



Second Periodic Review

Bullard Property
6832 34th Avenue NE
Seattle, WA 98115

FS ID#: 95777
Cleanup Site ID#: 3170

Prepared by:
Washington State Department of Ecology
Northwest Region Office
Toxics Cleanup Program

March 2018

1.0 INTRODUCTION.....	1
2.0 SUMMARY OF SITE CONDITIONS	3
2.1 Site Description and History	3
2.2 Site Investigations and Sample Results	3
2.3 Cleanup Actions.....	3
2.4 Cleanup Levels and Points of Compliance	4
2.5 Restrictive Covenant.....	4
3.0 PERIODIC REVIEW.....	6
3.1 Effectiveness of completed cleanup actions	6
3.1.1 Direct Contact	6
3.1.2 Protection of Groundwater	6
3.1.3 Vapor Intrusion	6
3.1.4 Institutional Controls	6
3.2 New scientific information for individual hazardous substances or mixtures present at the Site	7
3.3 New applicable state and federal laws for hazardous substances present at the Site	7
3.4 Current and projected Site use	7
3.5 Availability and practicability of higher preference technologies	7
3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels	7
4.0 CONCLUSIONS.....	8
4.1 Next Review.....	8
5.0 REFERENCES.....	9
6.0 APPENDICES.....	10
6.1 Vicinity Map	11
6.2 Site Plan	12
6.3 Environmental Covenant	13
6.4 Photo log	24

1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to assure human health and the environment are being protected at the Bullard Property site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). This is the second periodic review conducted for this Site. The first periodic review was completed in September 2012. This periodic review will evaluate the period from 2012 through 2018.

Cleanup activities at this Site were completed through the Voluntary Cleanup Program (VCP) under VCP No. NW1482. The cleanup actions resulted in residual concentrations of petroleum hydrocarbons that exceeded MTCA Method A cleanup levels for soil established under WAC 173-340-740(2). It was determined that institutional controls in the form of a restrictive covenant would be required for the Site to be eligible for a No Further Action (NFA) determination. WAC 173-340-420(2) requires Ecology to conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
- (c) Or, as resources permit, whenever the department issues a no further action opinion
- (d) And one of the following conditions exists:
 - 1. Institutional controls or financial assurance are required as part of the cleanup;
 - 2. Where the cleanup level is based on a practical quantitation limit; or
 - 3. Where, in the department's judgment, modifications to the default equations or assumptions using Site-specific information would significantly increase the concentration of hazardous substances remaining at the Site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site;
- (b) New scientific information for individual hazardous substances or mixtures present at the Site;
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected Site use;
- (e) Availability and practicability of higher preference technologies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The Department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site Description and History

The Site is located in a residential neighborhood at 6832 34th Avenue NE, Seattle, Washington in King County. A single family home has occupied the property since 1942. The area around the Site has been residential since it was initially developed in the 1940s. A few commercial businesses are present along 35th Avenue NE, one block east of the Site.

The Site and surrounding area are on the gently sloping eastern side of a broad north-south trending topographic ridge. The soils underlying the property consist of a thin layer of sandy till overlying sandy glacial outwash. The outwash extends to a depth of over 55 feet below ground surface (bgs), the maximum depth explored at the Site. Groundwater was not encountered within the depth explored. However, data from a nearby exploration indicated that the water table occurs at about 55 feet bgs.

A vicinity map is available as Appendix 6.1 and a Site plan is available as Appendix 6.2.

2.2 Site Investigations and Sample Results

Several Site investigations were conducted by different consulting firms in 2004 and 2005. Heating oil had been apparently released into surrounding soils over a long period from the underground heating oil tank located outside the southwest corner of the home. Soil contamination had extended over an area of about 500 square feet to a maximum depth of 20 - 25 feet. Areas outside the house and beneath the basement floor slab had been impacted. Results from soil sampling indicated that the diesel-range petroleum hydrocarbon (DRPH) contamination was limited within the property boundary. The approximate extent of the Site is shown in the Site Plan as Appendix 6.2.

A boring was advanced to 55 feet bgs near the center of the fuel spill. DRPH was not detected in soil samples from depths of 28, 33, and 53 feet bgs. Soil samples obtained from depths of 37, 42, and 47 feet also showed no physical evidence of fuel impact. Therefore, it is unlikely that groundwater has been impacted.

2.3 Cleanup Actions

The underground heating oil tank was removed in January 2004. A total of 119 tons of contaminated soil were subsequently removed from August through December in 2005. The excavation extended to 10 to 16 feet bgs in the yard. Soils beneath the southwestern corner of the basement floor were also removed to a depth of 4 feet. The excavated contaminated soils were transported and treated off-site. It was determined that the remaining contaminated soil could not be excavated without risking structural damage to the residence. DRPH remains in soil at the Site as shown in the Site Plan as Appendix 6.2 and as described below:

- Concentrations of up to 17,000 ppm fuel oil remain at the base of the excavation in the yard. Sidewall samples at depths of 12-14 feet bgs show that fuel oil also extends outward from the excavation at concentrations ranging from 2,700 ppm to 11,000 ppm.
- Below the southwest corner of the basement, fuel oil remains in soil at concentrations ranging from 170 ppm to 9,900 ppm. The highest concentrations remain below 3 to 4 feet in the extreme southwest corner, and beneath the south basement wall.

After excavation, the following work was completed at the Site:

- A vapor collection system was installed beneath the southwest corner of the basement floor to mitigate any possible intrusion of vapors. An electrical fan exhausts vapors. A vapor barrier was placed over the pea gravel, and a new basement floor slab poured over the whole area.
- The excavation outside and below the southwest corner of the house was backfilled with controlled density fill (CDF).

2.4 Cleanup Levels and Points of Compliance

WAC 173-340-704 states MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used.

MTCA Method A cleanup levels for unrestricted land use were determined to be appropriate for contaminants at this Site. The cleanup actions conducted at the Site were determined to be 'routine', few hazardous substances were found at the Site, and numerical standards were available in the MTCA Method A table for each hazardous substance. The current MTCA Method A cleanup levels for DRPH in soil is 2000 mg/kg.

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

Because the highest beneficial use of groundwater from the Site is as a potential future source of drinking water, the standard point of compliance for groundwater is appropriate for this Site. The standard point of compliance is established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

2.5 Restrictive Covenant

Based on the Site use, surface cover and cleanup levels, it was determined that the Site was eligible for a 'No Further Action' determination if a restrictive covenant was recorded for the property. A restrictive covenant was recorded for the Site in 2007 which imposed the following limitations:

-
1. A portion of the property is underlain by soil contaminated with diesel-range petroleum hydrocarbons. The contaminated soil has been capped as part of the Remedial Action. See Figures 2, 3, 3A and 3B attached hereto. The owner shall not alter, modify, or remove the existing structure, basement floor, or controlled density fill (CDF) in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology. Any activity on the property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior Ecology approval.
 2. Any activity on the property that may interfere with the integrity of the Remedial Action and continued protection of human health is prohibited.
 3. Any activity on the property that may result in the release or exposure to the environment of a hazardous substance that remains on the property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.
 4. The owner of the property must give thirty (30) day advance written notice to Ecology of the owner's intent to convey any interest in the property. No conveyance of title, easement, lease, or other interest in the property shall be consummated by the owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.
 5. The owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the property.
 6. The owner must notify and obtain approval from Ecology prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.
 7. The owner shall allow authorized representatives of Ecology the right to enter the property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.
 8. The owner of the property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.
 9. The owner shall maintain roof downspouts and surface water drainage to ensure that they drain away from the area where impacted soils remain at depth.

The Restrictive Covenant is available as Appendix 6.3.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

During the Site visit conducted on March 6, 2018, there were no indications that the integrity of the remedial action has been compromised. There was no evidence of undocumented Site excavation or disturbance activities, and no visual indications of disturbance of the Site surface. The Site continues to be occupied by a single-family residence, and is surrounded by residential properties. A photo log is available as Appendix 6.4.

3.1.1 Direct Contact

Exposure pathways to contaminated soils (ingestion, direct contact) continue to be eliminated by the presence of protective Site surfaces including building foundations and clean surface soils. Remaining contaminated soil will not be encountered without significant soil disturbance, which is governed by the restrictive covenant.

3.1.2 Protection of Groundwater

Soils with DRPH at concentrations exceeding MTCA Method A cleanup levels remain at the Site; however, groundwater was not encountered during Site characterization activities at a depth greater than 50 feet bgs. Due to the substantial vertical separation between contaminated soils and groundwater, groundwater is not likely to be impacted by DRPH-impacted soils remaining at the Site.

3.1.3 Vapor Intrusion

Due to the close proximity between the building foundation and residual contaminated soils, the vapor intrusion exposure pathway was considered for the Site. Because vapor intrusion issues are unlikely when DRPH is the sole contaminant, it was determined that a vapor membrane, as well as an active ventilation fan were sufficient to address potential risk. The ventilation fan remains active at the home.

3.1.4 Institutional Controls

Institutional controls in the form of a restrictive covenant were implemented at the Site in 2007. The covenant remains active and discoverable through the King County Auditor's Office. There is no evidence a new instrument has been recorded which limits the effectiveness or applicability of the covenant. This covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the covenant. This covenant serves to assure the long term integrity of the surface cover and the remedial action.

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

There is no new scientific information for the contaminants related to the Site.

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

There are no new relevant state or federal laws that apply to hazardous substances present at the Site.

3.4 Current and projected Site use

The Site is currently used for residential purposes. There have been no changes in current or projected future Site or resource uses. The Site use do not negatively impact the integrity of the remedy.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

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

4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

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

Based on this periodic review, the Department of Ecology has determined that the requirements of the restrictive covenant continue to be met. No additional cleanup actions are required by the property owner at this time. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the remedy is maintained.

4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

The Riley Group, Inc. *Independent Remedial Action Report*. November 20, 2006.

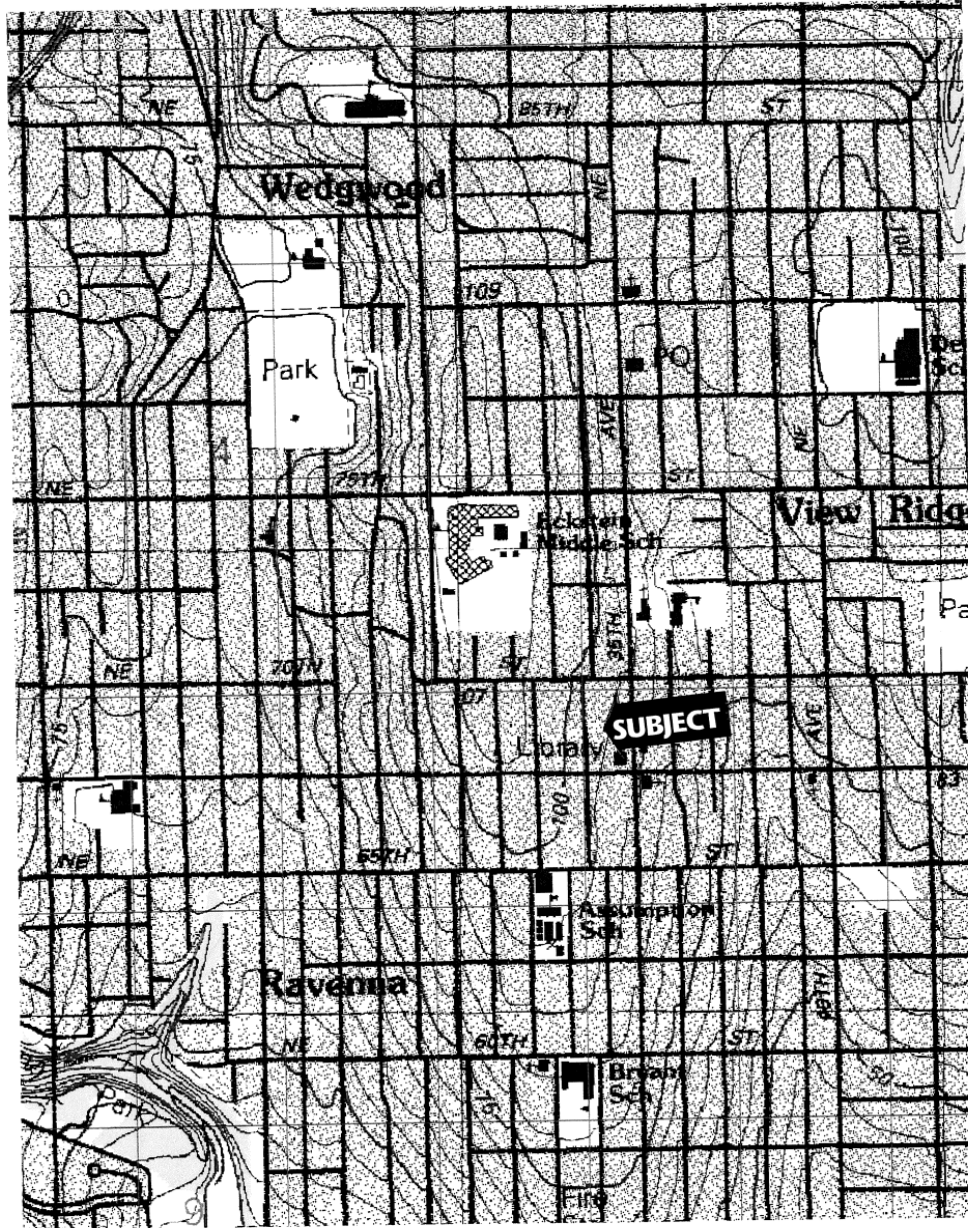
Bullard, James and Molly. *Restrictive Covenant*. July 20, 2007.

Ecology. *Periodic Review*. September 2012.

Ecology. *Site Visit*. March 6, 2018.

6.0 APPENDICES

6.1 Vicinity Map



USGS, 1983, Seattle North, Washington,
7.5-Minute Quadrangle

Scale = 1:12,800



The Riley Group, Inc.
17522 BOTHELL WAY NE
BOTHELL, WASHINGTON 98011

Bullard Residence

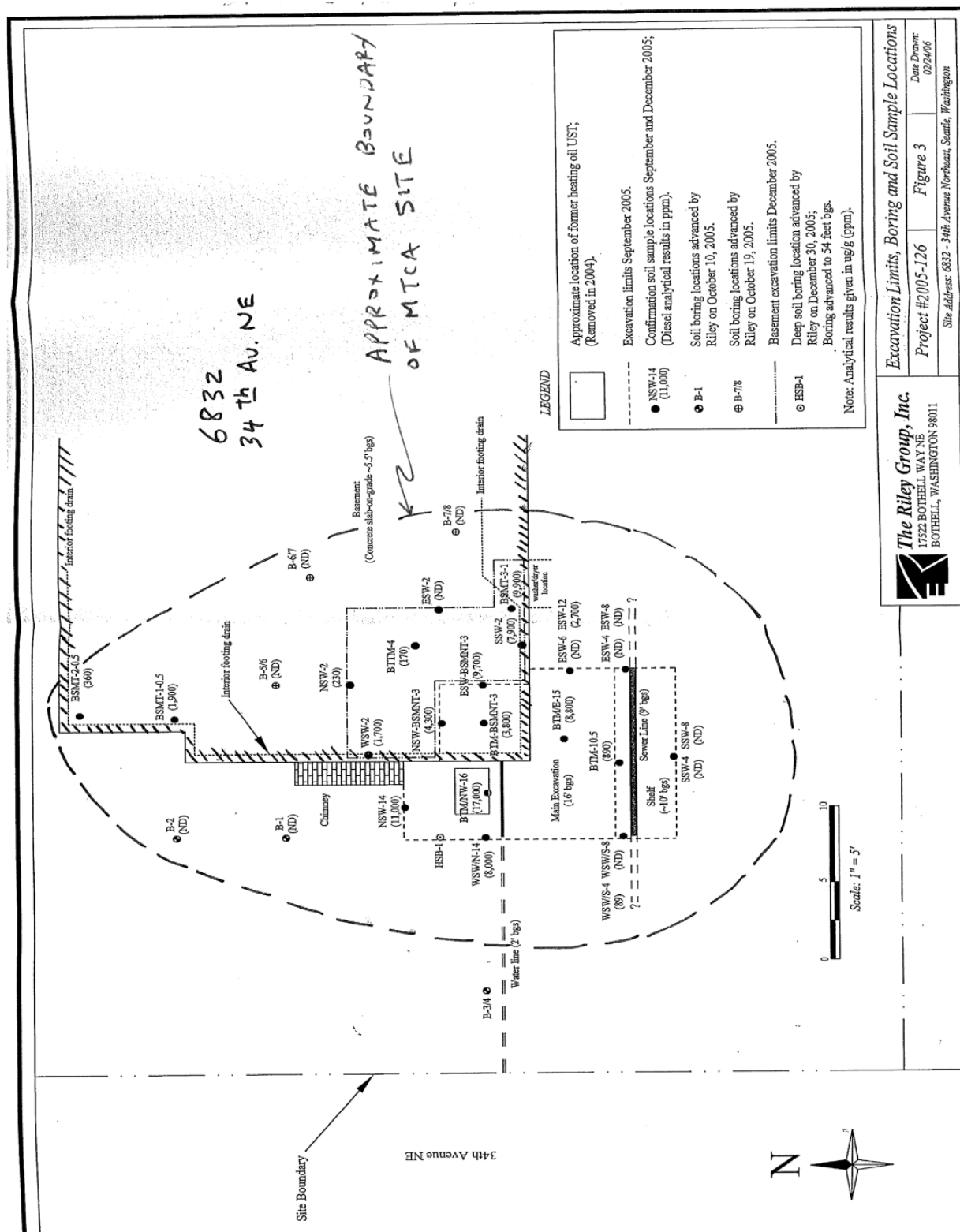
Project #2005-126

Site Vicinity Map

Figure 1

Site Address: 6832 34th Avenue NE, Seattle, Washington

6.2 Site Plan



6.3 Environmental Covenant



20070720001940

J & A PS COV 93.00
PAGE 001 OF 012
07/20/2007, 14:21
KING COUNTY, WA

Return Address:

Department of Ecology
Northwest Regional Office
Attn: Mark Adams, Toxics Cleanup Program
3190 160th Avenue S.E.
Bellevue, WA 98008-5452

Please print or type information **WASHINGTON STATE RECORDER'S Cover Sheet** (RCW 65.04)

Document Title(s) (or transactions contained therein): (all areas applicable to your document must be filled in)

1. Environmental Covenant 2. _____
3. _____ 4. _____

Reference Number(s) of Documents assigned or released:

Additional reference #'s on page _____ of document

Grantor(s) (Last name, first name, initials)

1. ~~James Bullard~~ Molly Bullard James
2. ~~State of WA, Dept. of Ecology~~ Bullard, Molly

Additional names on page _____ of document.

Grantee(s) (Last name first, then first name and initials)

1. State of WA, Dept. of Ecology
2. _____

Additional names on page _____ of document.

Legal description (abbreviated: i.e. lot, block, plat or section, township, range)

North 37 feet of Lot 15, South 10 ft. of Lot 16, Block 1,
Roosevelt Heights Second Addition

Additional legal is on page _____ of document.

Assessor's Property Tax Parcel/Account Number

741020 0015

☐ Assessor Tax # not yet assigned

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.

Ashley E Pedersen Signature of Requesting Party

After Recording Return to:

Department of Ecology
Northwest Regional Office
Attn: Mark Adams, Toxics Cleanup Program
3190 160th Avenue S.E.
Bellevue, WA 98008-5452

Environmental Covenant

Grantors: James Bullard and Molly Bullard, husband and wife

Grantee: State of Washington, Department of Ecology

Address: 6832 34th Avenue N.E., Seattle, WA 98115

Legal: The North 37 feet of Lot 15, and the south 10 feet of Lot 16, Block 1, Roosevelt Heights Second Addition to the City of Seattle, according to the plat thereof recorded in Volume 33 of Plats, page(s) 37, in King County, Washington.

Tax Parcel Nos.: 741020 0075

Cross Reference: N/A

Grantors, James Bullard and Molly Bullard, husband and wife, hereby bind Grantors, their successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Restrictive Covenant") made this 20th day of July, 2007 in favor of the State of Washington Department of Ecology ("Ecology") and its successors and assigns. Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(f) and (g), WAC 173-340-440, and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- 1) March 27, 2006, Independent Remedial Action Letter, prepared by The Riley Group; and
- 2) November 20, 2006, Independent Remedial Action Letter Report, prepared by The Riley Group.

These documents are on file at Ecology's Northwest Regional Office located at 3190 160th Avenue S.E., Bellevue, WA 98008.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of diesel-range total petroleum hydrocarbons (TPH) remaining on the property, which exceed the Model Toxics Control Act Method A Residential Cleanup Level for soil

established under WAC 173-340-740.

Grantors are the fee owners of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described as follows: The North 37 feet of Lot 15, and the south 10 feet of Lot 16, Block 1, Roosevelt Heights Second Addition to the City of Seattle, according to the plat thereof recorded in Volume 33 of Plats, page(s) 37, in King County, Washington.

Grantors make the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. A portion of the Property is underlain by soil contaminated with diesel-range petroleum hydrocarbons. The contaminated soil has been capped as part of the Remedial Action. See Figures 2, 3, 3A and 3B attached hereto. The Owner shall not alter, modify, or remove the existing structure, basement floor, or controlled density fill (CDF) in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior Ecology approval. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork. Should the Owner wish to conduct remodeling or other work in the basement area where the Remedial Action was performed and those activities will involve the disturbance of the concrete basement floor, the Owner shall seek prior written approval from Ecology prior to conducting planned work in that area of the basement. The Owner shall also notify any maintenance workers or contractors of the requirements of this Restrictive Covenant for any work planned or conducted in the area where the Remedial Action was performed. NOTE: these restrictions DO NOT apply in the existing yard area outside of the shaded area shown on Figure 3A attached to this Restrictive Covenant. They also do not apply to near surface gardening or landscaping activities in the existing yard area that occur within the top five feet of the existing land surface.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited. Figures 2, 3, 3A, 3B, 4 and 5 attached to this Restrictive Covenant reflect the area where the Remedial Action occurred on the Property.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the Property must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action including, but not limited to, the soil vapor collection system.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

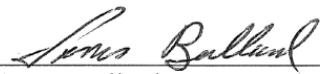
Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action, to take samples, to inspect remedial actions conducted at the Property, and to inspect records that are related to the Remedial Action.

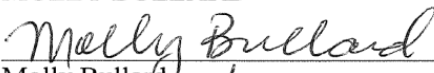
Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Section 9: The Owner shall maintain roof downspouts and surface water drainage to ensure that they drain away from the area where impacted soils remain at depth.

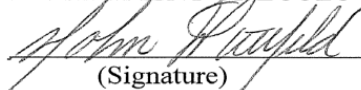
JAMES BULLARD


James Bullard
Dated: 7/20/07

MOLLY BULLARD


Molly Bullard
Dated: 7/20/07

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

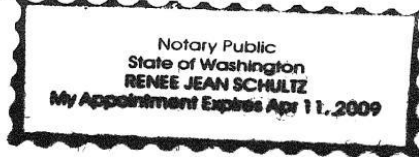

(Signature)
By: For John Wietfeld
FOR Steve Alexander

Its: _____
Section Manager, Toxics Cleanup
Program, Northwest Regional Office

Dated: July 16, 2007

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

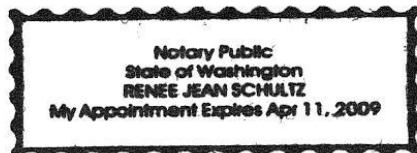
On this 20th day of July, 2007, I certify that James Bullard personally appeared before me, and acknowledged that he is the individual described herein and who executed the within and foregoing instrument and signed the same as his free and voluntary act and deed for the uses and purposes therein mentioned.



Renee Jean Schultz
Notary Public in and for the State of wa
Washington, residing at Seattle.
My appointment expires 4-11-09.

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

On this 20th day of July, 2007, I certify that Molly Bullard personally appeared before me, and acknowledged that she is the individual described herein and who executed the within and foregoing instrument and signed the same as her free and voluntary act and deed for the uses and purposes therein mentioned.

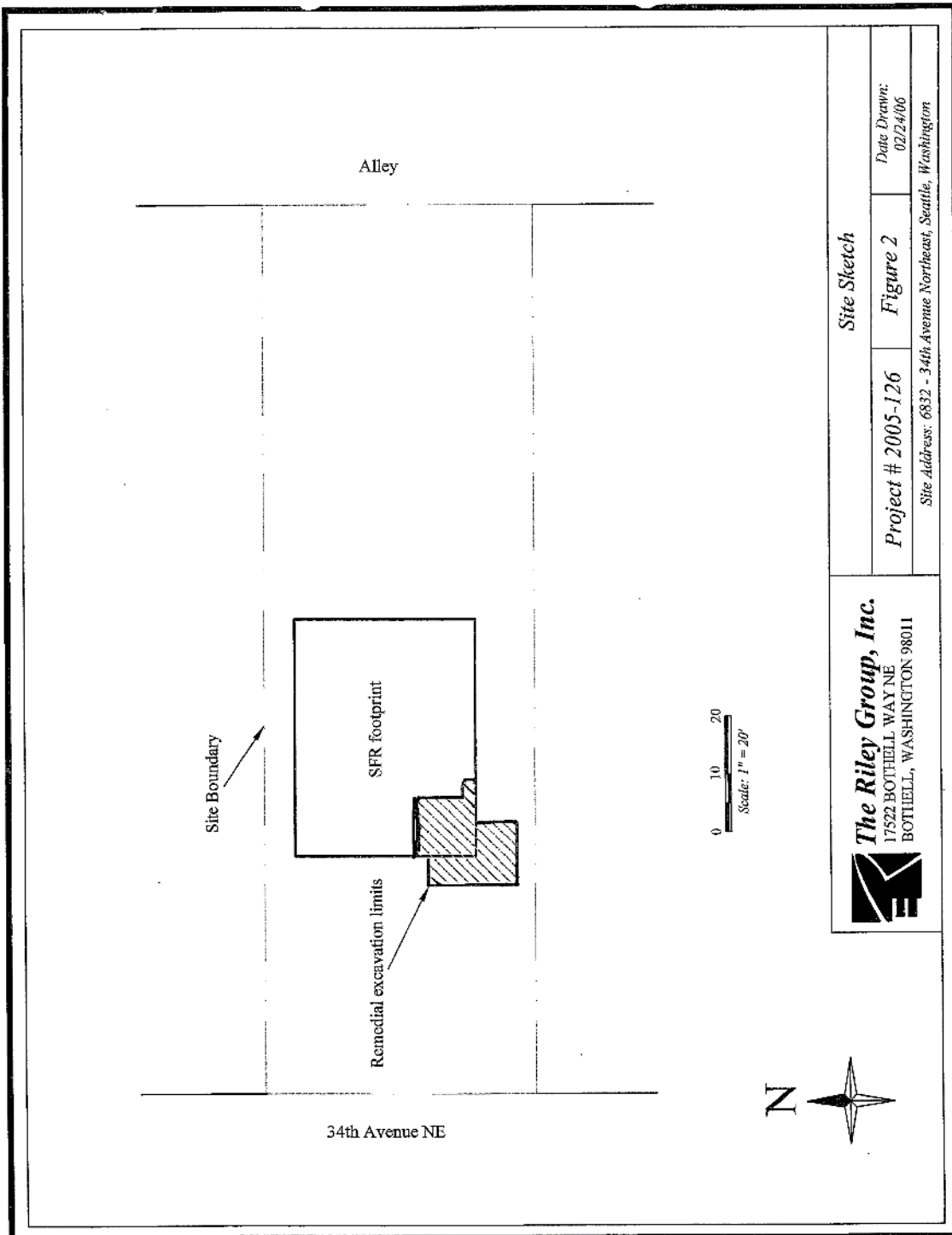


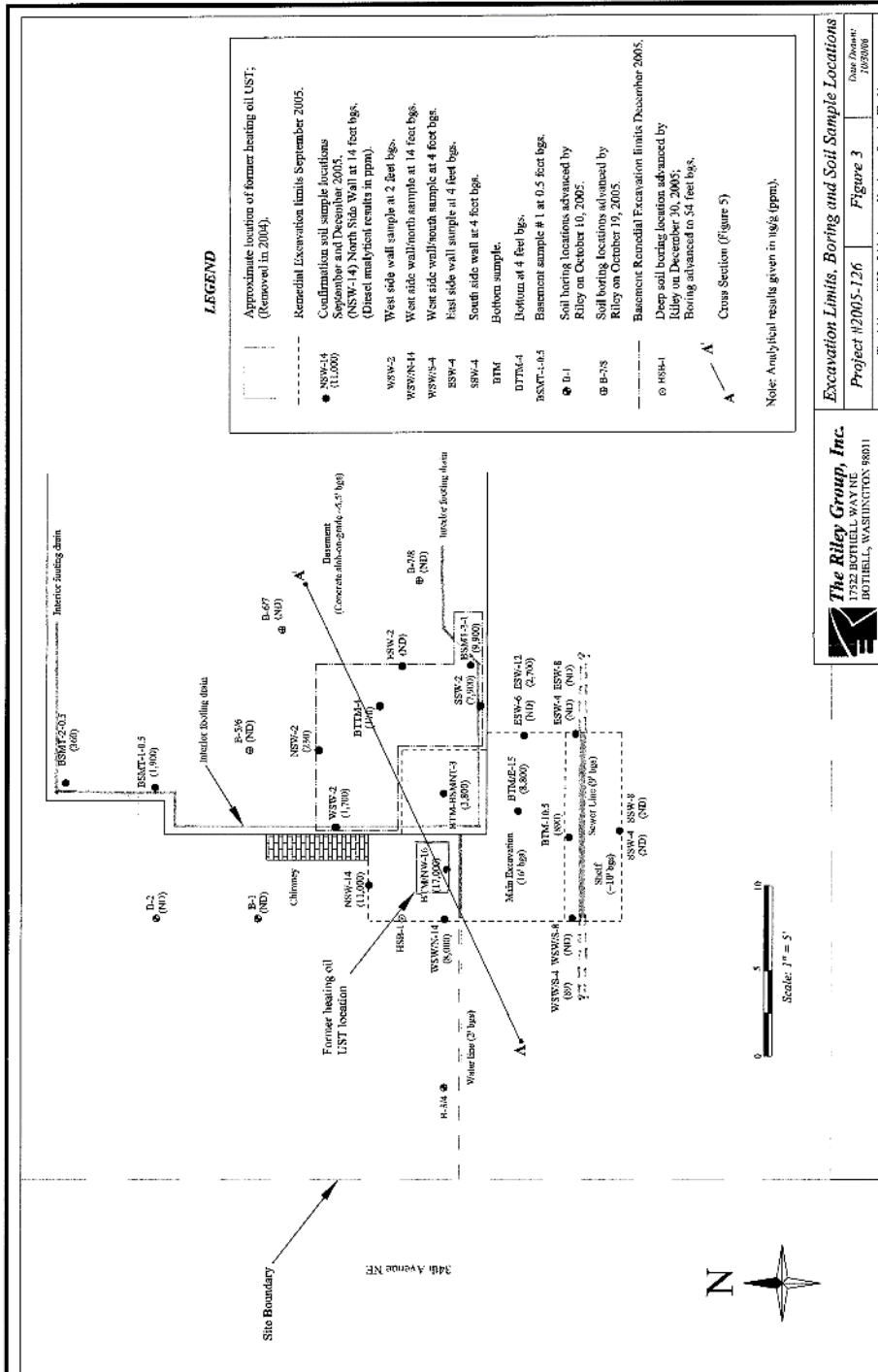
Renee Jean Schultz
Notary Public in and for the State of wa
Washington, residing at Seattle.
My appointment expires 4-11-09.

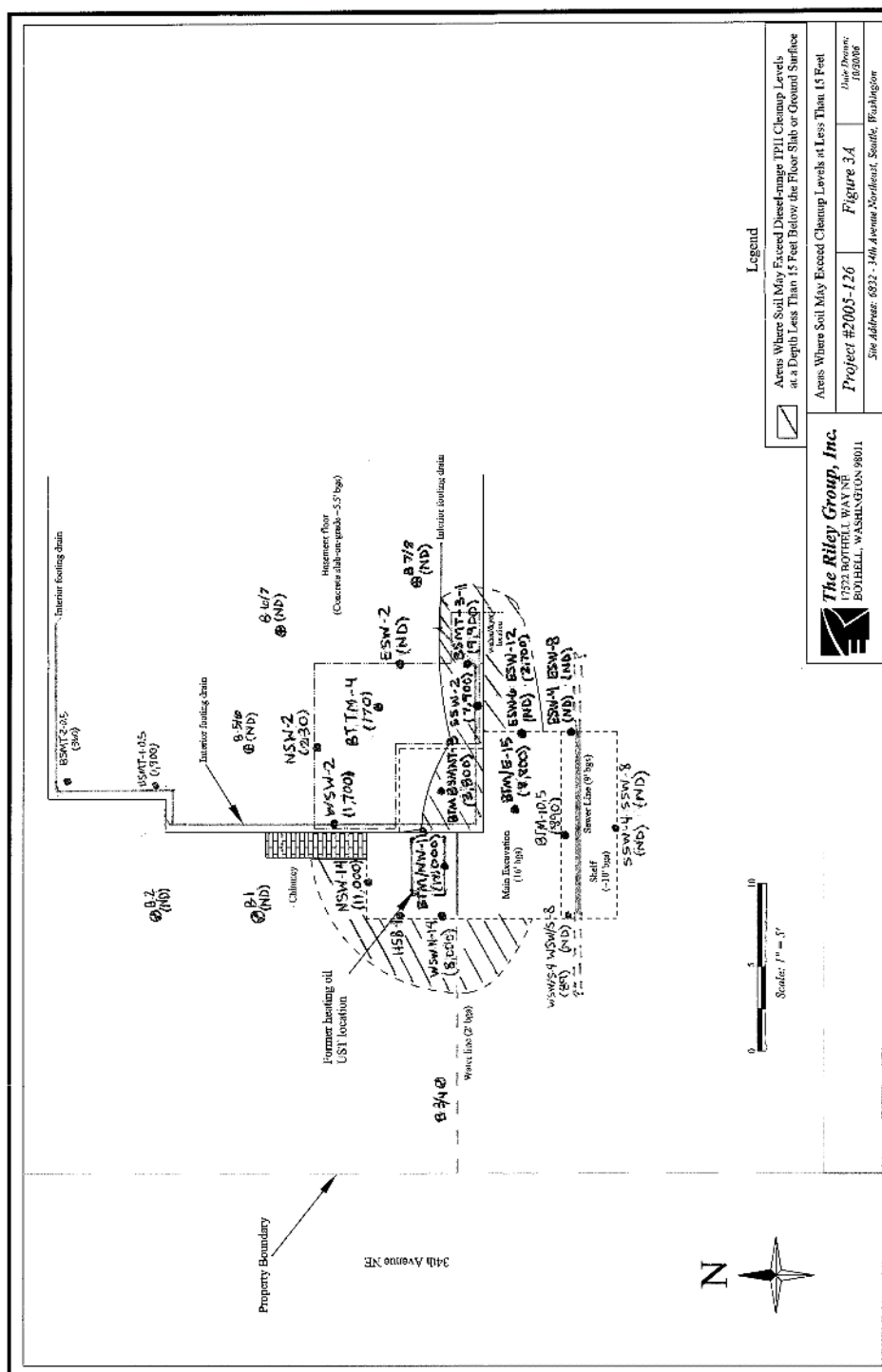
Exhibit A
Legal Description

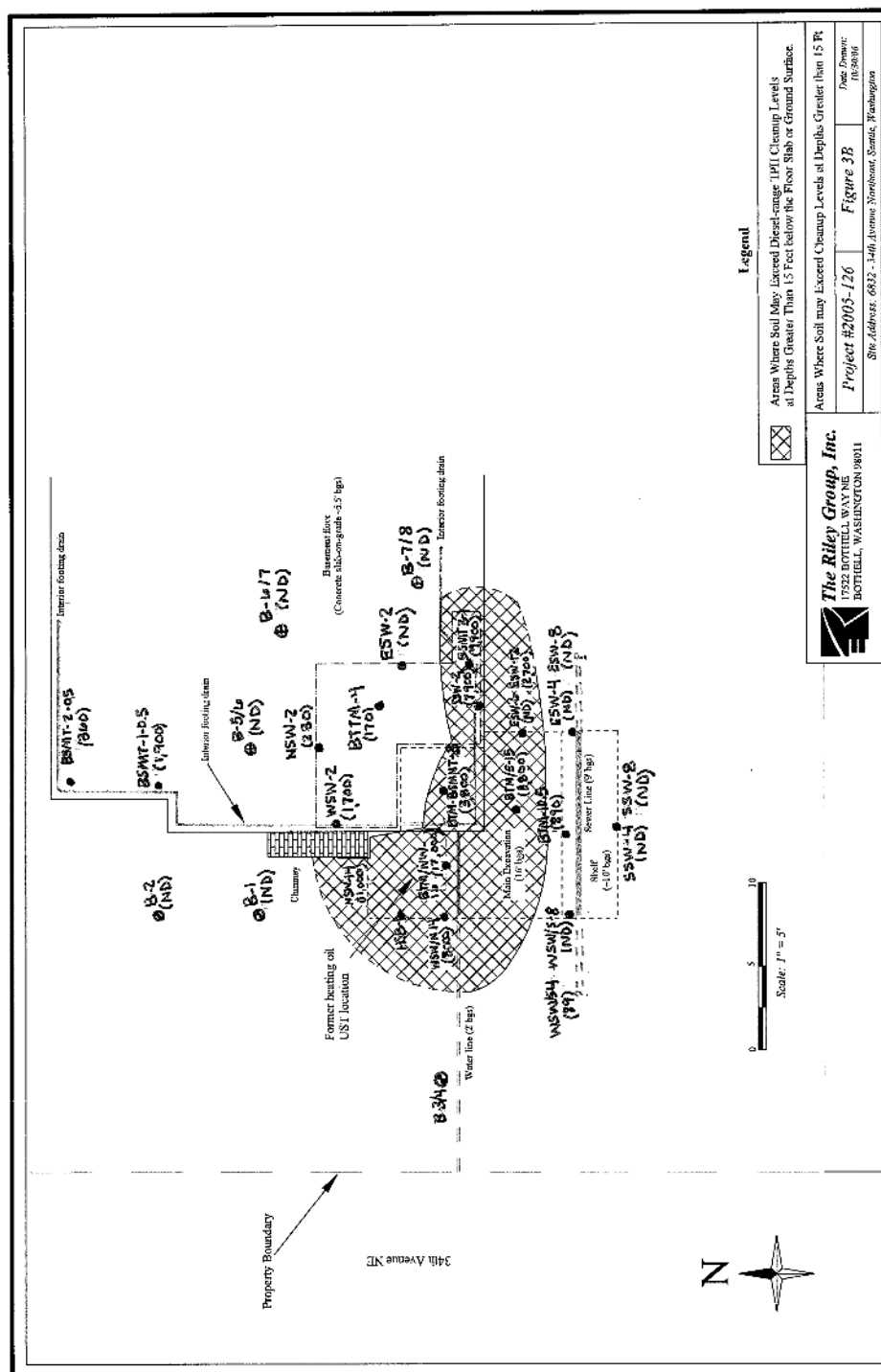
RECORDS OF KING COUNTY, WASHINGTON
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON

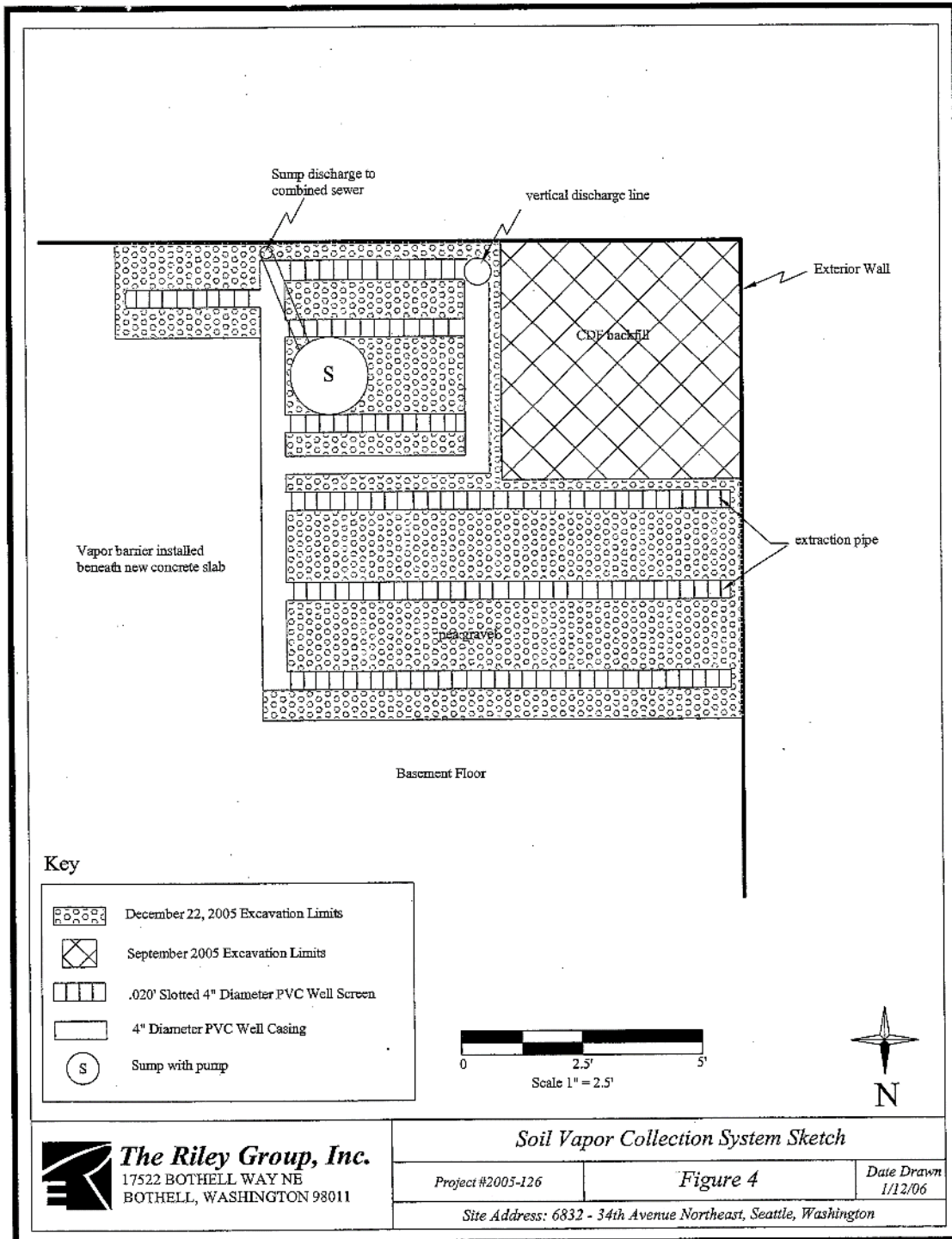
The North 37 feet of Lot 15, and the south 10 feet of Lot 16, Block 1, Roosevelt Heights Second Addition to the City of Seattle, according to the plat thereof recorded in Volume 33 of Plats, page(s) 37, in King County, Washington.











6.4 Photo log

Photo 1: Bullard Site - from the northwest



Photo 2: Southwest Corner of Home Where Tank was Located – from the west



Photo 3: Bullard Site and Surrounding Homes – from the southwest

