

development in this project area, noise abatement (i.e., a noise wall) is not reasonable for this side of the roadway. Visual impacts will be mitigated through reestablishment of any vegetative areas that may be disturbed during construction. Native trees, shrubs, and grasses are proposed, to visually soften the roadway structural elements. Areas under the bridge would be landscaped where physical elements allow.

South Option

No mitigation is proposed for the BPA Grand Coulee to Spokane transmission lines Number 3 and Number 4.

Hazardous Waste

Studies and Coordination

The Environmental Protection Agency (EPA), ~~Federal Highway Administration (FHWA)~~, Washington State Department of Ecology (Ecology), Washington State Department of Transportation (WSDOT), and the city and county of Spokane jointly manage and regulate use, generation, transportation, storage, disposal, cleanup, and spills of hazardous substances that may be used or encountered in development and operation of the proposed North Spokane Freeway. Conclusions contained within this impact analysis are taken from two reports: 1) The North Spokane Freeway — Hazardous Waste Discipline Report, by the Institute for Urban and Local Studies, August 1993, and 2) Limited Initial Site Assessment of Known and Suspected Contaminated Sites on the Proposed North Spokane Freeway Alternatives, by the Washington State Department of Transportation, Eastern Region Environmental Office, February 1995.

The Washington State Department of Transportation (WSDOT) has reviewed the following rules, regulations, and guidelines and will comply with the letter and intent of each during construction and operation of the North Spokane Freeway.

- Total Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- EPA's National Emission Standards for Hazardous Air Pollutants covered by Title 40 CFR Part 61 subpart M
- OSHA Title 29 CFR Part 1910
- FHWA interim guidance on hazardous waste sites affecting highway project development
- Environmental Protection Agency National Emission Standard for Hazardous Air Pollutants 40 CFR Part 61 Subpart M
- Asbestos regulation 29 CFR Part 1910
- Washington State's WISHA Hazardous Waste Operations WAC 296-62-077 and Chapter 296-65 WAC

- Washington State Hazardous Waste Management Act RCW 70.105
- Washington State Model Toxics Control Act; RCW 70.105D
- Washington State WDOE Model Toxics Control Act Regulations WAC 17-3
- Washington State Dangerous Waste Regulations; WAC 173-303
- WSDOT Environmental Procedures Manual Hazardous Waste Guidelines
- WSDOT Asbestos Abatement Manual M 27-80 40 CFR Part 6129 CFR (Part 1910)

Methodology

The WSDOT Eastern Region Environmental Office prepared a Limited Initial Site Assessment that expanded on work submitted in the North Spokane Freeway Hazardous Waste Discipline Report prepared by Bovay Engineers (subcontracted to the Institute for Urban & Local Studies [IULS]) in August 1993. Most of the conclusions and recommendations presented here are derived from the Limited ISA.

A Limited Corridor Initial Site Assessment is a broad evaluation of environmental conditions at known or suspected sites that are readily identified as historically or currently engaging in activities that may have involved hazardous substances.

~~Limited ISAs typically do not involve interviews with land owners, site visits or intrusive investigation.~~ Limited ISAs typically involve records review, site visits, interviews with landowners, and to recommend further actions.

The Limited Initial Site Assessment of Known and Suspected Contaminated Sites on Proposed North Spokane Freeway Alternatives completed the following tasks:

- Identified properties on the proposed North Spokane Freeway Alternatives that may have been, or currently are, used for activities that involve hazardous materials.
- Performed an “appropriate inquiry into the previous ownership and uses of the properties consistent with good commercial or customary practice,” in accordance with one of the requirements to qualify for the innocent land owner defense provided in 42 USC section 9601 (35) and section 9607 (b).
- Reviewed pertinent federal, state, and local informational databases for identified and previously unknown sites recorded as handling or being affected by hazardous materials.
- Reviewed regulatory agency files on known and suspected hazardous materials sites.
- Synthesized relevant information and recommended further investigative activities, if required.

Observations From Public Right of Way

Information gathered during observations from public right of way included business names, site uses, the presence of above-ground storage tanks (ASTs) or drums, vent pipes, surface staining, and stressed vegetation.

Records Review

The purpose of a records review is to gather environmental data about sites on proposed alternatives, and to determine historic land uses that may have involved potential contaminants not evident by present day land uses. It enables WSDOT personnel to: (1) gain knowledge of the types of activities performed at the site, (2) identify data gaps, and (3) recognize discrepancies between reported and observed data.

Knowledge of past and current activities performed at the site enables WSDOT personnel to evaluate potential recognized environmental conditions associated with a particular activity. Data gaps identified during records review are filled by visual observations from public right of way, or by additional detailed investigation. Discrepancies in recorded data are clarified where possible.

~~The IULS North Spokane Freeway Hazardous Waste Discipline Report provided historic information collected from the following public documents:~~

Historic information was collected from the following public documents:

- Spokane County Assessor's Field Records
- Sanborn Insurance Rate Maps (base 1910, updated to 1958)
- Aerial Photographs
- Polk Business Directories (10-year increments from 1930 to present)

Additional sources cited by IULS include the Eastern Washington Historical Society Library, the Spokane Public Library Northwest Room, and the Eastern Washington University Library.

The Assessor's Field Records were reviewed to identify selected commercial and industrial properties. Information gathered includes current ownership, site area, and improvements on the site. The Sanborn Insurance Rate Maps provide past property owners' names and historic land uses. The Natural Resource Conservation Service (formerly Soil Conservation Service) maintains a library of aerial photographs, taken at approximately ten year increments. Signatures observed on these photographs reveal land use trends and historic disposal sites.

Undeveloped properties, single-family neighborhoods, and other sites with no apparent current risk were not researched.

U.S. Environmental Protection Agency Databases

As part of this investigation, five pertinent EPA Region X (ten) files were reviewed. The Comprehensive Environmental Response Compensation, and Liability Information Systems (CERCLIS) List, and the Federal Agency Hazardous Waste Compliance Docket were reviewed for sites on proposed alternatives. The EPA's National Priorities List (NPL) identified three sites given the highest priority under the Superfund Act. The Total Resource Conservation and Recovery Information System (RCRIS) was reviewed for sites listed on the Resource Conservation and

Recovery Act (RCRA) Hazardous Waste Handlers List and Facility Index System, and the RCRA Treatment Storage and Disposal Facility List.

The run date shown for each of the EPA lists used in this Limited ISA indicates when the list was printed. New sites and information regarding properties along the proposed North Spokane Freeway alternatives may have been added to the lists following the print date.

RCRA Handlers and TSD Facility List

The U.S. EPA Resource Conservation and Recovery Act (RCRA) regulation implemented a program to monitor and provide for the enforcement of rules governing the generation and transportation, and the treatment, storage, and disposal, of hazardous wastes (Ecology state designated - dangerous wastes). The U.S. EPA Hazardous Waste Division, RCRA Compliance Section, maintains an RCRA Handlers and Treatment, Storage, and Disposal Facility (TSDF) List. The database is maintained in cooperation with Ecology's Hazardous Waste and Toxic Reduction Program. The file is managed on the EPA RCRA Information System (RCRIS). The RCRIS List used for this analysis was printed June 7, 1994.

CERCLIS List

The EPA publishes a list of known sites that potentially pose a degree of threat to the environment or health of the general public. This list is known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List. Four generalized categories of sites are included on the CERCLIS List:

- Sites that may be potentially hazardous and require preliminary investigation.
- Sites investigated by the EPA and listed as having had Preliminary Assessment (PA-1) performed on them.
- Sites investigated and determined to require no further action (listed as NFA).
- Sites determined to be a long-term threat to public health and/or the environment, which are National Priority List (NPL) sites.

The CERCLIS list used for this document was printed June 20, 1994. Eight Superfund investigated sites are known to exist on proposed North Spokane Freeway alternatives. Three of those sites are National Priority Listed sites and are either on or adjacent to the proposed alternatives.

Facility Index System (FINDS) List

The EPA's FINDS List for facilities monitored or regulated by the EPA was reviewed for sites along the proposed North Spokane Freeway Alternatives. This list is a central and common inventory used for assigning EPA ID codes to regulated facilities (private and public). Due to the repetitious information on the FINDS, CERCLIS, and RCRIS lists, data on the FINDS list will be presented under the guise of CERCLIS or RCRIS unless it is unique to FINDS. Inclusion on this list does not necessarily indicate that a facility is affected by hazardous substances.

The FINDS list used for this document was printed October 19, 1993. Ecology Underground Storage Tank List

As part of its Underground Storage Tank (UST) Program, Ecology maintains a database of registered UST sites. The UST List records site information including site address, Ecology facility number, UST number and size(s), tank contents, and administrative status. The UST list used in this analysis was printed June 27, 1994.

Ecology Environmental Report Tracking System

Ecology's Eastern Region Office (ERO), in Spokane, Washington maintains the Environmental Report Tracking System (ERTS) of independently reported environmental concerns and suspected environmental violations. Addresses on this database have been reported to Ecology ERO as having adverse environmental conditions, or are perceived to have involved the mishandling of hazardous substances. The run date for this list is October 14, 1994.

Ecology Leaking Underground Storage Tank List

The Ecology Toxic Cleanup Program maintains a Leaking Underground Storage Tank (LUST) list of USTs with reported spills or releases to the environment. The Ecology LUST List records site information, including site address, LUST incident number, affected media, and cleanup status. The Lust list used in this impact analysis was run October 24, 1994.

Ecology Confirmed and Suspected Contaminated Sites Report

The Ecology Toxic Cleanup Program maintains a report of sites with confirmed or suspected hazardous material contamination of soil, ground water, drinking water, surface water, air, and/or sediment. Hazardous material and petroleum hydrocarbon contaminated sites on this list have been initially investigated by Ecology following a reported release to the environment. Several sites listed on the Confirmed and Suspected Contaminated Sites (C&SCS) Report have been formally investigated by Ecology or the Spokane County Health Department. A Site Hazard Assessment has been performed on several of these properties, resulting in assignment of a Washington Ranking Model (WARM) BIN Matrix Number. Sites listed with a WARM Number are also listed on the Hazardous Sites List (HSL). NPL sites are listed with a zero (0), indicating the highest potential threat to human health and the environment.

Sites recorded on the C&SCS List may since have been remediated and removed from the published lists. These sites remain on the database, and a listing of them can be obtained from Ecology, upon request. Prior to August 1993, sites were removed from the published list after completion of remedial action and petition to Ecology for de-listing. After August 1993, sites must enter the Independent Remedial Action Process (IRAP) in order to be removed from the published report. Due to the nature of de-listed sites, a record of these sites was not requested. The run date for the C&SCS Report used in this Limited ISA is May 9, 1994.

Sites recorded on the LUST and/or Hazardous Sites lists can be removed from each published list in a similar manner.

Ecology Hazardous Sites List

The Hazardous Sites List (HSL) is published semi-annually and is essentially a subset of the C&SCS Report. A Site Hazard Assessment has been performed on properties recorded on the HSL, resulting in a priority ranking by Ecology. Sites recorded on this database are evaluated by the Washington Ranking Method (WARM), as required by the Model Toxic Control Act (MTCA Chapter 173-340 WAC). A WARM BIN Number between 1 and 5 is assigned to each site upon ranking. A WARM BIN Number 1 indicates the greatest assessed risk to human health and to the environment. A WARM BIN Number 5 indicates the lowest assessed risk. NPL sites are indicated by a zero on this list.

The HSL used for this analysis was published on August 23, 1994. Two sites along the proposed alternatives — Allied Gary Safe (3327 East Olive) and Koch Materials (4327 North Thor) — are scheduled to undergo a Site Hazard Assessment by February 1995.

City of Spokane Fire Department Underground Storage Tank List

The city of Spokane Fire Department Fire Prevention Center maintains a current listing of underground storage tanks within the city limits. The Fire Department Underground Storage Tank (FUST) List records site information including the facility address, owner/operator, number and size of tanks, and administrative status. The FUST list used for this document is dated September 21, 1994. Inclusion on this database does not mean the site has been contaminated.

Asbestos Methodology

Asbestos information for this report is from the IULS North Spokane Freeway Hazardous Waste Discipline Report. Land use surveys developed by IULS (1991 and 1993) provided specific information on the number of houses, offices, and businesses that may have been constructed using asbestos-containing materials (ACM). Structures were categorized by construction period: prior to 1926, 1926 to 1980, and after 1980, coinciding with laws passed to regulate asbestos and the probability of finding asbestos in the structures.

Two booklets, *Asbestos in the Home: A Homeowner's Guide* and *What Asbestos-Exposed Workers Should Know*, *The Workplace Health Fund* were consulted. The Spokane County Air Pollution Control Authority (SCAPCA) was contacted for regulations and permits pertaining to the removal and disposal of asbestos from commercial and residential structures, and the Department of Labor and Industries, Division of Industrial Safety and Health was consulted for removal and disposal procedures. A local asbestos removal contractor provided guidelines used in estimating the amount of asbestos within the affected buildings, based upon a square-foot analysis (Hunt 1991).

Affected Environment

The information gathered from the records review, regulatory database analysis, review of Ecology incident/site files, and observation from public right of way is shown in the tables in Appendix G of this document.

A total of 108 sites along the proposed North Spokane Freeway alternatives and options were identified as potentially being associated with hazardous material. (See **Figures 4-49 through 4-53.**) Involvement with hazardous materials in the project corridor depends on the alternative selected. The probability for encountering contamination on this project is high, regardless of the alternative selected. Known contaminated sites are widely distributed throughout the proposed routes and some will undoubtedly be unavoidable. Sites with unknown contamination create the greatest liability for WSDOT in terms of costs and delays, making adequate investigation essential. Site investigation will need to be performed as early as possible to limit costs and facilitate development. **Table 4-37** quantifies affected sites by route and the proposed investigative actions recommended for each site.

Corridor Name	Known Sites	Suspect Sites	Tank Removal	TSP	ISA	PA	DA
I-90 Collector Distributor	1	3	10	5	6	0	1
Market/Greene Alternative	3	8	17	3	21	3	4
Havana Alternative	5	7	18	5	24	3	0
North Alternative	1	10	3	0	10	1	0
South Alternative	2	5	6	2	6	2	1

Summary of Known and Suspected Contaminated Sites

Table 4-37

Impacts

(For discussion of construction activity impacts, see Construction Activity Impacts in this section of the EIS.)

Site investigation and remediation will be expensive and time consuming. Costs estimated for single site investigation of known and suspected sites are shown in **Tables 4-38 and 4-39.** Sites are not individually assigned cost figures, but are given constant values according to their summarized need for further investigation. Values given to each route are approximate and subject to change as site investigation and route alignments alter impacts or affect property. A summary of investigative comparative costs for the alternatives is shown in **Table 4-40.**

Action	\$ High	\$ Low
Transaction Screen Process (TSP)	5,000	2,000
Initial Site Assessment (ISA)	15,000	5,000
Preliminary Site Assessment (PA)	200,000	50,000
Detailed Site Assessment (DA)	500,000	250,000
Geohydraulic Review	250,000	100,000

Investigative Cost Estimates

Table 4-38

UST/LUST Sites

Common practices associated with UST systems and natural degradation of tanks, leads to unintentional releases. Remediation of 20-30 cubic yards of contaminated soil per leaking tank is common. An average UST site will typically involve up to four underground fuel storage tanks. For the purpose of cost estimation, the low figure includes one tank removal, analytical soil testing, and site assessment. The high figure includes multiple tank removal, analytical soil testing, affected soil removal, remediation, and site assessment (see **Table 4-39**).

AST Sites

ASTs can range from 250-gallon waste oil tanks to 50,000-gallon fuel/asphalt tanks. Large ASTs are usually found in multiples, as in a fuel tank farm. ASTs are designed to minimize leakage, due to the visibility of the area around the tank. However, poorly maintained tanks or sloppy handling practices may have resulted in releases to the environment.

Estimates for AST closure range from \$500 for a small tank to \$100,000 or more for a leaking asphalt/fuel tank (see **Table 4-39**).

Action	\$ High	\$ Low
UST	50,000	5,000
AST	200,000	2,000

Investigative Cost Estimates for UST and AST Sites

Table 4-39

Hazardous Material Costs

Many of the known or suspected sites along these routes are similar in that petroleum contaminated soil is the primary contaminant, or they are AST, UST, LUST sites. Similar sites are grouped into cost estimate categories determined by the proposed level of work to be performed (see ACTION category for each site in Appendix G). Since these grouped sites are not identical, a constant high and low dollar range figure is assigned to each category.

Sites affected by contaminants other than petroleum products are figured by using assigned values three times the cost of petroleum remediation. Due to the complex nature of the other sites along the proposed routes, a dollar range figure was derived for each site on an individual basis.

Stormwater runoff from North Spokane Freeway options will need to be addressed due to the proximity of hazardous sites on every proposed option. Ground water mounding analysis will need to be performed by a geohydrologist with a geotechnical and hazardous materials background.

The figures used for this estimate are based solely on average costs experienced on previous projects. The presence of unknown sites and the limited nature of this ISA cause cost estimates to vary widely and may not accurately reflect true on-site costs.

OPTION	I90		MARKET		HAVANA		SOUTH		NORTH	
Action	\$High	\$Low	\$High	\$Low	\$High	\$Low	\$High	\$Low	\$High	\$Low
TSP	25,000	10,000	15,000	6,000	25,000	10,000	10,000	4,000		
ISA	90,000	30,000	315,000	105,000	360,000	120,000	150,000	50,000	90,000	30,000
PA			600,000	150,000	600,000	150,000	200,000	50,000	200,000	50,000
DA	500,000	250,000	4,000,000	1,000,000			500,000	250,000		
UST/ LUST	500,000	50,000	650,000	65,000	650,000	65,000	300,000	30,000	150,000	15,000
AST			800,000	8,000	600,000	6,000	200,000	2,000	400,000	4,000
Specials	950,000	360,000	4,440,000	1,540,000	1,600,000	555,000	1,745,000	620,000	480,000	165,000
TOTALS	2,065,000	700,000	10,780,000	2,874,000	3,835,000	906,000	3,105,000	1,006,000	1,320,000	264,000

Summary of Investigative Activity Costs on the North Spokane Freeway by Proposed Option

Table 4-40

Hazardous Site Remediation Cost - Preferred Option

The following text looks at each identified site within the preferred alternative (Market/Greene North Option) on an individual basis and estimates the “Most Probable Case” concerning hazardous materials cleanup costs. The substantiating information for each of these site estimates is contained in the Limited Initial Site Assessment of Known and Suspected Sites, located in the discipline report. Hazardous materials disposal options are also discussed. Information on the sites that are considered to be complex in nature is contained in this text.

The WSDOT procedure is to perform an Initial Site Assessment for acquiring property that is known or suspected to be contaminated. Should the results of that assessment and further investigation prove to be positive for hazardous materials contamination, the liable parties are legislated by the Model Toxics Control Act to perform that cleanup. For various reasons, some properties are unable to be remediated by the liable party. WSDOT will only purchase that portion of the contaminated property that is necessary for the project. This action should relieve WSDOT from funding a cleanup for the entire parcel.

From each of the properties reviewed in the EIS study, a site status was determined; no further action, suspect, or confirmed. The information for the site status was derived from data collected on each site using previous assessments, interviews, and file reviews. Many informational gaps were filled by performing a ‘public right-of-way’ survey of the preferred route (Market/Greene North Option) and comparing historic records to current land use. The data reviewed was sufficient to make a good professional judgment of possible remediation costs and, therefore, sampling of property is unnecessary.

Many of the potentially contaminated properties listed are similar in nature (i.e. underground fuel tanks) and most of the contaminants are petroleum related. This type of property is a familiar occurrence to this department. The estimate is based on previous remediation of similar sites. Other sites within the preferred alternatives are more complex, either because of the contaminant or the unknown nature of the size and direction of the contamination plume. The contamination associated with some sites may involve not only soil on the site, but also water issues.

A portion of the I-90 Collector Distributor interchange and the Market-Greene alternative, from I-90 north to the Spokane River, will be elevated. To lessen the costs and impacts related to hazardous waste cleanup the location of the pier footings will be adjusted to minimize hazardous site intrusion where possible.

All sites on which a structure is to be taken, will require an asbestos and lead paint survey. The proper remedial actions for these functions will be taken but not reported in this text.

The site remediation estimates contained herein will include the potential incurred costs to WSDOT.

Considered Factors:

1. Analytical testing
2. Excavation
3. Soil remediation
4. Groundwater monitoring where necessary
5. Worker safety.

The varying cost per cubic yard for each site reflects the complexity of the waste disposal. The \$89.00 per m³ (\$68.00 per yd³) amount is calculated for those sites figuring local haul and disposal. The \$110 per m³ (\$83.00 per yd³) amount is calculated for those sites producing wastes there is no local disposal option.

For the purpose of this estimate, an amount of \$10,000 per tank was used for operational underground fuel tanks. This dollar figure is an average and was derived from prior experience on many UST removal projects. This figure includes removal and site assessment by a licensed underground tank contractor as required by WDOE. For each UST that has been closed in place or shows a status of unknown, a figure per tank of \$15,000 was used. This amount includes the same factors as an operational tank with the addition of extra cleanup and disposal. Due to their age and the fact these tanks were not subject to tightness testing the possibility of leakage prior to their closure is quite high.

Those sites listed as automotive repair and auto body shops historically have had problems with waste disposal. A common practice prior to regulation was frequently to dispose of paints and solvents either into the drainage system or out the door onto the property. This type of cleanup normally involves disposal of sewage system hookups. Any drywells or septic systems on the property are frequently found to be contaminated with solvents and metals, require removal and disposal. An average cleanup cost of \$5,000 per site was used in this estimate. The figures used on a few of these types of sites are increased due to the size of the property.

Automobile wrecking yards do not pose any greater hazard than an automotive repair business. The wrecking businesses are however more expensive to cleanup due to the size of the property involved which is usually much larger than a repair business.

These figures were derived from prior experience with cleanups involving these types of businesses. (See Tables 4-41 through 4-44)

On those contaminated sites with an identified responsible party, that party will be held economically liable for cleanup. It must also be remembered that the estimate is provided in 1996 dollars and that between the time of this estimate and the actual time property is acquired, other incidents may occur on these properties.

Preferred Alternative	Number of Sites Potentially Affected	\$ Estimated Total
I-90 Collector Distributor	12	\$ 335,000
Market-Greene	38	\$ 25,539,500
North Option	12	\$ 620,000

Summary Table of Hazardous Materials Site Estimated Cleanup Costs
Table 4-41

Site Information	Identified or Suspect Contaminant	Affected Media	Remediation Estimate (\$)
US West Building 2012 E. 3rd	UST removed. Below MTCA levels.		Ø
Circle K # 1143 303 S. Altamont	1) Three operational USTs	Soil	30,000
Dons Service 305 S. Thor	1) USTs	Soil	30,000
Vehicle Test Technology 211 N. Howe	1) UST removed. Below MTCA levels.		Ø Off right-of-way
Fairco Mini-Mart 228 S. Thor	1) USTs	Soil	30,000
Beginning of Elevated Freeway Section			
Liberty Tire1 3253 E. 1st	1) USTs 2) Vehicle maintenance	Soil	30,000 10,000
Columbia Paint1 3210 E. Sprague	1) UST 2) Paint & solvents 3) Vehicle Maintenance	Soil	75,000
Big Valley Auto1 3101 E. Sprague	1) UST 2) Petroleum spillage	Soil	25,000
Larson/Rowles Fuel1 18 N. Fiske	1) UST	Soil	Ø Off right-of-way
Magnum Distributing1 111 N. Greene St.	1) ASTs 2) USTs 3) Petroleum spillage	Soil Groundwater	75,000
Jeff Harris Co.1 3210 E. Ferry	1) One UST	Soil	15,000
Savage Building Materials1 3230 E Ferry	1) One UST	Soil	15,000
NOTE: 1.) Site is under elevated freeway Pier footing placement can be adjusted to lessen impacts			

Hazardous Site Remediation Estimate I-90 Collector/Distributor (part of the Preferred Alternative)
Table 4-42

Site Information	Identified or Suspect Contaminant	Affected Media	Remediation Estimate (\$)
Spokane Molding ¹ 3114 E. Ferry	1) UST (removed, no records)	Soil	∅ Off right-of-way
UNOCAL Bulk Plant ¹ Soil Remediation Facility 508 N. Fiske	1) ASTs 2) Petroleum contamination	Soil	581,000 See site description and comments
Fleet Painting ¹ 3105 E. Alki	1) Five USTs 2) Paint wastes	Soil Sewer/Drain	∅ Off right-of-way
Consolidated Freightways ¹ 606 N. Fiske	1) Four USTs	Soil	40,000
Amerigas ¹ 3324 E. Trent	Pressurized cylinders Not highly suspect	Soil	∅
Gensco Building ¹ 3300 E. Trent	1) Two USTs	Soil	30,000
Alexander's Wrecking ¹ 3129 E. Trent	1) Petroleum spillage 2) Paint wastes	Soil Sewer/Drain	50,000
Triad Machinery ¹ 3211 E. Trent	1) UST removed 2) Petroleum spillage	Soil	10,000
Pacific Steel Hide & Fur ¹ 1114 N. Ralph	1) Petroleum spillage 2) Solvents	Soil	150,000
Motor Works ¹ 1025 N. Haven	1) Petroleum spillage	Soil	∅ Out of structure footprint
Comm. College Whse. ¹ 3118 E. Boone	1) UST Gasoline	Soil	25,000
Industrial Welding Co. ¹ 1203 N. Greene	1) Waste oil tank 2) Petroleum spillage	Soil	∅ Off right-of-way
CAMCO Const. ¹ 3105 E. Boone	1) USTs	Soil	30,000
Interstate Parts ¹ 3511 E. Trent	1) USTs	Soil	20,000
Spokane Int'l. Railroad ¹ Maintenance Yard SW Corner, Mission & Greene Streets	1) Petroleum 2) Metals 3) Solvents	Soil	100,000
Spokane Fire Sta. ⁸⁾¹ 1504 N. Green St.	UST removed. Below MTCA levels.	Soil	∅
NOTE: 1.) Site is under elevated freeway pier footing placement can be adjusted to lessen impacts			
End of Elevated Freeway Section			
Shell Gas Mart & Vehicle Wash 2924 N. Market	1) Three USTs 2) Petroleum	Soil Sewer/Drain	∅ Off right-of-way
Coresmith Automotive 3404 N. Market	1) UST removal 2) Petroleum spillage	Soil	10,000 5,000
Economy Service Station 3500 N. Market	1) Four USTs	Soil	40,000
Spokane Print & Mail 3502 N. Market	1) Two USTs 2) Inks and solvents	Soil Drains	30,000 5,000
Top Drawer Cabinet 3516 N. Market	1) Paint wastes	Drains	5,000
Pro Automotive 3120 E. Garnet	1) Petroleum spillage	Soil	5,000
Joe & Lee's Automotive 3127 E. Garnet	1) Petroleum spillage	Soil	5,000

Site Information	Identified or Suspect Contaminant	Affected Media	Remediation Estimate (\$)
Premier Video (Jackpot Station) 3536 N. Market	1) USTs removed Cleanup conducted. Below MTCA levels		Ø
Steve's Auto Body 3116 E. Glass	1) Paint wastes	Soil/Drains	5,000
Richard's Refrigeration 3124 E. Glass	1) Petroleum	Soil/Drains	5,000
Precision Auto Body 3122 E. Glass	1) Paint wastes	Soil/Drains	5,000
Northwest Productions 3117 E. Glass	1) Paint wastes	Soil/Drains	5,000
Flying J Station 3616 N. Market	1) Three operational USTs	Soil	30,000
All Pure Chemical 3818 N. Market	Not highly suspect		Ø
The Plant 4020 N. Market	1) UST-Petroleum	Soil	895,000 See site description and comments.
Ziegler Lumber 4110 N. Market	1) Three USTs removed and operational	Soil	30,000
Koch Materials 4327 N. Thor	1) Petroleum: Confirmed	Soil Groundwater	11,770,000 See site description and comments.
Aluminum Recycling 3412 E. Wellesley	1) Metals 2 Salts	Soil Groundwater Air	4,715,000 See site description and comments.
Burlington Northern/SF Hillyard Property Sequence 991	1) Petroleum 2) Paint wastes 3) Asbestos 4) Metals	Soil Groundwater	6,357,500 See site description and comments.
Pasta Co. USA 3405 E. Bismark	1) Three above ground tanks(unknown contents)	Soil	10,000
Food Service of America 3520 E. Francis	1) Leaking Petroleum UST	Soil	35,000
URM Stores & BN/SF Railroad Property Sequence 138 7511 N. Freya	1) Petroleum 2) PAHs 3) Phenoloic compounds 4) Metals	Soil Groundwater	534,000 See site description and comments.

Market/Greene (Preferred Alternative)

Table 4-43

Site Information	Identified or Suspect Contaminant	Affected Media	Remediation Estimate (\$)
North Market Street Site (TOSCO) 3225 E. Lincoln Rd.	1) Petroleum 2) PAHs 3) Solvents 4) Halogenated organics	Soil Groundwater Drinking water	15,000 See site description and comments.
Cram's (C&T Salvage) 9700 N. Market	1) Four, waste oil USTs 2) Petroleum spillage	Soil	100,000 50,000
Precious Metal Auto Body 9700 N. Market	1) Paint wastes 2) Petroleum spillage	Septic/Drain Soil	5,000 5,000
Mead Auto Parts 9700 N. Market	1) Petroleum spillage	Soil	50,000
Mead Auto Glass 9700 N. Market	Not highly suspect		∅
Allan's Motorcycle 9700 N. Market	1) Petroleum spillage	Soil	10,000
Jacks Automotive 9700 N. Market	1) Petroleum spillage	Soil	30,000
C&T Truck Parts 9902 N. Market	1) One, waste oil UST 2) Petroleum spillage	Soil	1,000 150,000
Moore Perm-a-Mulch 3422 E. Hawthorne	1) Four USTs 2) ASTs 3) Vehicle maintenance	Soil	50,000 35,000 20,000
Rice's Auto Wrecking 10713 N. Market	1) Petroleum spillage	Soil	50,000
Max Kuney -Contractor 10704 N. Parksmith	1) Petroleum AST 2) Vehicle Maintenance	Soil	15,000 20,000
Kaiser Aluminum Hawthorne Rd.	1) Cyanide Plume	Groundwater	See site description and comments.

North Option (Preferred Alternative)

Table 4-44

Site Description and Comments (South to North) (Complex Properties Only)

508 North Fiske - UNOCAL 76 Bulk Plant No. 0748 & Soil Treatment Facility (Formerly Petroleum Distributing and Dennis Petroleum Company)

UNOCAL 76 operates a bulk petroleum distribution plant and contaminated soil remediation facility at this property. The facility includes an area for land farming of petroleum contaminated soil. Petroleum contaminated soil is placed at an on-site treatment facility, then undergoes bioremediation. A SEPA Checklist was submitted to the Spokane County Air Pollution Control Authority on 31 October, 1989 for the operation of a soil remediation facility, and the project was issued a Determination of Non-significance. Soil treatment actions have been ongoing since 1990.

The WDOE UST list indicates two waste oil tanks were removed from the facility. The site has been assigned UST site No. 101215. The FUST list indicates a 45,460 liter (10,000-gallon), double wall fiberglass UST, containing water, remains on site.

The bulk plant is listed on the FINDS and RCRA lists as EPA/State ID No. WAD988474326, as a small quantity, non-regulated, generator of hazardous waste.

The WDOE UST file was unavailable for review. The LUST file for this site contained two reports by Geo-Engineers, a SEPA checklist submitted to SCAPCA, and a DNS from SCAPCA. A telephone log recorded by WDOE personnel, regarding contamination associated with "normal operation" at the bulk plant, was also included.

The first report from Geo-Engineers Subsurface Contamination Study at UNOCAL Bulk Plant No.0748; June 1989, presented the findings of a UST decommissioning and drywell removal, performed by Rob's Demolition. Three USTs were removed and all of the excavation sites were found to be contaminated. PCS was removed from two of the excavations. Soil samples from the third excavation were found to contain TPH concentrations ranging from 21,000 to 30,000 ppm, diesel. Petroleum related soil contamination remaining in the excavated area occurs in isolated lenses and extends south and east of the excavation, beneath the concrete slab and soil land farm (See Figure 4-42). The results of the TCLP analysis indicate that the leaching potential of the contaminants is limited for the soils encountered in the waste oil tank excavation. A determination was made to return the contaminated soil to the excavation and cap the site with an asphalt surface.

Geo Engineers recommend that the excavation and treatment/disposal of contaminated soil should proceed when remediation of the other areas on this site is undertaken. Other areas are described in the Geo Engineers Subsurface Contamination Study dated June 21, 1989.

COMMENTS & CONCLUSIONS:

The roadway will be elevated over this site. The only property proposed to be taken will be for pier footprints. It appears that the sixteen above ground petroleum tanks will require removal due to their height. The removal of these tanks is a real estate issue because there will be no right-of-way taken for the removal. No cleanup will

be associated with the tank removal, unless a pier footprint falls in this area. The eastern portion of this property also contains the area being used as the “soil land farm” (See Figure 4-42). There is the probability of stray contamination associated with the land farm, as well as the known soil contamination noted in the site description.

Contamination cleanup costs are figured as follows:

Using an estimated pier footing size of 9.14 m (30 ft) by 9.14 m (30 ft) by 6.1 m (20 ft), approximately 530 m³ (700 yd³) of soil would need to be excavated. Assuming that all of this soil might be contaminated and a total of 10 piers will be placed on this parcel, a total of 5,300 m³ (7000 yd³) of soil would need to be excavated. Site remediation costs including all considered factors will be approximately \$110 per m³ (\$83.00 per yd³). The total estimated hazardous material cleanup cost on this parcel is \$583,000.

4020 North Market The Plant (formerly Union Carbide Norweco)

The Plant is an acetylene manufacturing facility. A slurry pond containing gray slag was noted immediately south of the facilities main building. Pressurized gas cylinders were observed on the facilities loading dock. Reviewed historic uses of the property indicate the facility has been operated by several acetylene manufacturers in recent time.

The WDOE UST list indicates a heating oil tank is closed in place at this facility. The RCRA list indicates EPA/State ID No. WAD027521483 has been assigned to the plant and that small quantities of hazardous materials are generated at the facility.

The CERCLIS list records the Plant under its former name, Union Carbide - Linde Division. Event types are listed as discovery by EPA completed on November 1, 1979, preliminary assessment by the State completed on September 27, 1985, and the facility is flagged as "no further action" planned.

A preliminary assessment of the site by WDOE, dated August 6, 1985, indicates a lime product (calcium hydroxide) is a by-product of acetylene manufacturing and stored on site in a slurry pond. Although the lime has a high pH (12.3 to 12.4), it is not classified as a hazardous material. Lime may be a dangerous waste by virtue of its potential failure of the static acute fish toxicity test. There are no known hazardous waste activities on-site. WDOE personnel indicated the calcium hydroxide (lime by product) may be agronomically applied to certain soils or recycled.

estimate assumes that the material will be disposed of at an approved site. WSDOT hopes one of the other alternatives will substantially reduce these costs.

4327 North Thor - Koch Materials (formerly Husky, BNR)

Koch Materials is an asphalt supplier. The facility consists of an asphalt production facility and numerous ASTs of 45,460 liters (10,000 gallons) or larger.

The WDOE UST list indicates the site has been assigned UST site No. 001916 and has had thirty-three (33) USTs removed from the site. The site's UST file was unavailable for review.

WDOE ERTS records indicated an anonymous caller in April of 1987 believed asphalt was being illegally disposed of at the property. A WDOE response was not recorded. A second ERTS report indicated Koch Materials personnel discovered petroleum contaminated soils during the removal of an AST.

The C&SCS report lists Koch Materials as having petroleum contaminated soils and contamination of groundwater is also suspected. Independent remedial action is underway at the facility. WDOE is awaiting assessment. The WDOE Hazardous Sites List indicated a Site Hazard Assessment is to be completed on this site.

The site's C&SCS file contained an Initial Investigation Report, notes from a meeting between WDOE and Koch, and additional records. The file indicated the facility was built in the 1950s for BNR, the current owners. Husky International, a bulk petroleum distributor, leased the property prior to Koch Materials. Contaminants discovered at the site include stove oil, diesel fuel and heavier petroleum based products (See Figure 4-43).

Notes from a meeting between WDOE and Koch Materials on March 8, 1993, indicate contamination was discovered during removal of an AST in the northeast portion of the property. Wells bored at the site revealed contamination to a depth of 38.7 meters (127 feet) below ground surface (bgs). The contamination was stated as heavier petroleum products (7,700 ppm) and diesel (635 ppm) at 6.1 meters (20 feet) bgs. At 38.1 meters (125 feet) bgs a clay layer of 0.6 meters (two feet) in thickness was encountered. Above the clay layer heavy fuel oil (number six) was found at 30,000 ppm (method 418.8). Soil samples from within the clay layer revealed heavy oil contamination at 263 ppm. Below the clay layer, laboratory analysis indicated heavy oil was present at 47 ppm.

Koch indicated they would contact BNR to obtain monitoring well logs for wells located on the Aluminum Recycling property to the north. Finally, a comment recorded on meeting notes indicates Husky International 'course screened' petroleum products (filtered waste oils through hay bales and onto surface soil) in this vicinity.

In late July of 1993, residents near Koch complained of a "noxious cloud" generated by the plant. SCAPCA conducted routine inspections of the plant at this time and again following additional neighborhood complaints. SCAPCA determined, in all tests, that the plant was operating well below state safety guidelines. The odor was attributed to a new production process for rubberized asphalt (Spokesman-Review 1993).

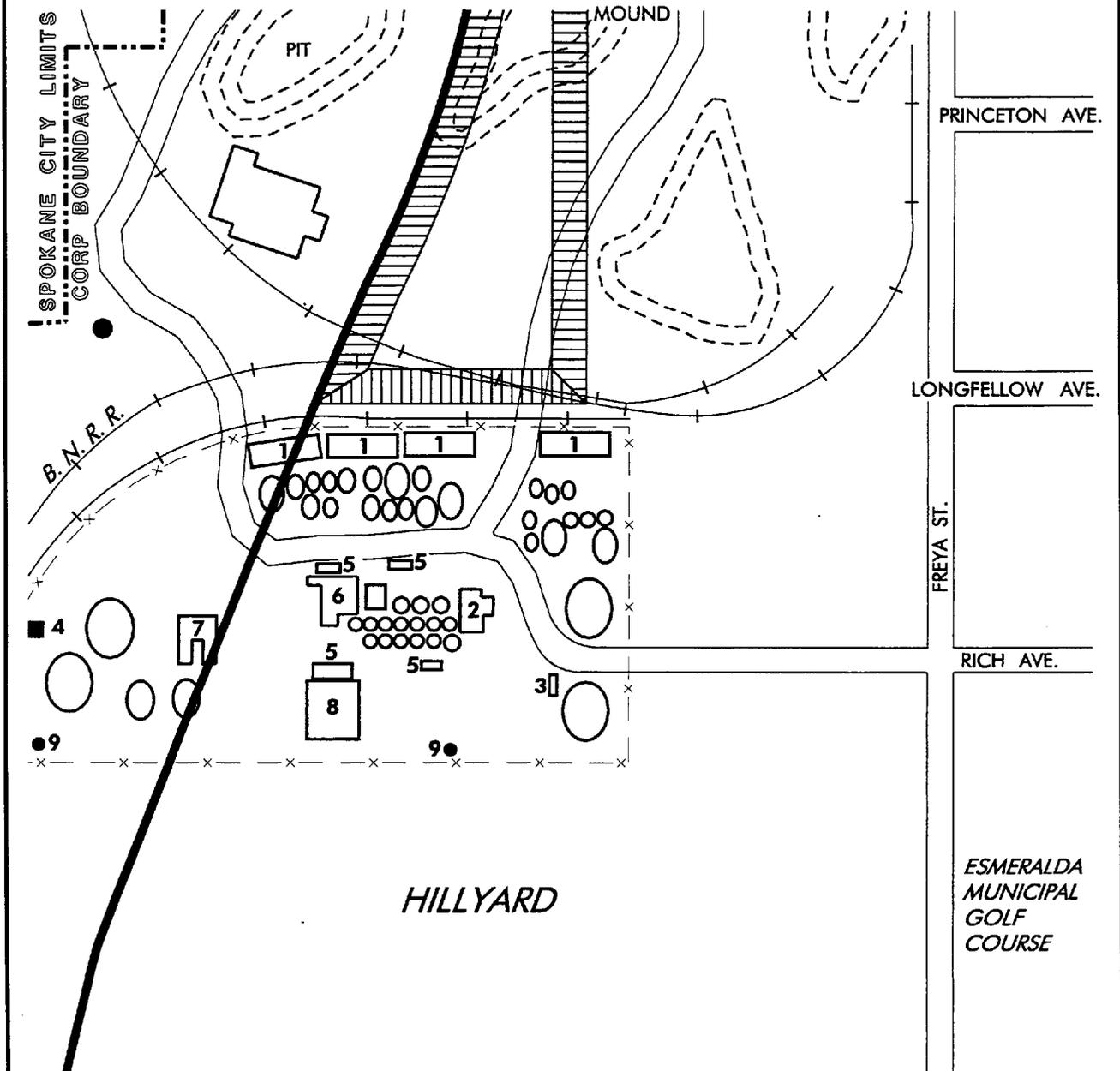
LEGEND

- Proposed NSF ROW
- 1 Overflow Pit
- 2 Boiler House
- 3 Storage Building
- 4 Condensate Tank
- 5 Loading Rack

- ▨ Proposed Park & Ride Lot
- 6 Scale House
- 7 Office
- 8 Shop
- 9 Drain Valve



NOT TO SCALE



Market/Greene Alternative (Preferred Alternative) Limited Initial Site Assessment, Koch Materials (Formerly Husky Oil and BNRR)
Figure 4-43