above the laboratory method detection limit (MDL).

In 1992, Kleinfelder, Inc., investigated groundwater contamination at the Site. Groundwater was encountered under semi-confined/confined conditions between 56 and 121 feet bgs in three monitoring wells (MW-1 through MW-3) installed at the Site. Arsenic, chromium, and lead were detected in soil samples collected between 24 and 29 feet during the installation of these wells. Kleinfelder proposed these concentrations represented background levels that occur naturally in soils within the Spokane Valley, since native soil samples collected outside the landfill footprint in 1991 also exceeded Method A cleanup levels for arsenic and chromium. DDT, lead, arsenic, and chromium were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from two of the monitoring wells. Again, Kleinfelder proposed these concentrations represented background concentrations in the area and were not caused by the landfill. Field-filtered groundwater samples collected in July 1993 were non-detect for all pesticides and heavy metals, which indicated the contaminants were sorbed onto fine-grained soil and sediment and not dissolved in groundwater.

A landfill gas survey was also conducted at the Site in October 1993. Six vapor monitoring probes were installed in and around the landfill and sampled over a two-day period. These samples did not detect appreciable levels of methane or any other combustible gas in the landfill debris or near-surface soils surrounding the landfill.

Cleanup actions

The remedial action for the Site consisted of encapsulating the landfill with 1 foot of clean imported soil covered by a 40-mil polyvinyl chloride (PVC) liner. The PVC liner was then covered with 1.5 to 2 feet of topsoil. The surface of the landfill cap was revegetated with grass. Concrete surface drainage trenches were installed along the southern and eastern perimeters of the landfill and in the northwestern corner to divert stormwater away from the landfill and prevent erosion. A 5-inch diameter steel culvert was installed at the southwestern end of the south drainage trench, and all trenches include coarse drain rock to prevent erosion at the outflows.

Cleanup performance monitoring

A groundwater compliance monitoring program started in 1993 to assure groundwater was protected at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-3 and analyzed for TPH, pesticides, arsenic, chromium, and lead. In 1995, two additional groundwater monitoring wells (MW-4 and MW-5) were installed hydraulically downgradient (north) of the landfill boundary and monitored for TPH, pesticides, polychlorinated biphenyls (PCBs), arsenic, chromium, and lead. Sample results from the two years of groundwater compliance monitoring did not detect pesticides, PCBs, TPH, or metals at concentrations exceeding MTCA Method A cleanup levels.

From April through August 1995, landfill gas monitoring was conducted monthly to bi-monthly at six vapor monitoring points around the Site perimeter. All samples were compared to ambient background measurements of methane, carbon dioxide, oxygen, and barometric pressure, and found to be within an acceptable range for protection of human health and the environment.

Cleanup standards

Cleanup standards include cleanup levels, the location where these cleanup levels must be met (point of compliance), and any other regulatory requirements that apply to the Site.

[WAC 173-340-704](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-704)⁹ states MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used. Method B may be used at any site and is the most common method for setting cleanup levels when sites are contaminated with substances not

⁹ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-704>

listed under Method A. Method C cleanup levels may be used to set soil and air cleanup levels at industrial sites.

MTCA Method A cleanup levels for unrestricted land use were determined to be appropriate for contaminants at this Site. The cleanup actions were routine, few hazardous substances were found, and numerical standards were available in the MTCA Method A table for each hazardous substance. Table 1 contains MTCA cleanup levels for the Site. Please note that these cleanup levels were established under the 1991 MTCA update and have since been revised. See “new applicable state and federal laws for hazardous substances present at the Site” under the “Periodic Review” section for the current MTCA Method A cleanup levels.

Table 1. 1991 MTCA soil and groundwater cleanup levels

Contaminant	Soil cleanup level (mg/kg)	Groundwater cleanup level (µg/L)
Arsenic	20	5
Chromium	100	50
Lead	250	5
PCBs	1	NL
4,4-DDT	1	0.1
TPH	NL	1,000
TPH- gasoline	100	NL
TPH- diesel and heavy oil	200	NL

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

NL = none listed

MTCA = Model Toxics Control Act

The point of compliance is the area where the cleanup levels must be attained. For soil cleanup levels based on the protection of groundwater, as they are for this Site, the point of compliance is established as soils throughout the Site (standard point of compliance).

For groundwater, the point of compliance is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site. This is the standard point of compliance.

Restrictive Covenant

Ecology determined institutional controls would be required as part of the cleanup action to document the remaining contamination, protect the cleanup action, and protect human health

and the environment. On June 17, 1996, institutional controls in the form of a [restrictive covenant](#)¹⁰ (Covenant) were recorded for the Site.

The Covenant imposes the following limitations:

1. The Site contains residual concentrations of petroleum hydrocarbons and metals in the soil. The Site has been covered with imported clean soil and a PVC liner, and has been revegetated with grass. Remediation or removal of the contaminated soil must be addressed before the owner or a successor owner alters or modifies the Site to the extent that it affects the contamination, the clean soil cap, or the PVC liner. Any plans for alteration, modification, or removal shall be submitted to Ecology, or a successor agency, for approval.
2. The owner or successor owner of the Site must give written notice to Ecology, or to a successor agency, of the owner's or successor owner's intent to convey any interest in the Site, and shall, prior to conveyance of title, easement, lease, or other interest in the Site, provide the new owner or lessee of any interest in the Site a copy of the August 1994 Independent Remedial Action Report. No conveyance of title, easement, lease, or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Restrictive Covenant. Copies of this Restrictive Covenant shall be furnished to any transferee of the Site.
3. The owner or successor owner agrees to maintain the clean soil cap and agrees to submit written notification to Ecology, or a successor agency, on an annual basis, confirming that the clean soil cap has undergone a visual inspection, received any necessary repairs due to erosion, and remains in place. This covenant does not require the owner or successor owner to maintain or inspect the PVC liner.
4. The owner or successor owner must notify and obtain approval from Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve such a use only after public notice and comment.
5. The owner or a successor owner shall grant Ecology, or a successor agency, and its designated representatives the right to enter the Site at reasonable times for the purpose of carrying out its duties under RCW Chapter 70.105D, including the right to take samples, inspect any remediation actions taken at the Site, and inspect records.
6. The owner of the Site and any successor owners reserve the right under WAC 173-340-440 to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology, or a successor agency, may consent to the recording of such an instrument only after public notice and comment, and only if a restrictive covenant is no longer required by law at this Site.

¹⁰ <https://apps.ecology.wa.gov/cleanupsearch/document/1996>

Periodic Review

Effectiveness of completed cleanup actions

During the Site visit Ecology conducted on July 22, 2025, the soil cap appeared to be in satisfactory condition and continues to provide a barrier to residual contamination, which prevents direct human or animal contact. The Site remains undeveloped. There is evidence of human foot traffic and wildlife use on the cap and surrounding slope. This traffic does not appear to be adversely impacting the cap or posing a risk of exposing contaminated soils contained at the Site. Wood fencing, signage, and concrete and metal drainage controls appear to be in satisfactory condition, though signs of potential animal burrowing and/or erosion of soils were observed near the northwestern drainage trench. A photo log is in Appendix C.

Direct contact

The cleanup actions were intended to eliminate exposure to contaminated soil at the Site. Exposure pathways to contaminated soils by ingestion and direct contact were reduced by installing a cap over the remaining contaminated soil, which consists of clean soil and a 40-milPVC liner. The cap appears to be in satisfactory condition, and no repair, maintenance, or contingency actions are required at this time.

Protection of groundwater

Soils with arsenic, chromium, lead, and DDT concentrations exceeding MTCA Method A cleanup levels remain at the Site. Drainage controls, including the concrete surface drainage trenches and metal subsurface culvert pipe, limit stormwater infiltration through contaminated soil and protect shallow groundwater. These controls appear to be in satisfactory condition, and no repair, maintenance, or contingency actions are required at this time.

Institutional controls

Institutional controls in the form of a Covenant were implemented at the Site in 2006. The Covenant remains active and discoverable through the Spokane County Assessor's Office. Ecology found no evidence a new instrument has been recorded that limits the effectiveness or applicability of the Covenant. This Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup action and prohibits any use of the property that is inconsistent with the Covenant, unless approved by Ecology in advance. This Covenant ensures the long-term integrity of the cleanup action will be protected. The property owner is required to submit an annual notification that the cap has undergone a visual inspection, received necessary repairs due to erosion, and that it remains in place. The last inspection report was received on October 3, 2024, and indicates that all standards are being met.

New scientific information for individual hazardous substances or mixtures present at the Site

There is no new relevant scientific information for the hazardous substances remaining at the Site.

New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the Site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12)(c) [2024 ed.] provides that,

“A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment.”

Although cleanup levels changed for contaminants of concern at the Site as a result of modifications to MTCA in 2001, contamination remains above MTCA Method A cleanup levels and the cleanup action is still protective of human health and the environment. Table 2 contains the current MTCA Method A cleanup levels for Site contaminants.

Table 2. Current MTCA soil and groundwater cleanup levels

Contaminant	Soil cleanup level (mg/kg)	Groundwater cleanup level (µg/L)
Arsenic	20	5
Chromium	19	50
Lead	250	15
PCBs	1	0.1
4,4-DDT	3	0.3
TPH- gasoline	100	1,000
TPH- diesel and heavy oil	2,000	500

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

MTCA = Model Toxics Control Act

Current and projected Site and resource uses

The Site is currently vacant and accessible to public non-motorized traffic. There have been no changes in current or projected future Site or resource uses. The current Site use is not likely to have a negative impact on the protectiveness of the cleanup action.

Availability and practicability of more permanent remedies

The remedy implemented included containing hazardous substances, and it continues to be protective of human health and the environment. While more permanent remedies may be available, they are still not practicable at this Site.

Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the cleanup action were capable of detection below the selected MTCA cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

Conclusions

- The cleanup actions completed at the Site appear to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site; however, the cleanup action is determined to comply with cleanup standards under WAC 173-340-740(6)(f), since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.
- The Covenant for the property is in place and is effective in protecting human health and the environment from exposure to hazardous substances and the integrity of the cleanup action.

Based on this periodic review, Ecology has determined the requirements of the Covenant are being followed. No additional cleanup actions are required by the property owner at this time. The property owner is responsible for continuing to inspect the Site to ensure the integrity of the cleanup action is maintained.

Next review

Ecology will schedule the next review for the Site five years from the date of this periodic review. If additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years after those activities are completed.

References

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Ecology. Third Periodic Review: Sparks & Buttercup Subdivision. October 18, 2019.

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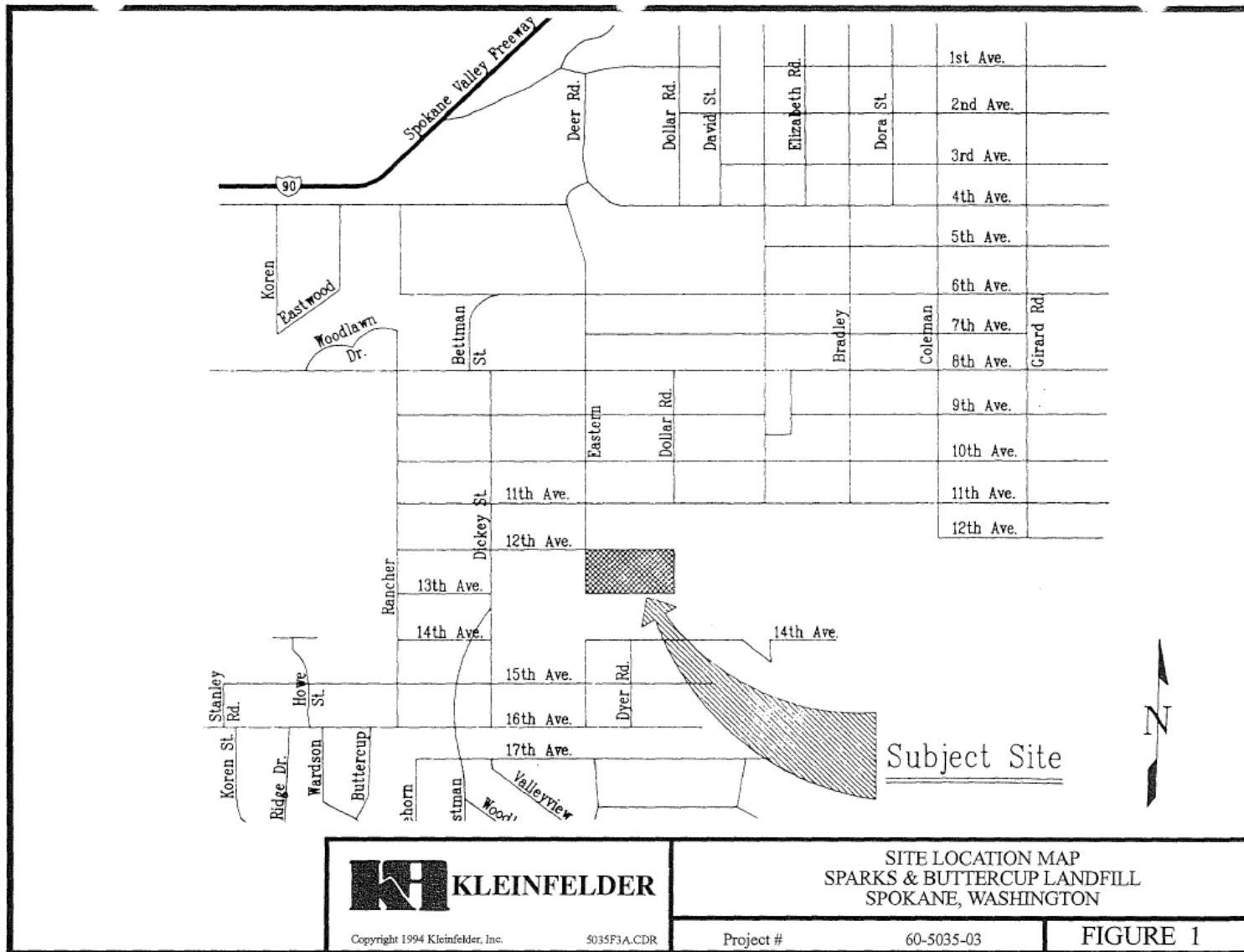
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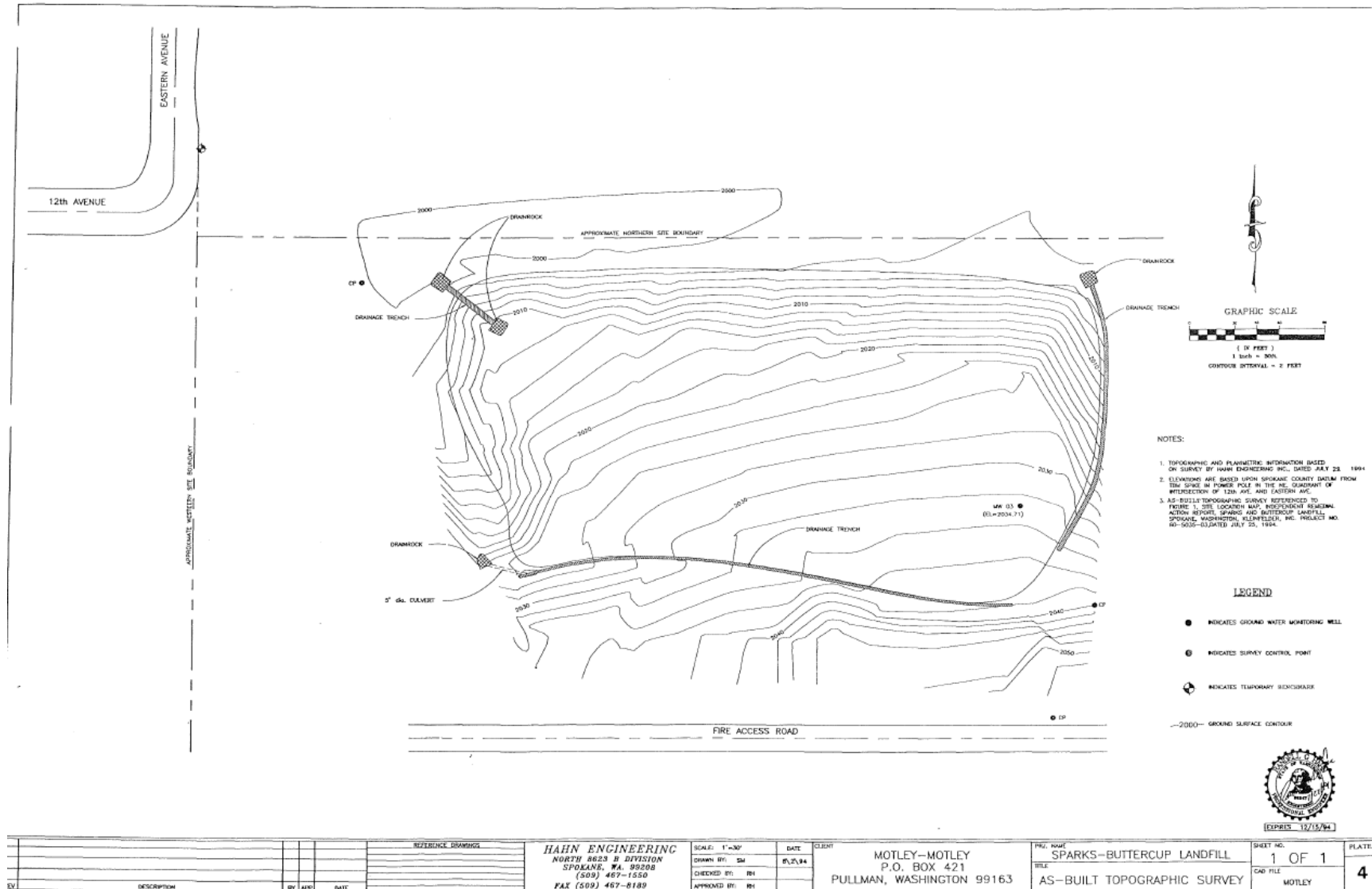
Kleinfelder, Inc. Remedial Investigation Report. July 1993.

Century West Engineering Corporation. Report of Findings. January 1991.

Appendix A. Vicinity Map



Appendix B. Site Plan



Appendix C. Photo Log

Photo 1: Northwest drainage trench — from the northwest



Photo 2: Northern landfill slope and fence — from the north



Photo 3: Eastern landfill boundary, fence, and sign — from the east



Photo 4: Eastern drainage trench and fence— from the south



Photo 5: Southern drainage trench and fence— from the east



Photo 6: Southern drainage trench, culvert, and fence — from the east

