DRAFT CLEANUP ACTION PLAN

CITY PARCEL SITE

SPOKANE, WA

EASTERN REGIONAL OFFICE

TOXICS CLEANUP PROGRAM

JULY 2004

2.0 BACKGROUND INFORMATION

2.1 Site Description

The City Parcel Site is located at 708 N. Cook St. in Spokane, Washington (see Figure 1). This property was formerly occupied from 1961 through 1979 by Spokane Transformer, Inc. which was a transformer repair and recycling facility. A package delivery service has, since 1979, been operated at this Site.

The City Parcel property measures approximately 28,400 square feet (0.65 acres). The existing building, which is a square shaped combination masonry block and steel-sided structure, is roughly 19,000 square feet and covers 67% of the property. Aerial views of the City Parcel Building additions, with a building schematic included, are shown in Figure 2. A fenced, gravel-covered parking area (9,372 square feet or about 0.2 acres) located north of the building serves as an outdoor storage area for vehicles and other equipment.

The City Parcel property is bounded to the west by Cook Street, to the south by Springfield Avenue, to the north by a private property, and to the east by an alleyway that separates the City Parcel property from an adjoining property (formerly the John Barrier Trust Property) that was purchased by the City of Spokane in 2003. The alleyway is a deeded City of Spokane right-of-way.

The Site is located in an area zoned as M1 Light Industrial. It is located on flat terrain and is predominantly surrounded by commercial light industrial use. The few residences proximate to the site appear to be associated with the surrounding commercial activities.

2.2 Site History

The Environmental Protection Agency (EPA) conducted investigations at the Site in 1976, 1986 and 1987. High concentrations of polychlorinated biphenyls (PCBs) were found in soils in the parking lot, in the alleyway, in drain sediments inside the building, and in storm drains adjacent to the property. Studies done in 1997 by the current owner of the property detected PCBs in soil and in ground water. Figure 3 shows a graphic depiction of historic soil and sediment sample locations and results. The presence of PCBs in ground water was inconclusive in the 1997 study. The initial sampling event reported PCB detection above regulatory level, but a subsequent sampling event had no reported detection.

City Parcel and its owners, Paul and Mary Ann Gisselberg, filed a lawsuit as a private right of action under MTCA against Spokane Transformer's past owners/operators Richard E. and Mary K. Boyce, and Jerry E. and Jane Doe Overton in December 1994. This lawsuit was tried in Spokane County Superior Court from July 19-22, 1999. On September 28, 1999, Judge Linda Thompkins issued Findings of Fact and Conclusions of Law imposing liability of 37.5 % for Mr. Boyce, 37.5 for Mr. Overton, and 25% for Mr. Gisselberg as contribution for remedial action costs under MTCA.

In 1998, the Spokane Regional Health District completed a site hazard assessment (SHA) of the property as required under MTCA. The Site was ranked a "2" on a scale of 1 (highest risk) to 5 (lowest risk).

In December 2000, the owner of the adjacent "Barrier Trust Property" conducted a limited investigation along the western boundary of the property adjacent to the alleyway. PCBs were detected in soils ranging from 2.0 to 9.0 mg/kg (or parts per million, ppm) PCBs.

In certified correspondence dated March 21, 2001, Ecology notified Mr. Gisselberg, Mr. Boyce, and Mr. Overton of the preliminary finding of potential liability and requested comment on those findings. On April 12, 2001, Ecology notified Mr. Gisselberg, Mr. Boyce, and Mr. Overton of their status as "potentially liable persons" under Chapter 70.105D.040 RCW for the release of hazardous substances at the City Parcel Site.

In 2002, Ecology tried to negotiate with the Potentially Liable Persons (PLPs) to complete a Remedial Investigation (RI)/Feasibility Study (FS) as required under MTCA. The RI is to determine the nature and extent of contamination and the FS is to evaluate cleanup alternatives for the Site. These negotiations were not successful, and Ecology hired Science Applications International Corporation (SAIC) as its contractor to conduct a Remedial Investigation at the Site. The RI involved field studies of the following: (a) drainage features and underground utilities as well as other subsurface structures; (b) soil; and, (c) ground water. These investigations were conducted from April 2002 to July 2002. Additional ground water studies were conducted in 2003 to verify the ground water results that were inconclusive during the 2002 investigations. This 2003 ground water study confirmed that PCBs are not of concern in ground water. Ecology completed an FS for this Site in April 2004.

2.3 Site Physical Characteristics

2.3.1 Drainage Features and Utilities

The Remedial Investigation included the study of drainage features, and underground structures and utilities on the Site. The following are some relevant findings of these investigations (see Figure 4):

- Sewer service for the City Parcel building is provided through a 6-inch sewer line approaching from the north and traveling south located under Cook Street, about 5-feet west of the building. The sewer line elbows to the east at Springfield Avenue and runs parallel to the building approximately 4-feet south of the building.

- Storm water from the roof of the building flows down a series of drain lines on the south wall of the building, discharging into a sewer line that runs along the south side of the building. Storm water from the east side of the alley infiltrates

into the soil or flows into the dry well on the southeast corner of the property. Storm water in the gravel parking area to the north of the building infiltrates into the soils.

- Drainage features inside the building were documented through drain tracing video and electronic detection methods. In general, liquid releases to the floor inside the building may connect into one of nine floor drains. One floor drain serves a dual role as a floor drain and a dry well. One drain appears to drain towards the sewer line area but could not be confirmed due to blockage.

- Natural gas is supplied to the City Parcel building through a gas line that is located under the alleyway on the east side of the building. The gas line tees and approaches the building at a right angle to the main line near the electrical power pole in the alleyway.

- An underground storage tank is still present beneath the concrete floor near the southeast corner of the building. Although the underground extent of the tank is unknown, a cap is located approximately 26 feet north of the southern wall of the building. Video tracing showed that the tank is connected to a 4-inch diameter standpipe located outside of the building just one foot south of the southern wall. At the time of the investigation, the tank contained about two inches of an unknown liquid.

- A 4-foot by 7-foot concrete footprint of an abandoned vault is visible near the west wall inside the building.

2.3.2 Site Geology

Geologic units on the Site are generally characterized by poorly graded gravels and cobbles with up to 20% fine to coarse sands. Geological materials generally increase in size from fine to medium gravels with sand at the surface to cobbles and gravels with little sand at approximately 55 feet below ground surface (bgs). Water table conditions were encountered at approximately 50 feet bgs at the time of drilling operations.

2.3.3 Site Hydrogeology

Ground water was encountered at approximately 50 to 51 feet bgs at the time of well installations. The flow of ground water is generally from southeast to northwest across the site, with a slight east to west component of flow at the southern end of the Site (see Figure 5). A data logger installed in one of the monitoring wells (MW5) recorded water levels every four hours. For the 10-month period of monitoring (April 2002 through May 2003), a maximum of 11-feet fluctuation was recorded. The highest elevations occurred in the spring of 2002; the lowest water table elevation occurred in the fall and early winter of 2002.

LIST OF FIGURES

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LIST OF ACRONYMS

ARARs	Applicable, Relevant and Appropriate Requirements
CAP	Cleanup Action Plan
DCAP	Draft Cleanup Action Plan
FCAP	Final Cleanup Action Plan
CFR	Code of Federal Register
EPA	Environmental Protection Agency
FS	Feasibility Study
MTCA	Model Toxics Control Act
PCBs	Polychlorinated Biphenyls
PLPs	Potentially Liable Parties
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
SAIC	Science Applications International Corporation
TPH-D	Diesel Range Total Petroleum Hydrocarbons
TSCA	Toxics Substance Control Act
VOCs	Volatile Organic Compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

1.1 The Cleanup Process and the Cleanup Action Plan

The Cleanup Action Plan (CAP) is one of a series of documents used by Ecology in the cleanup process conducted under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW, and implemented under WAC 173-340. A CAP is developed using Remedial Investigation (RI) information that defines the extent and magnitude of contamination at a site and applicable technologies from the Feasibility Study (FS). The Draft Cleanup Action Plan (DCAP) is subject to public review and comment before it is finalized. After review and consideration of the comments received during the public comment period, Ecology shall issue a Final Cleanup Action Plan (FCAP).

WAC 173-340-380(1)(a) describes the requirements of a DCAP. The DCAP shall include: a general description of the proposed cleanup action developed in accordance with WAC 173-340-350 through 173-340-390; a summary of the rationale for selecting the proposed alternative; a brief summary of other cleanup action alternatives evaluated in the feasibility study; cleanup standards; the schedule for implementation including, if known, restoration time frame; institutional controls; applicable state and federal laws; a preliminary determination by Ecology that the proposed cleanup action will comply with WAC 173-340-360; and, where the cleanup action involves on-site containment, specification of the types, levels, and amounts of hazardous substances remaining on site and the measures that will be used to prevent migration and contact with those substances.

1.2 Purpose and Objectives

This decision document presents Ecology's selected cleanup action for the City Parcel Site (the Site). The selected cleanup action is chosen based upon information in the following documents:

- SAIC, Final Remedial Investigation Report for the City Parcel Site, November 27, 2002. (The Remedial Investigation Report was made available for public review and comment from January 16 through February 28, 2003.)

- SAIC, City Parcel Site, Post-RI Groundwater Sampling Technical Memorandum, June 30, 2003.

- Ecology, Final Feasibility Study Report, April 2004. (The Draft Feasibility Study Report was made available for public review and comment from February 26 through March 26, 2004.)

Portions of the text and the figures of this CAP are taken directly from these documents.

1.3 Declaration

Ecology's selected cleanup action will comply with WAC 173-340-360. This selected remedy is protective of human health and the environment, and is consistent with the preference for permanent solutions to the maximum extent practicable requirement under RCW 70.105D.030(1)(b).

1.4 Applicability

This Cleanup Action Plan is applicable only to the City Parcel Site. Cleanup standards and cleanup actions have been developed as an overall remediation process being conducted under the MTCA, and should not be considered as setting precedents for other sites.

1.5 Administrative Record

The documents used to make decisions discussed in this cleanup action plan are constituents of the administrative record for the Site. The entire administrative record for the Site is available for public review by appointment at Ecology's Eastern Regional Office, 4601 N. Monroe, Spokane, WA 99205-1295. Documents that were made available for public comment and review are also available at the Spokane Public Library – East Side, 524 South Stone, Spokane, WA 99201.

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3.0 NATURE OF CONTAMINATION

3.1 Surface Soils

Analytical results of the shallow soil samples analyzed indicate the presence of PCBs in soils in the north parking area and in exposed soils in the alleyway of the City Parcel building. Figure 6 shows the PCB concentrations for each shallow soil sample location from the April 2000 soil investigation. The highest concentrations of PCBs (up to 11,500 milligrams per kilogram (mg/kg)) were found in the 0- to 6-inch samples; however, substantial PCB concentrations (up to 1,740 mg/kg) were detected in samples from 6 to 12 inches bgs.

Diesel range and lube oil range hydrocarbons were detected in several shallow soil samples but mostly at levels below the MTCA Method A cleanup level of 2,000 mg/kg for unrestricted land use. One shallow soil sample contained Diesel Range Total Petroleum Hydrocarbons (TPH-D) at a level of 2,040 mg/kg which is just slightly above the Method A cleanup level. Some volatile hydrocarbons and volatile organic compounds (VOCs) were also detected below MTCA Method A levels in a limited number of shallow soil samples.

Table 1 shows a summary of the soil analytical results.

3.2 Subsurface Soils

Subsurface soil investigation during the RI included an evaluation of soils to a maximum of 60 feet bgs from four exploratory borings and five monitoring well borings. One monitoring well boring and four exploratory borings were located inside the building. Subsurface soil analytical results indicate little PCB contamination with depth at the site. Of the 26 subsurface soil samples analyzed for PCBs, only four had detectable concentrations of PCBs. Analytical results for TPH and PCBs detected in subsurface soil samples are also shown in Table 1.

3.3 Ground Water

Five monitoring wells (MW-2 through MW-6, shown in Figure 5) were installed by Ecology during the 2002 RI. MW-2 is a background well; MW-3, MW-4, and MW-5 are down gradient wells. MW-1, installed in 1997 by City Parcel, is on the south end of the alleyway. MW-6 is located inside the building near a dry well. Results of four events of ground water investigations from April 2002 through May 2003 are shown in Table 2 for MW-1, MW-4, MW-5, and MW-6. No PCBs were detected in ground water samples from MW-2 and MW-3 for all four sampling events. PCBs were found in MW-1 at a concentration of 1.88 micrograms per liter (ug/L) in April 2002 but were not detected in the subsequent three sampling events. PCBs were not detected in ground water from the rest of the wells for all sampling events.

3.4 Contaminants and Media of Concern

The results that are summarized in Tables 1 and 2 show that PCBs (Aroclor 1260) is the only contaminant of concern and shallow soil is the only medium to consider.

PCB-1260 is also referred to as Aroclor 1260. PCBs are a group of chemicals that contain 209 individual compounds called congeners. PCBs made in the United States were marketed under the trade name Aroclor and are identified by a four digit numbering code in which the first two digits indicate that the parent molecule is a biphenyl. For the 1200 series aroclors, the last two digits indicate the chlorine content by weight; Aroclor 1260 has 60 percent chlorine. The persistence of PCBs increases with an increase in the degree of chlorination. PCBs are probable carcinogens in humans.

Total PCB analysis has been reported as total aroclor equivalents. However, since the aroclor patterns in environmental samples are often degraded, quantification of individual PCB congeners are obtained. Results of the congener analysis provided background information on the distribution of congeners present. For the City Parcel Site, the congener analysis results show that PCB contamination consists primarily of congeners with high degrees of chlorination. This confirms the finding that the PCB contamination is characterized as Aroclor 1260, a mixture of highly chlorinated of PCBs.

3.5 Current and Potential Pathways of Exposure

- A current exposure pathway for the shallow soils is ingestion, dermal contact, or inhalation. Disturbances to the temporary gravel cover and the shallow soils may cause ingestion or dermal contact with soils and inhalation of dust emissions.

- PCBs have very low vapor pressure. The rate of volatilization of PCBs from the soil is very low. Therefore, the inhalation of vapor pathway is not a current or potential pathway of exposure.

- Another pathway that relates to soil is the potential for future migration of soil chemicals to ground water. Although current conditions show that the soil chemicals are not migrating to the ground water, a change in Site conditions may have a bearing on the potential of PCBs to migrate. For example, in the presence of organic solvents, PCBs may leach quite rapidly through soil.

- Significant terrestrial ecological receptor exposure is not expected at this Site. The Site is in an industrial area that is not frequented by wildlife.

4.0 CLEANUP STANDARDS

Cleanup standards consist of the following:

(a) Cleanup levels for hazardous substances present at the Site;
(b) The location where these cleanup levels must be met (point of compliance); and,
(c) Other regulatory requirements that apply to the site because of the type of action and/or location of the site ("applicable state and federal laws").

A cleanup level is the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions. Cleanup levels, in combination with points of compliance, typically define the area or volume of soil, water, air, or sediment at a site that must be addressed by the cleanup action.

The first step in setting cleanup levels is to identify the nature of the contamination and the potentially contaminated media, the current and potential pathways of exposure and receptors, and the current and potential land and resource uses.

Based on discussions presented in Section 3, cleanup standards for PCBs in soils are developed in this section for the City Parcel Site. PCBs are the only hazardous substance of concern and the only medium of interest is soil.

4.1 Soil Cleanup Levels

Soil cleanup levels shall be based on the reasonable maximum exposure expected to occur under both current and future site use conditions. MTCA allows for the establishment of soil cleanup levels based on two types of land use – **unrestricted land use** and **industrial land use**. The site use requiring the most protective cleanup levels is residential land use.

For **unrestricted land use**, the soil cleanup level is based on the reasonable maximum exposure expected to occur under residential land use conditions or child exposure scenario. Restrictions on the future use of the land are not required where these soil cleanup levels are met at the point of compliance.

For **industrial land** use, the soil cleanup level is based on an exposure expected to occur under industrial use conditions or on an adult worker exposure scenario. Restrictions on the future use of the land are required if industrial soil cleanup levels are established, even if the cleanup levels are met to ensure the exposure scenario is met.

Various methods are available to establish cleanup levels under MTCA for either land use. MTCA provides for three approaches for establishing soil cleanup levels – **Method A, Method B, or Method C**. **Method A and Method B** are two options used for

establishing soil cleanup levels for **unrestricted land use**. **Method A and Method C** are the two options used for establishing soil cleanup levels for **industrial land use**.

Method A is used for routine sites or sites that involve relatively few hazardous substances. MTCA provides for the establishment of Method A cleanup levels for either unrestricted land use or industrial land use. Method A soil cleanup levels are set at concentrations at least as stringent as the following concentrations:

- Numerical values provided for in MTCA;
- Concentrations established under applicable state and federal laws; and,
- Concentrations that protect the environment or concentrations that result in no significant adverse effects on the protection and propagation of terrestrial ecological receptors (plants and animals).

The natural background or the practical quantitation limit (PQL), whichever is higher, may be used as the Method A level if numerical values under MTCA or under applicable state and federal laws are not available.

Method B may be used to establish soil cleanup levels at any site. Method B cleanup levels are used for residential land use conditions. Standard Method B method uses default formulas, assumptions, and procedures to develop cleanup levels. Under modified Method B, chemical-specific or site-specific information may be used to change certain assumptions to calculate the cleanup levels. Method B soil cleanup levels are developed under WAC 173-340-740(3).

Method C is the standard method for establishing soil cleanup levels at industrial sites and its use is conditioned upon the continued use of the site for industrial purposes. Under method C, cleanup levels are established the same as under Method B with different exposure scenarios. Method C soil cleanup levels are developed under WAC 173-340-745(5).

4.2 Land Use of the Site

The City of Spokane does Comprehensive Planning that is in compliance with Chapter 36.70 RCW (Growth Management Act). The Site is zoned M1 – Light Industrial - which is intended for those light industrial users which produce little noise, odor and smoke and for industrial parks. The City Parcel property and the City of Spokane property meet the definition of "Industrial Properties" in WAC 174-340-200.

The City Parcel property is currently occupied by three businesses. City Parcel operates package-sorting and truck-loading businesses each morning and afternoon at the Site. Two other small businesses lease space on the north side of the building as a small engine repair shop and a small storage and truck parking space.

The City of Spokane property (former John Barrier Trust property) is being planned for development in 2004. The City intends to develop this property as a washing and storage facility to support the City's Operations Maintenance Facility located north across the street. The entire area will be paved and wastewater will be directed to a treatment system off-property. Public access to this City property will be restricted.

The alleyway east of the building has unrestricted public access. This alleyway separates the City Parcel Property from the former John Barrier Trust Property which was purchased by the City of Spokane in 2003. In the interim, at the request of Ecology, to prevent current exposure to PCB-contaminated surface soils in the alleyway, the City had covered the alleyway with gravel.

Under MTCA [WAC 173-340-745 (1)(a)(i)], the following characteristics shall be considered to determine if the alleyway is "zoned for industrial use":

(A) People do not normally live on industrial property. The primary potential exposure is to adult employees of businesses located on the industrial property;
(B) Access to industrial property by the general public is generally not allowed. If access is allowed, it is highly limited and controlled due to safety or security considerations;
(C) Food is not normally grown/raised on industrial property. (However, food processing operations are commonly considered industrial facilities);
(D) Operations at industrial properties are often (but not always) characterized by use and storage of chemicals, noise, odors and truck traffic;
(E) The surface of the land at industrial properties is often (but not always) mostly covered by buildings or other structures, paved parking lots, paved access roads, and material storage areas – minimizing potential exposure to the soil; and
(F) Industrial properties may have support facilities consisting of offices, restaurants, and other facilities that are commercial in nature but are primarily devoted to administrative functions necessary for the industrial use and/or are primarily intended to serve the industrial facility.

The alleyway cannot be considered to be "zoned industrial" since it does not restrict access to the general public.

4.3 Site Cleanup Standards

4.3.1 Site Cleanup Levels

Ecology has determined that **industrial land use** represents the reasonable maximum exposure for the **City Parcel** property and the **City of Spokane** property. **Residential land use** conditions represent the reasonable maximum exposure in the alleyway.

To use industrial soil cleanup levels, the following criteria must also be met [WAC 173-340-745 (1)(a)(ii)(iii)]:

- The cleanup action provides for appropriate institutional controls to limit potential exposure to residual hazardous substances. This shall include, at a minimum, placement of a covenant on the property restricting use of the area of the site where industrial soil cleanup levels are proposed to industrial property uses; and
- Hazardous substances remaining at the property after remedial action would not pose a threat to human health or the environment at the site or in adjacent nonindustrial areas.

Method A is used to establish soil cleanup levels because PCBs are the only hazardous substance of concern and numerical standards are available in MTCA for PCBs. The Method A cleanup level for PCB mixtures is 1 mg/kg (Table 740-1, Unrestricted land use) or 10 mg/kg (Table745-1, Industrial Properties). These levels are based on an applicable federal law, 40 C.F.R. 761.61, the Toxics Substance Control Act (TSCA).

It is not necessary to establish a PCB soil concentration that results in no significant adverse effects on the protection and propagation of terrestrial ecological receptors for this site. The criteria under WAC 173-340-7491 (1), exclusions from a terrestrial ecological evaluation, will be met at this Site. Upon implementation of the cleanup action, all soils contaminated with PCBs will be covered by buildings, paved, covered with physical barriers, or removed from the Site. The cleanup action would prevent plants or wildlife from being exposed to any PCB contamination remaining on site.

The following are the Site cleanup levels for PCBs in soils:

Property	PCBs Cleanup Level, mg/kg	Notes
City Parcel Property	10	Method A Industrial – cleanup level based on applicable federal law (40.C.F.R. 761.61). This value may be used only if the PCB contaminated soils are capped and the cap maintained by 40 C.F.R. 761.61.
City of Spokane Property (former Barrier Property)	10	
Alleyway	1	Method A Residential – cleanup level based on applicable federal law (40 C.F.R.761.61)

4.3.2 Points of Compliance

The PCB soil cleanup levels for this Site are based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway. The point of compliance as required under WAC 173-340-740(6)(d) and WAC 173-340-745(7) shall be in the soils throughout the Site from the ground surface to fifteen feet below the ground surface. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities.

5.0 SELECTION OF CLEANUP ACTIONS PROCESS

5.1 Minimum Requirements for Cleanup

WAC 173-340-360 describes the minimum requirements and procedures for selecting cleanup actions. The minimum requirements, specified under WAC 173-340-360(2), include the following:

(a) Threshold requirements. The cleanup action shall:
  (i) Protect human health and the environment;
  (ii) Comply with cleanup standards;
  (iii) Comply with applicable state and federal laws;
  (iv) Provide for compliance monitoring.

(b) Other requirements. When selecting a cleanup action alternative that fulfills the threshold requirements, the selected action shall:
  (i) Use permanent solutions to the maximum extent practicable;
  (ii) Provide for reasonable restoration time frame; and,
  (iii) Consider public comments.

When selecting a cleanup action, preference shall be given to permanent solutions to the maximum extent practicable. A "permanent solution", under WAC 173-340-200, means a cleanup action in which cleanup standards of WAC 173-340-700 through WAC 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. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the disproportionate cost analysis shall be used.

5.2 Disproportionate Cost Analysis [WAC 173-3340-360 (3)(e)]

Costs are disproportionate to benefits if the incremental costs of the alternative over that of the lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the lower cost alternative. The following criteria are used to evaluate and compare each cleanup action alternative when conducting a disproportionate cost analysis to determine whether a cleanup action is permanent to the maximum extent practicable:

(i) Protectiveness. This involves overall protectiveness of human health and the environment including the degree to which existing risks are reduced, time required to reduce risk at the facility, and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality.

(ii) Permanence. This is the degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases

and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.

(iii) Cost. This is the cost to implement the alternative, including the cost of construction, the net present value of any long-term costs, and agency oversight costs that are cost recoverable.

(iv) Effectiveness over the long term. This includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes. The following types of cleanup action components may be used as a guide, in descending order, when assessing the relative degree of long-term effectiveness: Reuse or recycling; destruction or detoxification; immobilization or solidification; on-site or off-site disposal in an engineered, lined and monitored facility; on-site isolation or containment with attendant engineering controls; and institutional controls and monitoring.

(v) Management of short-term risks. This includes the risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to mange such risks.

(vi) Technical and administrative implementability. This is the ability to implement the alternative including whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.

(vii) Consideration of public concerns. This is to address the concerns of the community regarding the alternative.

5.3 Reasonable Restoration Time Frame

To determine whether a cleanup action provides for a reasonable restoration time frame, the factors to be considered include the following:

(i) Potential risks posed by the site to human health and the environment;

(ii) Practicability of achieving a shorter restoration time frame;

(iii) Current use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site;

(iv) Potential future use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site;

(v) Availability of alternative water supplies;

(vi) Likely effectiveness and reliability of institutional controls;

(vii) Ability to control and monitor migration of hazardous substances from the site;

(viii) Toxicity of the hazardous substances at the site;
(ix) Natural processes that reduce concentrations of hazardous substances and have been documented to occur at the site or under similar site conditions.

A longer period of time may be used for the restoration time frame for a site to achieve cleanup levels at the point of compliance if the cleanup action selected has a greater degree of long-term effectiveness than on-site or off-site disposal, isolation, or containment options. Extending the restoration time frames shall not be used as a substitute for active remedial measures, when such actions are practicable.

5.4 Screening of Alternatives

WAC 173-340-350 (8)(b) states that an **initial screening of alternatives** to reduce the number of alternatives for the final detailed evaluation may be appropriate. The following cleanup action alternatives or components may be eliminated from the detailed evaluation required in feasibility study:

(i) Alternatives that, based on a preliminary analysis, do not meet the minimum requirements specified in WAC 173-340-360. This includes alternatives for which costs are clearly disproportionate under WAC 173-340-360(3)(e);
(ii) Alternatives or components that are not technically possible at the site.

A reasonable number and type of alternatives shall be evaluated after the initial screening. Each alternative may consist of one or more cleanup action components. Each alternative shall be evaluated on the basis of the requirements and the criteria specified in WAC 173-340-360. The feasibility study shall include at least one permanent cleanup action alternative to serve as a baseline against which other alternatives shall be evaluated for the purpose of determining whether the cleanup action is permanent to the maximum extent practicable except under the following conditions:

(i) Where a model remedy is the selected cleanup action;
(ii) Where a permanent cleanup action alternative is not technically possible;
(iii) Where the cost of the most practicable permanent cleanup action alternative is so clearly disproportionate that a more detailed analysis is not necessary.

5.5 Expectations for Cleanup Action Alternatives [WAC 173-340-370]

WAC 173-340-370 lists the expectations for the development of cleanup action alternatives and the selection of cleanup actions. These expectations include:

(1) Ecology expects that treatment technologies will be emphasized at sites containing liquid wastes, areas contaminated with high concentrations of hazardous substances, highly mobile materials, and/or discrete areas of hazardous substances that lend themselves to treatment.
(2) To minimize the need for long-term management of contaminated materials, Ecology expects that all hazardous substances will be destroyed, detoxified,

and/or removed to concentrations below cleanup levels throughout sites containing small volumes of hazardous substances.

(3) Ecology recognizes the need to use engineering controls, such as containment, for sites or portions of sites that contain large volumes of materials with relatively low levels of hazardous substances.

(4) To minimize the potential for migration of hazardous substances, Ecology expects that active measures will be taken to prevent precipitation and subsequent runoff from coming into contact with contaminated soils and waste materials.

(5) When hazardous substances remain on-site at concentrations which exceed cleanup levels, those hazardous substances will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances.

(6) For facilities adjacent to a surface water body, active measures will be taken to prevent/minimize releases to surface water via surface runoff and ground water discharges in excess of cleanup levels.

(7) Natural attenuation may be appropriate if: source control has been conducted; leaving contaminants on-site during the restoration time frame does not pose a threat to human health and the environment; there is evidence that natural biodegradation of chemical degradation is occurring and will continue to occur at a reasonable rate; and appropriate monitoring requirements are conducted to ensure that natural attenuation is occurring.

(8) Cleanup actions will not result in a significantly greater overall threat to human health and the environment.

6.0 PROPOSED CLEANUP ALTERNATIVES

6.1 Cleanup Action Objectives

The primary cleanup action objective for the City Parcel Site is to prevent dermal contact with or ingestion of PCB-contaminated soils.

A secondary cleanup objective is to reduce any future potential for the migration of PCBs from soil to ground water.

6.2 Estimated Volumes of PCB Contaminated Soils

Contaminated soils at this Site include surface soils, and soils associated with the two dry wells and the underground storage tank. Table 3 presents volume calculations for soils with greater than 10 mg/kg PCBs. Volumes are calculated for surface soils above 10 mg/kg PCBs for the parking lot, the alleyway, the south side of the building, and underneath the building. Approximate volumes of contaminated soil as a result of the removal of dry wells DW1 and DW2, and the underground storage tank are included.

The calculations in Table 3 assume that for surface soils, PCB concentrations do not exceed 10 mg/kg beyond 2 feet below ground surface. The percentages of soil exceeding 10 mg/kg for the 0 - 1 foot depth and the 1 - 2 feet depth are approximated based on the RI results. The volume of surface soils above 10 mg/kg PCBs concentration underneath the building is based on the assumption that the contaminated soils underneath the building are located in the northern and eastern addition areas (aerial photographs show that transformers were placed in these areas before the building expansions).

6.3 Federal Regulations Governing Site PCB Remediation

The Toxic Substance Control Act (TSCA) is the major federal law pertinent to the City Parcel Site. TSCA as codified in 40CFR 761 establishes prohibitions of and requirements for the manufacture, processing and distribution in commerce, use, disposal, storage, and markings of PCBs and PCB items in the United States after January 1, 1978. TSCA regulations of importance to this Site are found in 40 CFR Section 761.60 – 761.79, Subpart C: Storage and Disposal. These sections specify treatment, storage, and disposal requirements based on their form and concentration.

The provisions of TSCA (40CFR761) apply only to materials containing PCBs at concentrations of 50 mg/kg and above. There are three primary options for non-liquid PCBs at concentrations of 50 mg/kg or greater that are compliant with TSCA:

1. Incineration
2. Treatment equivalent to incineration
3. Disposal in a chemical waste landfill.

TSCA does not specify concentration limits for disposal of PCB-containing non-liquids (e.g., soils), but specifies that industrial sludges or dredged materials with PCB concentrations greater than 500 mg/kg may not be landfilled. The determination of whether contaminated materials should be considered a soil or an industrial sludge should be made site specifically consistent with the current process for classifying material subject to the land disposal restrictions as either a pure waste or a soil and debris contaminated with a waste.

Persons generating soils, sediments, or treatment residuals contaminated with PCBs in concentrations equal to or greater than 50 mg/kg must comply with TSCA generator requirements. These requirements include: notification to EPA of PCB-generating activities, shipment of regulated wastes using the Uniform Hazardous Waste Manifest, and disposal at a TSCA-approved disposal facility.

The TSCA regulations for storage requirements specify that materials with PCB concentrations of 50 mg/kg or greater must be destroyed or disposed of within one year after being placed in storage.

PCBs are not regulated as a hazardous waste under the Resource Conservation and Recovery Act (RCRA). However, if PCBs are mixed with hazardous wastes listed in RCRA, the mixture is subject to the RCRA waste regulations. RCRA is not applicable to the Site because there are no RCRA hazardous wastes.

6.4 State Regulations Governing PCBs

PCB wastes are also regulated by the Dangerous Waste Regulations, WAC 173-303 . The requirements of both the Dangerous Waste Regulations and TSCA must be met for any PCB waste. However, the Dangerous Waste Regulations typically exclude from regulation any waste regulated under TSCA.

Soils and other waste materials that have been contaminated with 2 mg/kg PCB or greater are regulated as W001 dangerous waste if the contamination resulted from the salvaging, rebuilding or discarding of transformers, capacitors, or bushings. These wastes may be excluded under the conditions in WAC 173-303-071(3)(k) and may also qualify for the conditional special waste exclusion waste under WAC 173-303-073. Otherwise, wastes with PCB concentrations between 2 and 50 mg/kg must be managed as dangerous wastes.

6.5 Summary of Feasibility Study Cleanup Alternatives

Remedial technologies that are applicable to PCBs in soils were evaluated in the Feasibility Study Report. An initial screening eliminated technologies that were not applicable to the Site based on criteria identified under MTCA. The technologies that were considered for implementation to Site soils were:

1. Institutional Controls/Deed Restrictions
2. Capping
3. In-situ Solidification/stabilization
4. Excavation/Off-site incineration
5. Excavation/Off-site disposal

These remedial technologies were assembled into cleanup alternatives. These alternatives are developed to present several options to sufficiently compare alternatives against one another.

Because soil cleanup levels are developed using industrial criteria, all alternatives will require institutional controls to limit access to the property and future uses. The following cleanup alternatives were presented in the Feasibility Study:

Alternative 1: Building Demolition, Capping, and Institutional Controls

Alternative 2: Building Demolition, In-situ Solidification/Stabilization, and Institutional Controls

Alternative 3: Deferred Building Demolition, Excavation, Off-site Disposal, and Institutional Controls

Alternative 4: Building Demolition, Excavation, Off-Site Disposal, and Institutional Controls

Alternative 5: Building Demolition, Excavation, Off-Site Incineration, and Institutional Controls

These alternatives were described at a conceptual level because actual quantities, dimensions, and engineering parameters will be determined in the remedial design phase. Cost figures were preliminary, order-of-magnitude estimates, which were developed primarily for the purpose of comparing remedial alternatives during the remedy selection.

PCB concentrations in the City of Spokane property are below the industrial cleanup level of 10 mg/kg. However, because industrial cleanup levels are used, the soils will have to be capped and maintained in accordance with 40 C.F.R. 761.61. The City's plan to pave the property will meet this requirement. Deed restrictions limiting site use is also required.

6.5.1 Alternative 1: Building Demolition, Capping and Institutional Controls

This alternative combines containment measures and institutional controls to reduce the risk of exposure to PCBs. Under this alternative, the building would be demolished and the underground storage tank, drywells DW1 and DW2, and the drain lines would all be removed. The contaminated soils would remain in place and would be covered with gravel. This alternative would include the following major elements:

- Building demolition;
- Removal of the underground storage tank, drywells DW1 and DW2, and drain lines;
- Incineration of PCB liquid and sediments;
- 12" gravel cap for the City Parcel property and the alleyway (the City of Spokane property will be capped by the City in a proposed development);
- Deed restrictions for the following properties:
  - City Parcel and City of Spokane properties limiting use to industrial; and
  - Alleyway to protect integrity of the gravel cap.
- Inspection and maintenance of the gravel cap to assure the long-term integrity of the cap.

The parking lot area of the City Parcel Property and the alleyway are already covered with gravel. Additional gravel may have to be added to make a 12" gravel cap.

6.5.2 Alternative 2: Building Demolition, In-situ Solidification/Stabilization, and Institutional Controls

This alternative makes use of in-situ solidification/stabilization to treat the PCBs in soil. Solidification agents would be mixed with the surface soils to a depth of 2 feet using a backhoe. The major elements of Alternative 2 are:

- Building demolition;
- Removal of the underground storage tank, dry wells DW1 and DW2, and drain lines;
- Incineration of liquid PCB and sediments;
- In-situ solidification/stabilization of soils in PCB-contaminated areas;
- Soil cover over solidified soils;
- Deed restrictions for the following properties:
  - City Parcel and City of Spokane properties limiting use to industrial; and,
  - Alleyway to protect integrity of the soil cap and the solidified soils,; and,
- Inspection and maintenance of the cap to assure the long-term integrity of the cap.

6.5.3 Alternative 3: Deferred Building Demolition, Excavation, Off-Site Disposal, and Institutional Controls

The major element of this alternative is the excavation of surface soils with PCB concentrations greater than 10 mg/kg. Soils with PCB concentrations greater than 10 mg/kg associated with the removal of DW1, DW2, and the underground storage tank would also be removed. The soils would be disposed off-site at a TSCA permitted landfill; the closest disposal facility is located in Arlington, Oregon approximately 215 miles from Spokane. Industrial cleanup levels would be met in the City Parcel property; the residential cleanup level of 1 mg/kg would not be met in the alleyway. Restrictive covenants would be required for the City Parcel and City of Spokane properties because

the PCB industrial cleanup level is used, and in the alleyway because residential cleanup level would not be attained.

Under this alternative, the building would remain in place and would be assumed to be removed sometime in the future. The removal of DW2, the underground storage tank, and the drain lines would take place prior to the building demolition. For purposes of cost calculations, the building would be assumed to be removed ten (10) years after the initiation of this alternative. Additional cleanup of contaminated soils that were underneath the building would take place after the building is removed.

The following are the major elements of this alternative:

- Removal of the underground storage tank, drywells DW1 and DW2, and drain lines;
- Incineration of liquid PCB and sediments;
- Excavation of surface soil above 10 mg/kg PCBs in the north parking lot area and in the alleyway;
- Excavation of soils above 10 mg/kg PCBs associated with the removal of the dry wells and the underground storage tank;
- Off-site disposal of soil in a TSCA-permitted landfill.
- Backfilling with clean soil
- Deed restrictions for the following properties:
  - City Parcel property limiting the use to industrial, maintaining the integrity of the soil cap, and requiring the excavation and off-site disposal of contaminated soils underneath the building when the building is removed;
  - City of Spokane property limiting Site use to industrial; and,
  -Alleyway to protect integrity of the soils cap; and
- Building removal with additional soil cleanup in year 10.

6.5.4 Alternative 4. Building Demolition, Excavation, Off-Site Disposal and Institutional Controls

The major elements of this alternative are the following:

- Building demolition
- Limited soil sampling
- Removal of the underground storage tank, drywells DW1 and DW2, and drain lines;
- Off-site incineration of liquid PCB and sediments;
- Excavation of surface soil above 10 mg/kg PCBs in the City Parcel property and in the alleyway;
- Excavation of soils above 10 mg/kg PCBs associated with the removal of the dry wells and the underground storage tank;
- Off-site disposal of soil in a TSCA-permitted landfill;
- Backfilling with clean soil; and,

- Deed restriction for the following properties;
  - City Parcel and City of Spokane properties limiting the site to industrial use;
  - Alleyway to maintain integrity of the soil cap.

6.5.5 Alternative 5: Building Demolition, Excavation, Off-Site Incineration, and Institutional Controls

This alternative will consist of the following:

- Building demolition.
- Limited soil sampling.
- Removal of the underground storage tank, drywells DW1 and DW2, and drain lines;
- Excavation of surface soil above 10 mg/kg PCBs in the City Parcel property, and in the alleyway;
- Excavation of soils above 10 mg/kg PCBs associated with the removal of the dry wells and the underground storage tank;
- Off-site incineration of soil, liquid PCBs, and sediments;
- Backfilling with clean soil;
- Deed restriction for the following properties:
  - City Parcel and City of Spokane properties limiting the site to industrial use.
  - Alleyway to maintain integrity of the soil cover.

7.0 EVALUATION AND COMPARISON OF ALTERNATIVES

A detailed evaluation and comparison of the five alternatives that are discussed in Section 6 are presented in the Final Feasibility Study Report (April 2004). Tables 4 and 5 are taken from this FS report; Table 4 shows a summary of the detailed evaluation while Table 5 shows a qualitative/quantitative comparison of the five alternatives.

The following is a summary of the evaluation and comparison of Alternatives 1 through 5:

7.1 Threshold Requirements

Protect human health and the environment

The cap in Alternative 1, along with institutional controls, would prevent direct contact with and ingestion of PCB-contaminated soils. Solidification of PCB-contaminated soils and a cap under Alternative 2 would also prevent direct contact and ingestion of contaminated soils. The potential for future migration of chemical to ground water is not eliminated under Alternatives 1 and 2. PCB-contaminated soils would be excavated under Alternatives 3, 4, and 5. All PCB-contaminated soils with concentrations above 10 mg/Kg would be excavated under Alternatives 4 and 5. Soil underneath the building would remain in Alternative 3 until the building is removed and additional soils would be excavated. Excavation of the PCB-contaminated soils would prevent direct contact with and ingestion of impacted soils, and would eliminate the potential for future migration of PCBs to ground water.

Comply with cleanup standards

The PCBs cleanup level would not be met at the point of compliance for Alternatives 1 and 2; however, compliance with cleanup standards could be attained under the requirements of WAC 173-340-740(6)(f). Under this section, cleanup actions involving containment may be determined to comply with cleanup standards if: the selected remedy is permanent to the maximum extent practicable; the cleanup action is protective of human health; the cleanup action is demonstrated to be protective of terrestrial ecological receptors; institutional controls are put in place; compliance monitoring and periodic reviews are designed to ensure the long-term integrity of the containment system; and the types, levels, and amount of hazardous substances remaining on-site and the measures that will be used to prevent migration and contact with those substances are specified in the draft cleanup action plan.

The PCB cleanup level would be met at the points of compliance for the industrial properties under Alternatives 3, 4, and 5. The cleanup level of 1 mg/kg would not be met in the alleyway but cleanup standards could be complied with under WAC 173-340-740(6)(f).

Comply with Applicable State and Federal Laws

All five alternatives could comply with the applicable and federal laws that are listed in Table 6.

Provide for Compliance Monitoring

Protection monitoring would be conducted to confirm that human health and the environment are adequately protected during implementation of the cleanup action. Confirmational sampling under Alternatives 3, 4, and 5 would be conducted to verify that soils remaining after the excavation are less than 10 mg/Kg.

7.2 Other Requirements

Use permanent solutions to the maximum extent practicable

Protectiveness: This involves the overall protectiveness of human health and the environment. Alternative 5 ranks the highest because all PCB-contaminated soil with concentrations above the industrial cleanup level would be removed from the Site and the PCBs would be destroyed by incineration off-site. Like Alternative 5, Alternative 4 would involve the excavation of all PCB-contaminated soil with concentrations above the cleanup level. Alternative 4 ranks lower than Alternative 5 because the PCBs would not be destroyed but would be contained off-site. Alternative 3 ranks lower than Alternative 4 since PCB-contaminated soils would still remain underneath the building. Alternative 1 ranks the lowest in protectiveness since no PCBs would be removed and would just be contained on Site. Alternative 2, where the PCBs would be immobilized and contained on Site, ranks higher than Alternative 1.

Permanence: This is the degree to which the alternative permanently reduces the toxicity, mobility or volume of the hazardous substances. Alternative 5 ranks the highest in terms of permanence since the PCBs in soils that are excavated would be permanently destroyed by the incineration process. Alternative 4 ranks less than Alternative 5 because the PCBs in the soils that are excavated would not be destroyed but would be contained off-site. Alternative 3 ranks less than Alternative 4 since soils underneath the building would not be immediately removed. Alternative 1 ranks the lowest in permanence as this alternative would not reduce the toxicity, mobility, or volume of the PCBs in soils. Alternative 2, because the mobility of PCBs would be reduced through solidifaction/stabilization, ranks higher than Alternative 1.

Cost: Table 7 is a summary of the costs of the five alternatives. The Final Feasibility Study Report presents the cost estimates for the various alternatives. These cost figures are preliminary, order-of-magnitude estimates which are developed primarily for the purpose of comparing remedial alternatives during the remedy selection. Actual quantities, dimensions, engineering parameters, and cost estimates will be determined in the remedial design phase. Alternative 1 is the least costly and Alternative 5 is the most expensive. Alternative 3 costs more than Alternative 4. The removal of one drywell and

the underground storage tank inside the building in Alternative 3 would cost more if the building remains, versus removing these following demolition of the building.

Long-term Effectiveness: This includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk, and the effectiveness of controls required to manage treatment residues or remaining risks. Following the guidance under WAC 173-340-360(3)(e)(iv), Alternative 5, which involves the destruction of PCBs, ranks the highest in terms of long-term effectiveness. Alternative 4 ranks next to Alternative 5 because this entails off-site disposal in an engineered, lined, and monitored facility. Alternative 3, which is Alternative 4 without immediate building removal, ranks a little less than Alternative 4. Alternative 1, which is on-site isolation or containment, ranks the lowest in terms of long-term effectiveness. Alternative 2 ranks higher than Alternative 1.

Management of short-term risks: This is a measure of the risk to human health and the environment during construction and implementation, and the effectiveness of measures that would be undertaken to manage such risks. For all the alternatives, remedial workers risk exposure to dust or gases. For Alternatives 3, 4, and 5, off-site disposal would result in certain exposure risks through fugitive dust emissions or spills in transit. These risks are managed through proper handling and treatment methods. Alternatives 4 and 5 rank the lowest in terms of short-term risks because of the building demolition, soil excavation, and the soil transport to the landfill or to the incinerator. Alternative 3 scores higher because no immediate building demolition would take place. Alternative 2 involves short-term risks associated with soil mixing and would rank higher than Alternative 3. Alternative 1 ranks the highest since no soil excavation and transportation are involved.

Implementability: This evaluates the ability to implement the alternatives at the Site. Alternative 1 is the easiest to implement. Alternative 2 ranks next followed by Alternatives 4 and 5. It is harder to implement Alternative 3 than Alternative 4 or Alternative 5 because work inside the building is required.

Public concerns consideration: The public had an opportunity to comment on these five alternatives during the public comment period for the draft Feasibility Study Report. No written comments were received during this period.

Based on the analysis of these requirements, Ecology has determined that the alternative that is permanent to the maximum extent practicable is Alternative 4, as illustrated in Table 5.

Provide for reasonable restoration time frame

Criteria for evaluating reasonable restoration time frame are outlined in WAC 173-340-360(4) and are listed in Section 5.3. Alternatives 4 and 5 rank the highest in terms of providing for reasonable restoration time frame. Alternative 3 ranks a little lower since

contaminated soils would be left underneath the building until the building is removed and soils underneath would be excavated. Alternative 2 scores lower since the PCBs in soils are immobilized and contained but not removed. Alternative 1 scores the lowest.

Consider public comments

The draft FS Report was made available for public review and comment. No written comments were received; the Feasibility Report was finalized in April 2004. The public would have the opportunity to comment on the proposed cleanup action in the Draft Cleanup Action Plan.

7.3 Expectations for Cleanup Action Alternatives

Under WAC 173-340-370, it is Ecology's expectation that all hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels throughout sites containing small volumes of hazardous substances in order to minimize the need for long-term management of contaminated materials. Alternatives 3, 4, and 5 would meet this expectation; Alternatives 1 and 2 would not.

8.0 SITE CLEANUP ACTION

8.1 Selected Cleanup Action

The cleanup action selected is Alternative 4 which is the alternative that is permanent to the maximum extent practicable. Alternative 4 consists of the following major elements:

- Building demolition;
- Limited soil sampling;
- Removal of the underground storage tank, dry wells DW1 and DW2, and drain lines;
- Incineration of liquid PCB and sediments;
- Excavation of surface soil above 10 mg/Kg PCB in the City Parcel property and in the alleyway;
- Excavation of soil above 10 mg/kg PCBs associated with the removal of the dry wells and the underground storage tank;
- Off-site disposal of soil in a TSCA-permitted landfill;
- Backfilling with clean soil;
- Deed restriction for the following properties;
  - City Parcel and City of Spokane properties limiting the site to industrial use.
  - Alleyway to protect integrity of the soil cover.

8.2 Evaluation of the Cleanup Action with Respect to MTCA Criteria

8.2.1 Threshold Requirements

Protect human health and the environment

All PCB-contaminated soils with concentrations greater than 10 mg/kg (the PCB industrial cleanup level) will be excavated. The excavated soils will be disposed off-site in a TSCA-permitted landfill. This will provide a high level of protection of human health and the environment. Remedial action objectives will be met with a high degree.

Comply with cleanup standards

The PCB cleanup level will be attained at the point of compliance in the City Parcel and City of Spokane property which are industrial properties. The PCBs cleanup level of 1 mg/kg will not be met at the point of compliance in the alleyway; cleanup standards will be complied with under the requirements of WAC 173-340-740(6)(f).

Comply with applicable state and federal law

Off-site disposal of PCB-contaminated soils in a permitted landfill, and incineration of any liquid PCBs and sludges would meet the TSCA action ARARs. Other ARARs that are listed in Table 6 could be complied with.

Provide for compliance monitoring

Protection monitoring, to confirm that human health and the environment are adequately protected, would be conducted during building demolition, excavation and loading to confirm that human health and the environment are adequately protected. Important elements including dust suppression, storm runoff, and access restrictions during the cleanup will be described in the safety and health plan.

Confirmation soil sampling would be conducted to verify that soil cleanup levels are met. One round of ground water sampling and analysis for PCBs will be performed to ensure that there continues to be no PCB impact to ground water.

8.2.2 Other Requirements

Use permanent solutions to the maximum extent practicable

(i) Protectiveness: This alternative will provide a very high degree of protection of human health and the environment.
(ii) Permanence: This alternative will be a permanent remedy.
(iii) Cost: The capital cost, and operation and maintenance costs are given in Table 8. The total present value of Alternative 4 will be $649,465.
(iv) Effectiveness over the long-term. Off-site disposal in an engineered, lined and monitored facility is third in the descending order in the assessment of the relative degree of long-term effectiveness under WAC 173-340-360(3)(e)(iv).
(v) Management of short-term risks. All short-term risks will be easily controlled during the removal activities. Risks during excavation, loading, and transportation of PCB-contaminated soils will be controlled. During the excavation and loading activities, dust suppression methods will be implemented to prevent the potential impact to the surrounding community. Air monitoring will be conducted to ensure that fugitive dust will not pose a threat. Risks incurred by offsite transport due to potential for spills or accidental loss of materials will be mitigated.
(vi) Technical and administrative implementability: Excavation, hauling, and backfilling operations of soils is easily implemented. Off-site disposal will occur at an existing permitted off-site facility.
(vii) Consider public concerns: The public will have an opportunity to comment on this selected cleanup action.

Provide for reasonable restoration time frame

The PCB cleanup level at the Site would be immediately complied with at the point of compliance after excavation and backfilling with clean soils for all industrial properties.

Consider public concerns

Public concerns on the selected remedy will be addressed during the public review and comment period for the draft Cleanup Action Plan.

8.2.3 Expectations for Cleanup Action Alternatives

Alternative 4 will meet Ecology's expectation that for sites containing small volumes of hazardous substances, all hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels in order to minimize the need for long-term management of contaminated materials.

8.3 Implementation Schedule

The implementation schedule for the Cleanup Action Plan has not been determined at this time.

9.0 REFERENCES

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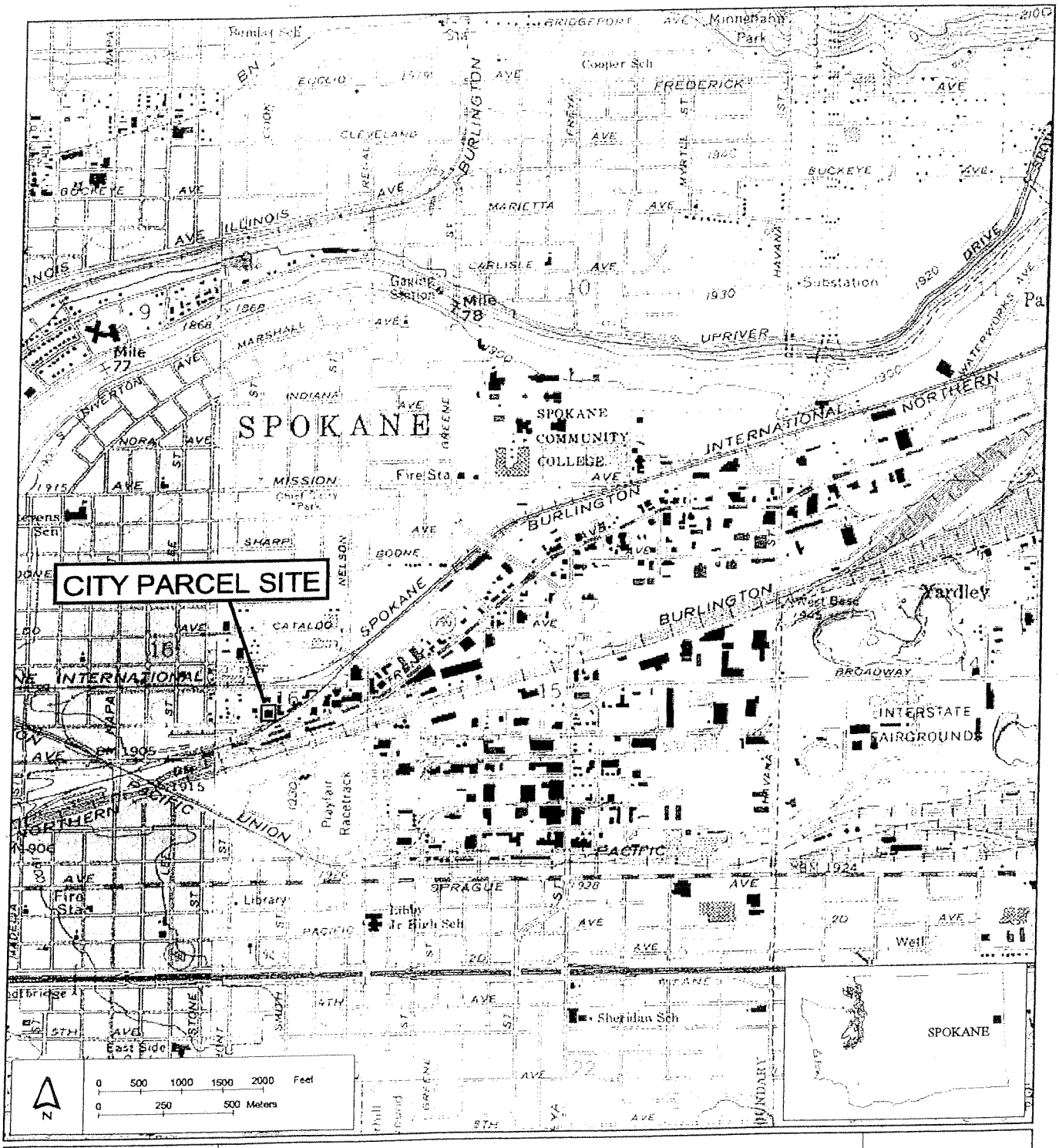


City Parcel Site Remedial Investigation	Figure 1 City Parcel Site Location Map Spokane, WA	

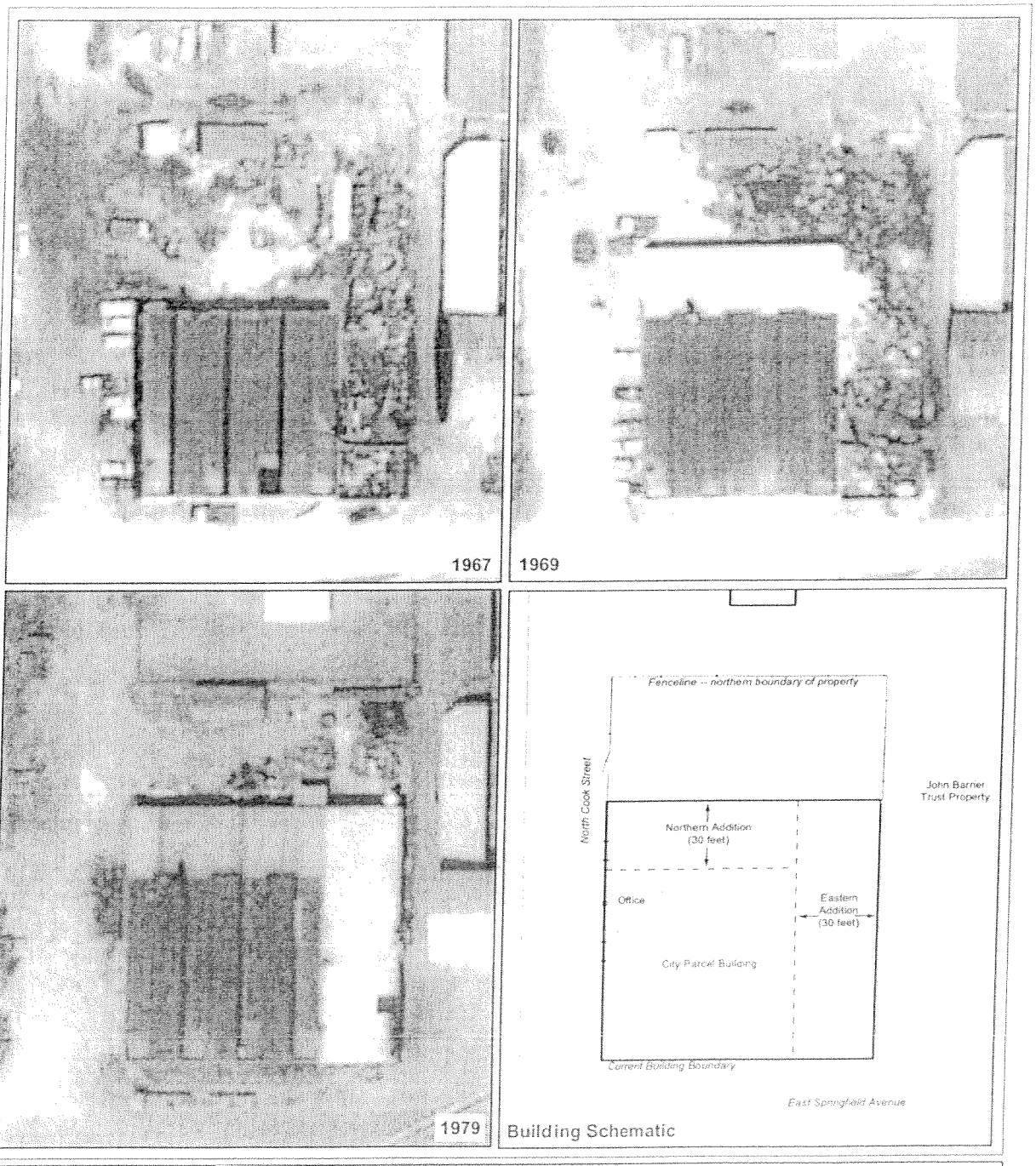


Figure 2
Aerial View of
City Parcel Building Additions (1967-1979)
City Parcel Site
Spokane, WA

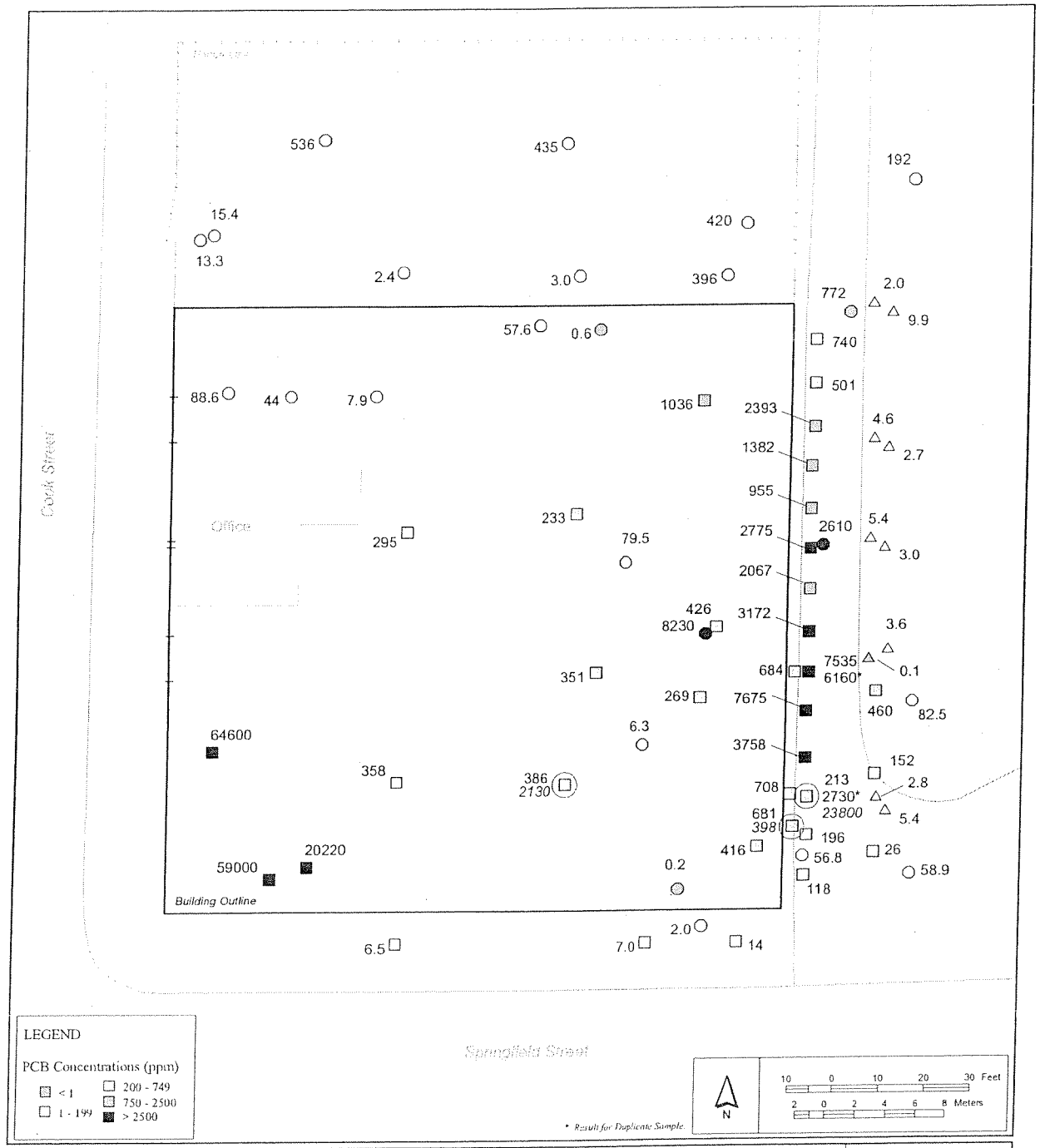
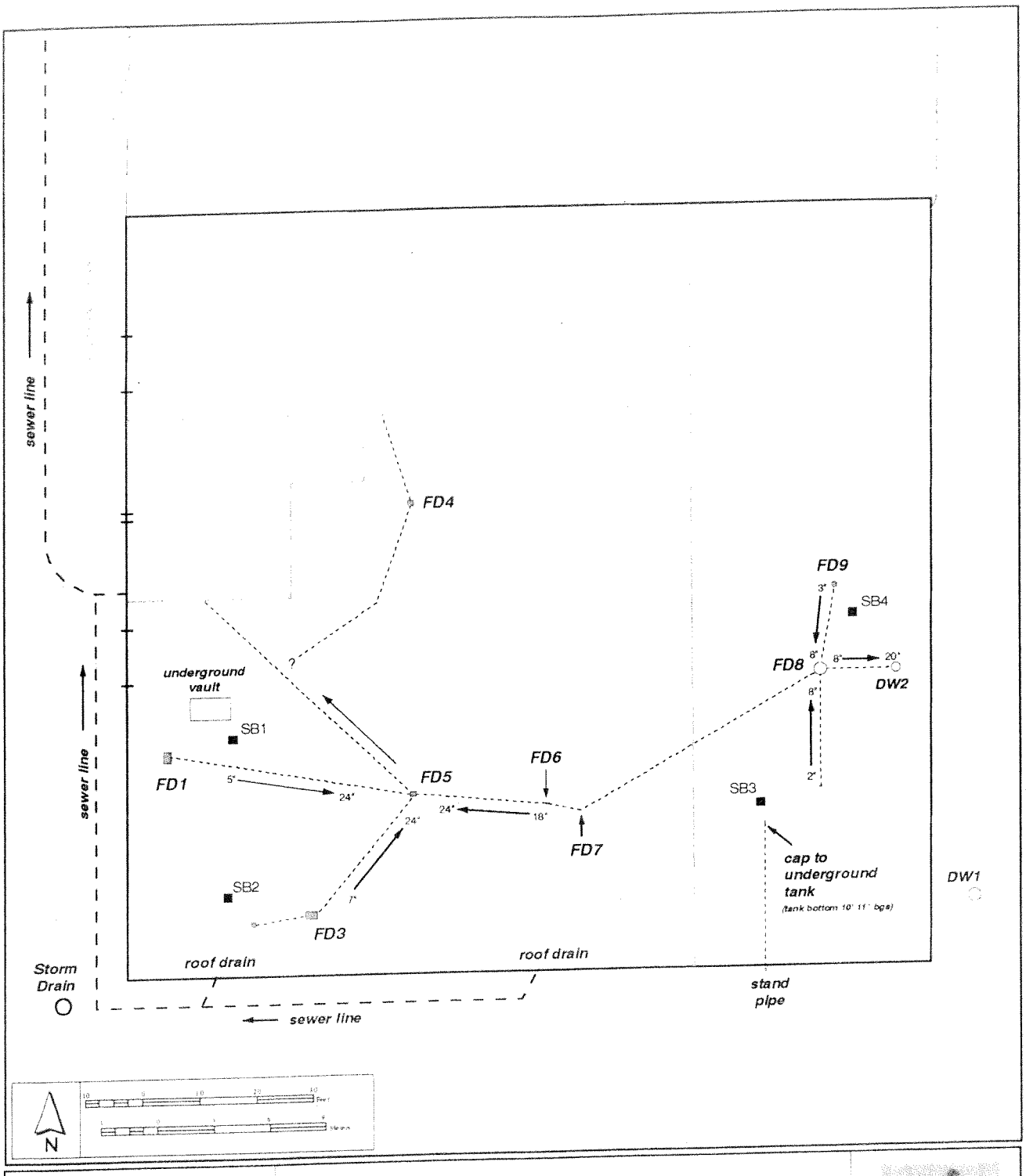


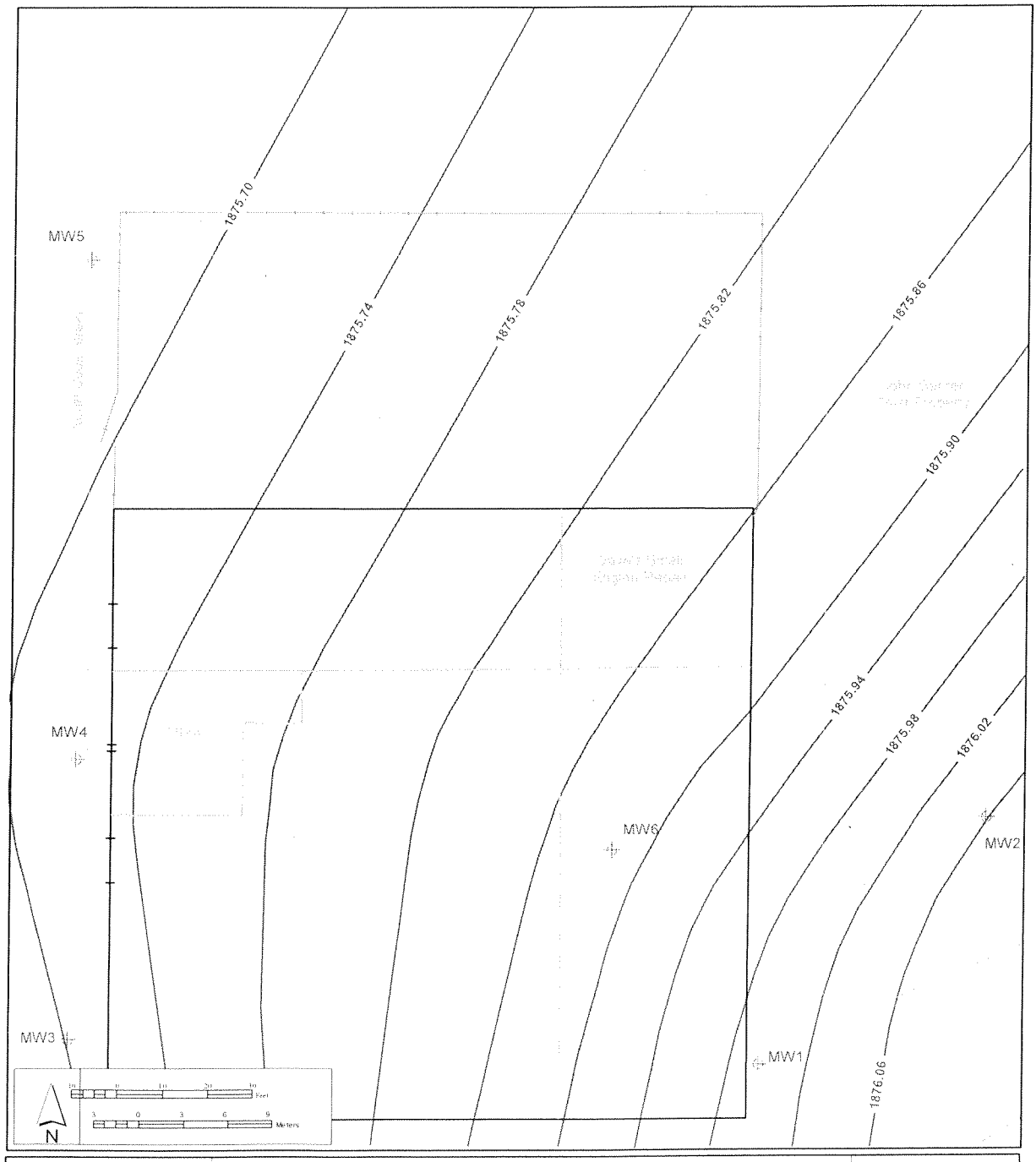
Figure 3
City Parcel Site – Historic Sample Results



LEGEND

- Deep Soil Boring Inside Building
- Dry Well (DW)
- Floor Drain (FD)
- Drainage Connection

Figure 4
Site Drainage Feature Locations
City Parcel Site
Spokane, WA

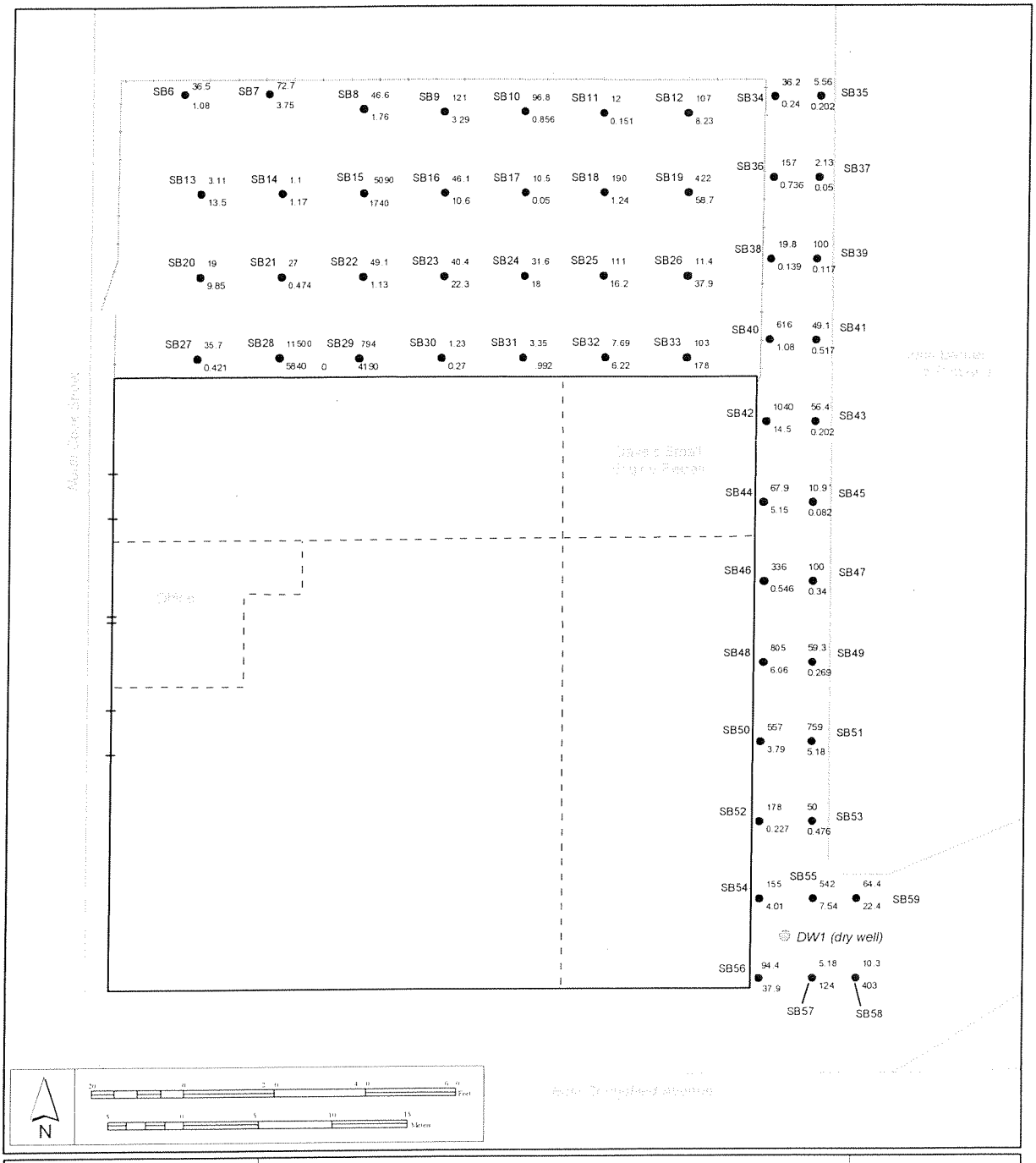


LEGEND

Monitoring Well

1875 Groundwater Contour (Elevation values are in feet above MSL)

Figure 5
Groundwater Contours
April 2002
City Parcel Site



LEGEND

- Shallow Soil Sampling Stations
- Deep Soil Boring Inside Building
- Monitoring Well

LABEL KEY:

STATION: Surface Soil Results (0-6" bgs) / Subsurface Soil Results (6-12" bgs)

**Results are for PCB-1260 reported in ppm

Figure 6
Surface Soil Analytical Results on Site Map
City Parcel Site

TABLE 1. SUMMARY OF SOIL ANALYTICAL RESULTS

Analyte	No. of Samples	No. of Detections	% Detection	Range of Concentrations, mg/kg	Cleanup Level, mg/kg	Basis	No. of samples above cleanup levels
SURFACE SOILS							
PCB-1260	111	106	95.5	0.0815 - 28,200	1	A - Unrestricted	78
					10	A - Industrial	53
Congener 87	1	1	7.14	160			
Congener 101	14	10	71.4	0.00536 - 1080			
Congener 110	14	13	92.6	0.00352 - 569			
Congener 138	14	13	92.6	0.0124 - 1160			
Congener 141	14	14	100	0.0239 - 2590			
Congener 151	14	14	100	0.007 16 - 736			
Congener 153	14	14	100	0.0288 - 3050			
Congener 170	14	14	100	0.0288 - 1270			
Congener 180	14	14	100	0.0326 -2650			
Congener 183	14	14	100	0.0084 - 707			
Congener 187	14	14	100	0.0146 - 1270			
Congener 206	14	1	7.14	0.00224			
TPH-D	11	11	100	15.7-2040	2000	A - Unrestricted	1
					2000	A - Industrial	1
Lube Oil	11	11	100	52.6 - 989	2000	A - Unrestricted	0
					2000	A - Industrial	0
1,2,3-Trichlorobenzene	2	1	50	3.58	Not available		
1,2,4-Trichlorobenzene	2	1	50	0.111	800	B - Unrestricted	0
					3500	B - Industrial	
1,2-DCA	2	2	100	4.78 - 4.91	Not available		
4-BFB	2	2	100	3.96 - 4.91	Not available		
Hexachlorobutadiene	2	1	50	0.414	12.8	B - Unrestricted	0
					1680	B - Industrial	0
Toluene	2	2	100	4.39 - 4.44	7	A - Unrestricted	0
					7	A - Industrial	0
SUBSURFACE SOILS							
PCB -1260	26	3	11.5	0.05 - 1.36	1	A - Unrestricted	1
					10	A - Industrial	0
TPH-D		3		10 - 15.2	2000	A - Unrestricted	0
					2000	A - Industrial	0

TABLE 2 - SUMMARY OF GROUND WATER ANALYTICAL RESULTS

Analyte	Concentration, ug/L															
	MW-1				MW-4				MW-5				MW-6			
	04/02	07/02	02/03	05/03	04/02	07/02	02/03	05/03	04/02	07/02	02/03	05/03	04/02	07/02	02/03	05/03
Congener 101	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 110	0.04	nd	nd	nd	nd	nd	nd	0.01J	nd	nd	nd	nd	nd	nd	nd	nd
Congener 138	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 141	0.16J	nd	nd	nd	nd	nd	nd	nd	0.01J	nd	nd	nd	0.01J	nd	nd	nd
Congener 151	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 153	0.19	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	0.01	nd	nd	nd
Congener 170	0.10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 180	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 183	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Congener 187	0.10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
PCB -1260	1.88	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Styrene	nd	nd	nd	nd	nd	nd	na	na	nd	nd	2.08J	nd	nd	nd	na	na

nd - not detected
na - not analyzed for
J - Qualified as estimated during data validation

TABLE 3. VOLUME/TONNAGE CALCULATIONS FOR SOILS WITH >10 PPM PCBS

	Area, Yd^2	Depth, feet	% >10 ppm PCBs[a]	Volume, Yd^3	Weight, tons [b]
Parking Lot	980	0-1'	100%	326.67	490.00
		1'-2'	50%	163.33	245.00
Subtotal				490.00	735.00
Under the Building					
Eastern Addition	457	0-1'	50%	76.17	114.25
		1'-2'	20%	30.47	45.70
Northern Addition	357	0-1'	50%	59.50	89.25
		1'-2'	20%	23.80	35.70
Subtotal				189.93	284.90
South side	100	0-1'	100%	33.33	50.00
		1'-2'	30%	10.00	15.00
Subtotal				43.33	65.00
Alleyway	450	0-1'	100%	150.00	225.00
		1'-2'	30%	45.00	67.50
Subtotal				195.00	292.50
Others					
DW1				400.00	600.00
DW2 and tank removal				40.00	60.00
Subtotal				440.00	660.00
Total	**2344**			**1358.27**	**2037.40**

[a] % of soils >10 ppm PCBs were approximated based on RI analytical results for the parking lot and the alleyway. Percentages for the south side area and underneath the building were assumed.

[b] @1.5 tons/Yd^3

TABLE 4 . DETAILED EVALUATION OF ALTERNATIVES

CRITERIA AND DESCRIPTION	ALTERNATIVE 1: BUILDING DEMOLITION, CAPPING, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 2: BUILDING DEMOLITION, IN-SITU SOLIDIFICATION/STABILIZATION, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 3: DEFERRED BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 4: BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 5: BUILDING DEMOLITION, EXCAVATION, OFF-SITE INCINERATION, AND INSTITUTIONAL CONTROLS
THRESHOLD REQUIREMENTS					
Protect human health and the environment	PCBs remain on site but contained;land use restricted	PCBs remain on site but demobilized and contained;land use restricted	PCB contaminated soil above cleanup levels except for those underneath the building removed and contained off-site.	PCB contaminated soil removed from the site and contained off-site.	PCB contaminated soil removed from the site and destroyed off-site.
Comply with cleanup standards	Cleanup levels will not be met at the point of compliance. Cleanup standards will be complied with under WAC 173-340-740(6)(f).	Cleanup levels will not be met at the point of compliance. Cleanup standards will be ocmplied with under WAC 173-340-740(6)(f).	Cleanup levels will be met at the point of compliance.	Cleanup levels will be met at the point of compliance.	Cleanup levels will be met at the point of compliance.
Comply with applicable state and federal law	Meets all ARARs.	Meets all ARARs.	Meets all ARARs,	Meets all ARARs.	Meets all ARARs.
Provide for compliance monitoring	Protection monitoring during site work will be conducted.	Protection monitoring during site work will be conducted.	Soil sampling will be conducted to verify that cleanup levels are met. Protection monitoring will be conducted during excavation and loading.	Soil sampling will be conducted to verify that cleanup levels are met. Protection monitoring will be conducted during excavation and loading.	Soil sampling will be conducted to verify that cleanup levels are met. Protection monitoring will be conducted during excavation and loading.
OTHER REQUIREMENTS					
Use permanent solutions to the maximum extent practicable					
1. Protectiveness					
Degree of risk reduction	Exposure to PCBs in soils eliminated.	Exposure to PCBs in soils eliminated. Mobility of PCBs is reduced	Exposure to PCBs in soils is eliminated. Future potential migration of PCBs to GW is eliminated. Possible PCBs in soils underneath the building may be left on site.	Exposure to PCBs in soils is eliminated. Future potential migration of PCBs to GW is eliminated.	Exposure to PCBs in soils is eliminated. Future potential migration of PCBs to GW is eliminated.
Time required to reduce risk and attain cleanup standards	Risks to exposure to PCBs reduced after capping and institutional controls are in plade. Cleanup levels will not be met at the point of compliance.	Risks to exposure to PCBs reduced after solidification/stabilization and after deed restrictions are in place. Cleanup lvels will not be met at the point of compliance.	Risks to exposure to PCBs in soils and to potential future migration of PCBs in GW reduced. Cleanup levels will be met at the point of compliance.	Risks to exposure to PCBs in soils and to potential future migration of PCBs in GW reduced. Cleanup levels will be met at the point of compliance.	Risks to exposure to PCBs in soils and to potential future migration of PCBs in GW reduced. Cleanup levels will be met at the point of compliance.
On-site and off-site risk	None	Exposure risk during mixing with solidification agents.	Exposure to dust and/or vapors during excavation and loading. Off-site transport risks.	Exposure to dust and/or vapors during excavation and loading. Off-site transport risks.	Exposure to dust and/or vapors during excavation and loading. Off-site transport risks.
Overall improvement of environmental quality	PCBs remain on site but contained;land use restricted	PCBs remain on site but demobilized and contained;land use restricted	PCBs on site are below industrial cleanup levels; land use restricted. PCBs contained off-site.	PCBs on site are below cleanup industrial levels; land use restricted. PCBs contained off-site.	PCBs on site are below cleanup industrial levels; land use restricted. PCBs destroyed off-site..

TABLE 4. DETAILED EVALUATION OF ALTERNATIVES

CRITERIA AND DESCRIPTION	ALTERNATIVE 1: BUILDING DEMOLITION, CAPPING, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 2: BUILDING DEMOLITION, IN-SITU SOLIDIFICATION/STABILIZATION, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 3: DEFERRED BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 4: BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 5: BUILDING DEMOLITION, EXCAVATION, OFF-SITE INCINERATION, AND INSTITUTIONAL CONTROLS
2. *Permanence*					
Degree of permanently reducing the toxicity, mobility, or volume of PCBs	No reduction of toxicity, mobility or volume of PCBs.	Mobility of PCBs are reduced.	Volume of PCBs on site greatly reduced. PCBs are contained on site.	All PCB contaminated soils on site above cleanup levels are removed and contained on site.	All PCB contaminated soils on site above cleanup levels are removed and PCBs are destroyed off-site.
Adequacy of alternative in destroying PCBs	No PCBs destroyed.	Some PCBs may be destroyed but not all.	PCBs are not destroyed but contained off-site.	PCBs are not destroyed but contained off-site.	PCBs are destroyed.
Reduction or elimination of PCB releases and sources of releases	PCBs are contained and still present future potential for migration to ground water	PCBs are solidified with soil, future potential for migration to ground water reduced.	PCB-contaminated soil above cleanup levels removed from the site eliminating PCB releases and sources of releases.	PCB-contaminated soil above cleanup levels removed from the site eliminating PCB releases and sources of releases.	PCB-contaminated soil above cleanup levels removed from the site eliminating PCB releases and sources of releases.
Degree of irreversibility of treatment	No treatment - not applicable	Partial treatment only.	No treatment.	No treatment.	PCBs are incinerated/destroyed.
Characteristic and quantity of treatment residuals generated	No treatment - not applicable	Stabilized soil mass.	No treatment.	No treatment.	Off-gas from incinerator treated by the facility.
3. *Cost (See Table13)*					
4. *Long-term effectiveness*					
Degree of certainty that alternative will be successful	Cap provides reliable containment; not a permanent remedy	Effective containment/immobilization of PCBs; not a permanent remedy	PCB contaminated soils removed from site, High degree of success.	PCB contaminated soils removed from site, High degree of success.	PCB contaminated soils removed from site, High degree of success.
Reliability of the alternative during the period of time PCBs remain on site that exceed cleanup levels	Controls required; reliability depends on continued maintenance and enforcement.	Controls required; reliability depends on continued maintenance and enforcement.	PCB cleanup levels will be met at the point of compliance (except for those that may still exist under the building.)	PCB cleanup levels will be met at the point of compliance.	PCB cleanup levels will be met at the point of compliance.
Magnitude of residual risk	PCBs remain on site but contained.	PCBs remain contained and immobilized.	Some PCBs may still be underneath the building; however, they are contained and covered.	No risks based on industrial use remain.	No risks based on industrial use remain.
Effectiveness of controls required to manage treatment residues or remaining wastes	Institutional controls and periodic inspection and maintenance of the cap required.	Institutional controls must continue to be enforced.	Deed restrictions will limit site use .	Deed restrictions will limit site use.	Deed restrictions will limit site use.
5. *Management of short-term risks*					
Risk associated during the construction and implementation	Minimal disturbance. No excavation or off-site transport.	Fugitive dust or possibly vapor hazard during mixing of solidification agent with soil	Fugitive dusts, off-site transport risks.	Fugitive dusts, off-site transport risks.	Fugitive dusts, off-site transport risks.
Effectiveness of measures that will be taken to manage risks.	Worker protection to be achieved with standard safety practices.	Dust or vapor hazards mitigated by dust control and other measures.	Effective dust control and other safety measures are available.	Effective dust control and other safety measures are available.	Effective dust control and other safety measures are available.
6. *Implementability*	Capping is conventional technology that is readily installed/maintained.	Solidification/Stabilization is a demonstrated technology and can be implemented. Available site area may be a constraint.	Excavation/off-site disposal easily implemented. TSCA-permitted landfill is available within 200 miles.	Excavation/off-site disposal easily implemented. TSCA-permitted landfill is available within 200 miles.	Excavation/ off-site incineration readily implemented. Off-site incinerators are available.

TABLE 4. DETAILED EVALUATION OF ALTERNATIVES

CRITERIA AND DESCRIPTION	ALTERNATIVE 1: BUILDING DEMOLITION, CAPPING, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 2: BUILDING DEMOLITION, IN-SITU SOLIDIFICATION/STABILIZATION, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 3: DEFERRED BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 4: BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 5: BUILDING DEMOLITION, EXCAVATION, OFF-SITE INCINERATION, AND INSTITUTIONAL CONTROLS
7. *Public concerns consideration*	Will address public comments.	Will address public comments.	Will address public comments.	Will address public comments.	Will address public comments.
Provide for reasonable restoration time frame	PCBs are not destroyed; just contained and not expected to undergo natural degradation. This does not provide for a reasonable restoration time frame.	PCBs are contained and immobilized, Ranks a little higher than Alterantive Does not provide for a reasonable restoration time frame.	Cleanup levels are met. Provides for a reasonable restoration time frame.	Cleanup levels are met. Provides for a reasonable restoration time frame.	Cleanup levels are met. Provides for a reasonable restoration time frame.
Consider public concerns	Public comment will be addressed during the public review and comment period for the draft FS Report and the draft CAP.	Public comment will be addressed during the public review and comment period for the draft FS Report and the draft CAP.	Public comment will be addressed during the public review and comment period for the draft FS Report and the draft CAP.	Public comment will be addressed during the public review and comment period for the draft FS Report and the draft CAP.	Public comment will be addressed during the public review and comment period for the draft FS Report and the draft CAP.
Ecology Expectations	Would not meet expectation that for sites containing small volumes of hazardous substances, the hazardous substances will be destroyed, detoxified, and.or removed fo concentrations below cleanup levels	Would not meet expectation that for sites containing small volumes of hazardous substances, the hazardous substances will be destroyed, detoxified, and.or removed fo concentrations below cleanup levels	Would partially meet expectation that for sites containing small volumes of hazardous substances, the hazardous substances will be destroyed, detoxified, and.or removed fo concentrations below cleanup levels.	Would meet expectation that for sites containing small volumes of hazardous substances, the hazardous substances will be destroyed, detoxified, and.or removed fo concentrations below cleanup levels.	Would meet expectation that treatment technology will be emphasized and that for sites containing small volumes of hazardous substances, the hazardous substances will be destroyed, detoxified, and.or removed fo concentrations below cleanup levels

TABLE 5. QUALITATIVE/QUANTITATIVE COMPARISON OF ALTERNATIVES

CRITERIA	ALTERNATIVE 1: BUILDING DEMOLITION, CAPPING, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 2: BUILDING DEMOLITION, IN-SITU SOLIDIFICATION/STABILIZATION, AND INSTITUIONAL CONTROLS	ALTERNATIVE 3: DEFERRED BUILDING DEMOLITION, EXCAVATION,OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS	ALTERNATIVE 4: BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, INSTITUTIONAL CONTROLS	ALTERNATIVE 5: BUILDING DEMOLITION, EXCAVATION, OFF-SITE INCINERATION, AND INSTITUTIONAL CONTROLS
Threshold Requirements					
Protect human health and the environment	YES	YES	YES	YES	YES
Comply with cleanup standards	YES	YES	YES	YES	YES
Comply with applicable state and federal law	YES	YES	YES	YES	YES
Provide for compliance monitoring	YES	YES	YES	YES	YES
Other Requirements					
Use permanent solutions to the maximum extent practicable*	LOW	LOW	MODERATE	HIGH	MODERATE-HIGH
Protectiveness	*1*	*2*	*4*	*5*	*5*
Permanence	*1*	*2*	*3*	*4.5*	*5*
Cost	*5*	*4*	*3.5*	*3*	*1*
Long-term Effectiveness	*1*	*2*	*3*	*4.5*	*5*
Management of short term risks	*5*	*4*	*3*	*2*	*2*
Implementability	*5*	*4*	*2*	*3*	*3*
Public concerns consideration	*5*	*5*	*5*	*5*	*5*
TOTAL POINTS	*23*	*23*	*23.5*	*27*	*26*
**Rankings range from 1 (LOW) to 5(HIGH)*					
Provide for reasonable restoration time frame	LOW	LOW-MODERATE	MODERATE	HIGH	HIGH
Consider public comments	HIGH	HIGH	HIGH	HIGH	HIGH
Ecology Expectations	NO	NO	YES	YES	YES

TABLE 6. FEDERAL AND STATE APPLICABLE, RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

ACTION	CITATION	COMMENT
Cleanup Standards	Chapter 70.105D RCW; Chapter 173-340 WAC	Model Toxics Control Act
Soil Remediation	40 CFR Part 761	Toxic Substance Control Act; primary regulation affecting PCBs.
	40 CFR Part 50	National Primary and Secondary Ambient Air Quality Standards
	Chapter 70.105 RCW; Chapter 173-303 WAC	Washington State Dangerous Waste Management Law and Regulation
	Chapter 70.95 RCW; Chapter 173-304 WAC	Washington State Solid Waste Management Law and Regulation
	Chapter 70.105D RCW; Chapter 173-340 WAC	Model Toxics Control Act
	Chapter 173-400 WAC	Washington State General Requirements for Air Pollution Sources
	Chapter 173-403	Implementation of Regulations for Air Contaminant Sources
	Chapter 173-470 WAC	Washington State Ambient Air Quality Standards for Particulates
	Chapter 174-50 WAC	Accreditation of Environmental Laboratories
Cleanup Action Construction	29 CFR 1910	Occupational Safety and Health Act
	Chapter 296-155 WAC	Safety Standards for Construction
	Chapter 43.51 RCW; Chapter 197-11 WAC	State Environmental Policy Act and Rules
	Chapter 296-62 WAC	Occupational Health Standards -- Safety Standards for Carcinogens, Part P Hazardous Waste Operations and Emergency Response
	Chapter 173-340 WAC	Model Toxics Control Act

TABLE 7. COMPARISON OF PRESENT VALUE OF THE FIVE REMEDIAL ALTERNATIVES

Remedial Alternative	Initial Capital Cost	Annual O & M Cost	Period of Analysis	Building Demolition (at year 10)	Total Cost	Present Value at 7%
Alternative 1	$177,465	$2,600	30	$0	$255,465	$209,731
Alternative 2	$352,959	$2,600	30	$0	$430,959	$385,222
Alternative 3	$681,762	$1,300	30	$99,060	$819,822	$748,216
Alternative 4	$633,333	$1,300	30	0	$672,333	$649,465
Alternative 5	$5,028,240	$1,300	30	0	$5,067,240	$5,044,373

TABLE 8. COST ESTIMATES FOR ALTERNATIVE 4

ALTERNATIVE 4. BUILDING DEMOLITION, EXCAVATION, OFF-SITE DISPOSAL, AND INSTITUTIONAL CONTROLS

COST ITEMS	QTY	UNIT	UNIT COST	TOTAL COST	
Capital Costs					
Construction Costs					
Mobilization/Demobilization	1	Lump Sum	$10,000	$10,000	
Building Demolition	1	Lump Sum	$20,000	$20,000	Includes debris disposal.
Soil sampling	20	Samples	$200	$4,000	
Remove DW1, DW2, ust, and drains	1	Lump Sum	$10,000	$10,000	
Incinerate liquid PCBs, sediments	3	tons	$2,300	$6,900	
Site clearing/Preparation	0.65	acres	$10,000	$6,500	
Excavate soils	1360	Cubic Yards	$4	$5,440	
Soils handling/staging	1360	Cubic Yards	$13	$17,680	
Laboratory confirmation	75	Samples	$200	$15,000	
Disposal Fee - soils	1360	Cubic Yards	$180	$244,800	
Backfill/soil compacting	1360	Cubic Yards	$14	$19,040	
Subtotal				$359,360	
Contingency	30%			$107,808	
Subtotal				$467,168	
Project Management	8%			$37,373.44	
Remedial Design	15%			$70,075	
Construction Management	10%			$46,716.80	
Institutional Controls					
Institutional Controls Plan	1	Lump Sum	$5,000	$5,000	
Deed Restrictions	1	Lump Sum	$5,000	$5,000	
Fences	1	Lump Sum	$2,000	$2,000	
Subtotal				$12,000	
Total Capital Cost				**$633,333**	
Annual O & M Cost					
Fence Maintenance	1	Lump Sum	$1,000	$1,000	
Subtotal				$1,000	
Contingency	30%			$300	
Total Annual O & M Costs				**$1,300**	

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST/YEAR	DISCOUNT FACTOR (7%)	PRESENT VALUE
Capital Cost	0	$633,333	$633,333	1	$633,333.44
Annual O&M Cost	1 - 30	$39,000	$1,300	12.409	$16,131.70
			TOTAL PRESENT VALUE OF ALTERNATIVE 4		**$649,465.14**

WASHINGTON STATE DEPARTMENT OF ECOLOGY

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: Remediation of PCB-contaminated soils by excavation and disposal in a TSCA-approved landfill.

Proponent: Washington State Department of Ecology

Location of proposal, including street address if any: City Parcel Site (Former Spokane Transformer Facility), 708 N. Cook, Spokane, Washington

Lead agency: Washington State Department of Ecology

The lead agency for this proposal has determined that it does not have a probable significant impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☐ **There is no comment period for this DNS.**

☐ **This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.**

☒ **This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by August 19, 2004.**

Responsible official: Flora J. Goldstein

Position/title: Section Manager
Toxics Cleanup Section

Address: N. 4601 N. Monroe St. **Phone:** 329-3516

Date 8.6.04 **Signature** Flora J. Goldstein

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring the preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the question from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be a significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (Part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. **Name of proposed project, if applicable:**

   City Parcel Site Remediation under the Model Toxics Control Act, Chapter 70.105D RCW.

2. **Name of applicant:**

   Washington State Department of Ecology

3. **Address and phone number of applicant and contact person:**

   Teresita Bala
   Washington State Department of Ecology
   Toxics Cleanup Program
   Eastern Regional Office
   4601 N. Monroe St.
   Spokane, WA 99205

4. **Date checklist prepared:**

   July 13, 2004

5. **Agency requesting checklist:**

   Washington State Department of Ecology

6. **Proposed timing or schedule (including phasing, if applicable):**

   It is anticipated that remediation work can commence as early as in 2005.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   No.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   SAIC, Final Remedial Investigation Report for the City Parcel Site, November 27, 2002.

   SAIC, City Parcel Site Post-RI Groundwater Sampling Technical Memorandum, June 30, 2003.

   Ecology, Final Feasibility Study Report, April 2004.

   Ecology, Draft Cleanup Action Plan (DCAP) - In Progress.

   Ecology, Final Cleanup Action Plan (FCAP) - The FCAP will be issued after the DCAP has satisfied the public participation requirements of MTCA.

Remedial Action Plan - This will include the Engineering Design Report, the Construction Plans and Specifications, as well as Institutional Control Plans, Sampling and Analysis Plans, and Health and Safety Plan.

Remedial Action Report - This will be submitted at the end of construction to document the actual cleanup action conducted.

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

No.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

Air quality permits may be required during excavation of soils. TSCA approval/permits will be required for disposal of PCB-bearing soils in a TSCA-approved landfill.

11. **Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.**

This project involves the excavation of PCB-contaminated soils and disposal of these soils in a TSCA-approved landfill. The area of the Site is about 0.75 acres.

12. **Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographical map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any applications related to this checklist.**

708 N. Cook St., Spokane, Washington (Figure 1).

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountains, other _____.

Site is located on flat terrain.

b. **What is the steepest slope on the site (approximate percent slope)?**

The site is very flat.

c. **What general types of soils (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

The Site is characterized by poorly graded gravels and cobbles with up to 20% fine to coarse sands.

d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

No.

e. **Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**

Approximately 1,350 cubic yards of soils will be excavated and backfilled with clean soils. Site will be restored to original grade.

f. **Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

No.

g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

The site will not be covered with impervious surfaces immediately after implementation of the cleanup. Future development of the site may result in buildings and/or pavement of the area.

h. **Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

Construction plans and specifications will be required to limit off-site migration of potentially contaminated soils and surface runoff during excavation, if needed.

2. Air

a. **What types of emissions to the air would result from this proposal (i.e. dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

Dust generation during excavation, loading, and transporting of the PCB-bearing soils. These will be minimized by applying good construction practices.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Good construction practices will minimize dust generation during excavation, loading, and transporting of PCB-contaminated soils. Dust generation will be reduced and controlled through wetting of exposed surfaces and other typical dust-suppression techniques. Soil handling and loading procedures that minimize dust production will be implemented.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of the fill material.

Not applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100 year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground:

1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Permeable soils present on the site preclude runoff. Incident precipitation percolates immediately into the ground.

2) Could waste material enter ground or surface waters? If so, generally describe.

No.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Control of surface runoff, if necessary, will be included in the Engineering Design Report.

4. Plants

a. Check or circle types of vegetation found on the site:

__ deciduous tree: alder, maple, aspen, other
__ evergreen tree: fir, cedar, pine, other
__ shrubs
__ grass
__ pasture
__ crop or grain
__ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
__ water plants: water lily, eelgrass, milfoil, other
__ other types of vegetation

No vegetation is present on Site.

b. What kind and amount of vegetation will be removed or altered?

Not applicable.

c. List threatened or endangered species known to be on or near the site.

None.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Not applicable.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other:_____
mammals: deer, bear, elk, beaver, other:_____
fish: bass, salmon, trout, herring, shellfish, other:_____

b. List any threatened or endangered species known to be on or near the site.

None.

c. Is the site part of a migration route? If so, explain.

No.

d. Proposed measures to preserve or enhance wildlife, if any:

Not applicable.

6. Energy and Natural Resources

a. What kinds of energy (electrical, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity, gasoline, and diesel fuel would be used by construction equipment and support/worker vehicles.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.**

The purpose of the proposed action is to reduce or eliminate the risk of environmental and health hazards associated with site contamination. During the course of the remedial action, on-site workers could be exposed to hazardous materials, if work is done without proper safeguards. Potential exposures will be minimized by measures to be implemented under the site Health and Safety Plan.

1) **Describe special emergency services that might be required.**

Emergency medical services may be required in the event of a construction accident.

2) **Proposed measures to reduce or control environmental health hazards, if any:**

All work will be done in accordance with an approved Health and Safety Plan.

b. **Noise**

1) **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

Traffic noises associated with railcars operating adjacent to the Site are not expected to affect the project.

2) **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

Soil excavation and loading into railcars or trucks would generate short-term increases in noise levels as the adjacent areas of the proposed project site.

3) **Proposed measures to reduce or control noise impacts, if any:**

Construction activities will be limited to standard daytime construction periods.

8. Land and Shoreline Use

a. **What is the current use of the site and adjacent properties?**

The site and adjacent properties are used for commercial/industrial activities.

b. **Has the site been used for agriculture? If so, describe.**

No.

c. Describe any structures on the site.

The former Spokane Transformer building covering about 67% of the City Parcel property still exists on the Site.

d. Will any structures be demolished? If so, what?

The former Spokane Tranformer building in the City Parcel property will be demolished.

e. What is the current zoning classification of the site?

The current zoning of the Site is M1- Light Industrial.

f. What is the current comprehensive plan designation of the site?

M1 - Light Industrial.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

Not known until site development would occur.

j. Approximately how many people would the completed project displace?

The building on Site is currently leased by City Parcel and used for package sorting and truck-loading each morning and afternoon. Most City Parcel business activities have moved to a location on Trent Avenue. Two other small businesses are leasing space on the north side of the building. These businesses will have to move.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The proposal is compatible with existing and projected land uses and plans. Industrial exposures are assumed in the cleanup decisions made.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Now.

c. Proposed measures to reduce or control housing impacts, if any:

Not applicable.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The proposed project does not include any structures.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

None.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreation opportunities are in the immediate vicinity?

None.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant, if any:

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No.

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site?

Not applicable.

c. Proposed measures to reduce or control impacts, if any:

None.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans if any.

The proposed project would be accessed from Springfield Avenue and Cook Street. Springfield Avenue can be accessed from Trent Avenue.

b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Spokane Transit Authority (STA) operates inner-city bus routes that stops about two to three blocks from the Site.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project site is adjacent to railroad tracks. It may be possible to use railroad cars to transport the PCB-bearing soils to the landfill.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The completed project would not generate any additional vehicle traffic.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Teresita Baker

Date Submitted: 7/16/04

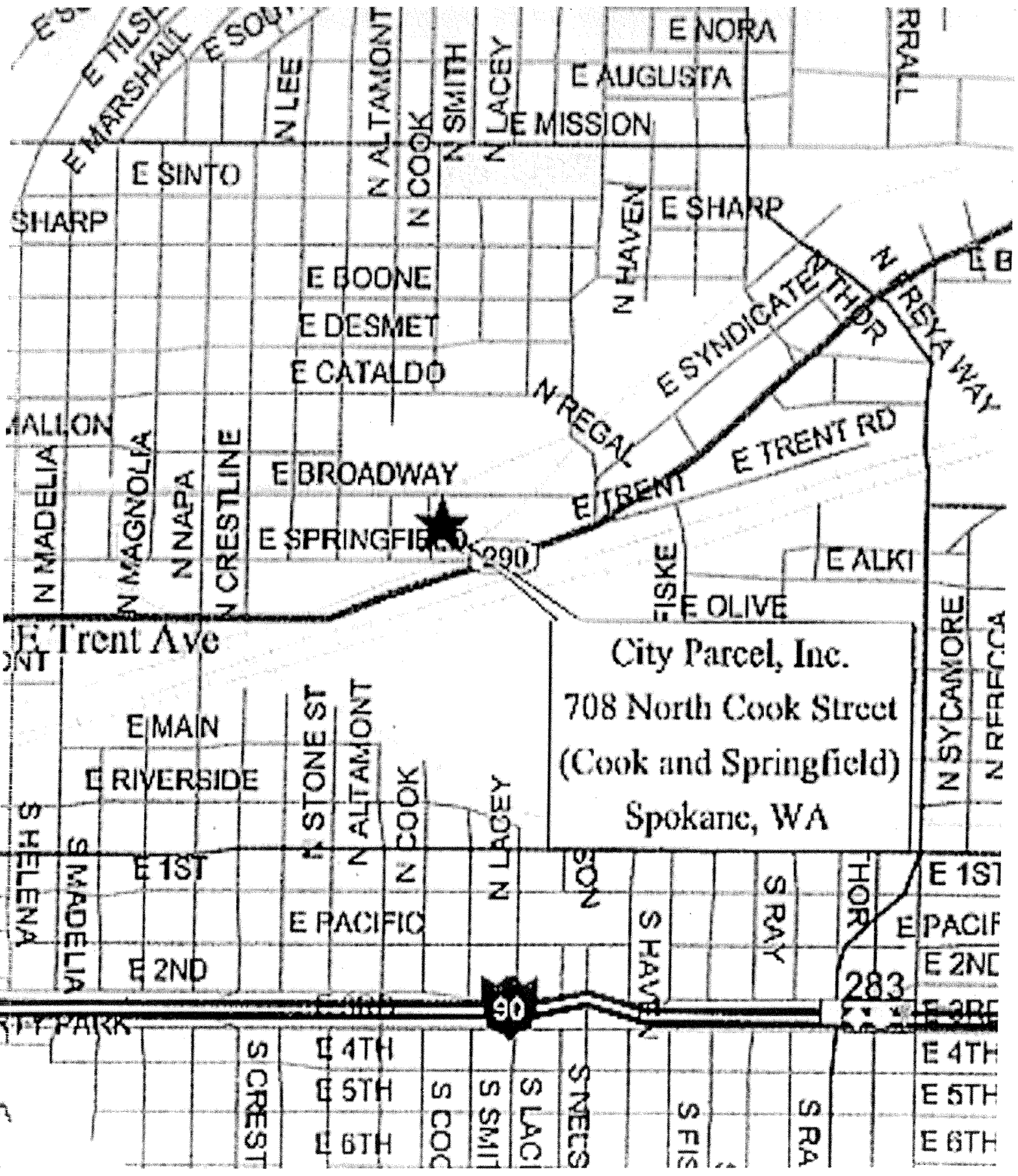


FIGURE 1. CITY PARCEL SITE LOCATION MAP