STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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March 21, 2014

Mr. Brian Dixon
SoundEarth Strategies Inc.
2811 Fairview Avenue E, Suite 2000
Seattle, WA 98102

Re: Opinion on Proposed Cleanup of the following Site:

- **Site Name:** American Linen Supply Co. Dexter Avenue
- **Site Address:** 700 Dexter Avenue North, Seattle, Washington
- **Facility/Site No.:** 3573
- **Cleanup Site ID No.:** 12004
- **VCP Project No.:** NW2652

Dear Mr. Dixon:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the American Linen Supply Co. Dexter Avenue facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

> **NO. Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be necessary to clean up contamination at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Tetrachloroethene (PCE), Trichloroethene (TCE), is-1,2 Dichloroethene (DCE), Vinyl Chloride, Gasoline, Diesel, and Oil Range Petroleum Hydrocarbons (GRPH, DRPH, ORPH), and Benzene into soil and groundwater.
- Tetrachloroethene (PCE), Trichloroethene (TCE), Dichloroethene (DCE), Vinyl Chloride into the Air.

The Site definition includes the Property defined as King County parcel number 224900-0285, and the impacted volume of soil and groundwater beyond the Property boundary.

Enclosure A includes a detailed description and diagrams of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel associated with this Site is affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. *Draft Remedial Investigation Technical Memorandum*, 700 Dexter Property, prepared by SoundEarth Strategies, Inc., publication date January 8, 2012.

2. D*raft Supplemental Remedial Investigation Technical Memorandum*, 700 Dexter Property, prepared by SoundEarth Strategies, Inc., publication date April 9, 2013

3. D*raft On-Property Remedial Strategy Technical Memorandum*, 700 Dexter Property, prepared by SoundEarth Strategies, Inc., publication date May 17, 2013.

4. *Remedial Investigation Report, 700 Dexter Property*, prepared by SoundEarth Strategies Inc, publication date July 15, 2013

5. *Feasibility Study Report, 700 Dexter Property*, prepared by SoundEarth Strategies Inc., publication date July 16, 2013.

6. *Opinion on proposed cleanup of a property associated with a Site, No Further Action Likely*, prepared by Washington Department of Ecology, publication date November 6,

2013.

7. *Cleanup Action Plan, 700 Dexter Property*, prepared by SoundEarth Strategies Inc., publication date January 31, 2014.

8. *Addendum to 700 Dexter Draft Cleanup Action Plan*, prepared by SoundEarth Strategies Inc., publication date March 5, 2014.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at 425-649-7235 or send an email to nwro_public_request.ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary to clean up contamination at the **Site**. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

The Lateral and vertical extent of contamination in soil and groundwater has been adequately defined for this Site.

Subslab vapor sample were collected at three locations down gradient from the property. Sample results indicate that vapor concentration is below threshold levels that would require vapor intrusion measures to be implemented.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

a. Cleanup Standards throughout the Site

The MTCA Method A cleanup level is considered appropriate for soil and groundwater at the Site and is protective of human health and the environment.

Soil vapor monitoring will be necessary for those areas of the Site where soil or groundwater concentrations exceed levels that are not protective for purposes of vapor intrusion. The approach to be used for assessing vapor intrusion is described in WAC 173-340-750 and Ecology Publication No. 09-09-047. In those areas where subsurface contamination is not protective of air, subslab sampling will be necessary. In the instance where soil confirmation samples indicate potential vapor intrusion, evaluation will be required after each of the three remediation activities described in Section 3 below.

The points of compliance in the soils shall be established throughout the **Site** from ground surface to fifteen feet below the ground surface. Additionally, soil concentration shall not cause an exceedance of groundwater cleanup levels as defined in WAC 173-340-720.

The point of compliance in the groundwater shall be established throughout the **Site** from the uppermost level of the saturated zone extending vertically to the lowest most depth which could be affected by the Site.

b. Action and location-specific requirements.

A condition for the assessment of the adequacy of the cleanup involves collection of confirmation samples in soil and groundwater that corroborate that cleanup levels have been attained throughout the Site. Additionally, for the remedy involving edible oil substrate (EOS) injection, active management of the injection point locations and timing of injections will be necessary to achieve cleanup in a reasonable timeframe as defined by Ecology.

Please note that other requirements apply to the cleanup based on the type of the action or location within the Site. Those requirements are detailed in the "Feasibility Study" and "Addendum to 700 Dexter Draft Cleanup Action Plan" and discussed in Section 3 of this letter.

3. Selection of cleanup action.

Ecology has determined the cleanup action you proposed for the Site meets the substantive requirements of MTCA.

The planned cleanup activities at the Site are as follows, (1) installation of electrical resistivity heating and soil vapor extraction system (TRH/SVE), (2) excavation of soil on-property to a depth of 10 feet below grade, and (3) injection of edible oil substrate (EOS). The first activity has been completed and is awaiting confirmation sampling. The adequacy of the second and third cleanup tasks will also be contingent upon completion of the tasks and achieving cleanup standards based on confirmation samples.

Remediation of soil contamination was performed throughout the property to a depth of 40 feet below grade using thermal resistivity heating (TRH). During treatment that has already occurred, the ERH system removed over 12,000 pounds of volatile organics from the soil. The TRH method is expected to remove over 95% of the volatile contamination from the soils. Development plans are also to excavate ten feet of soil vertically from the property, lot-line to lot-line. Removal of the contamination source in the soils beneath the property is expected to truncate the further release to groundwater and reduce contamination in soil to below MTCA cleanup levels. Confirmation samples taken from the soil and groundwater are required to corroborate that cleanup objectives have been achieved.

Remediation of the contaminated groundwater in the shallow and intermediate aquifer beneath the property will be addressed during TRH treatment. Remediation of the remaining contamination beneath the property and off property will occur through injection of an edible oil substrate (EOS) into contaminated zones of the groundwater. The purpose of the EOS injections is to stimulate microbial activity and enhance reducing conditions to promote biodegradation of the organics in the groundwater. Confirmation groundwater samples will be necessary to affirm that MTCA Method A cleanup levels have been achieved.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.

- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is limited to proposed cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

4. State is immune from liability.

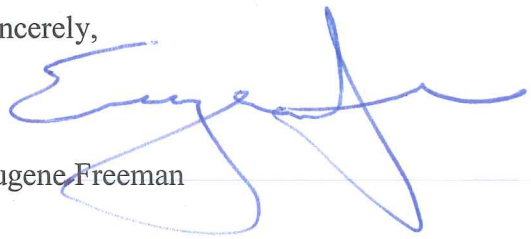
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 425-649-7191or e-mail at eufr461@ecy.wa.gov.

Sincerely,



Eugene Freeman

NWRO Toxics Cleanup Program

Enclosures (1): A – Description and Diagrams of the Site

cc: Nicole Christ,
1821 Blake St. Suite 3C
Denver, CO 80202

Sonia Fernandez, NWRO VCP Coordinator

Enclosure A

Description and Diagrams of the Site

Site Description

Site Definition

The Site is located at 700 Dexter Avenue North in Seattle, Washington. The Property is situated at the intersection of Dexter Avenue and Roy Street. The property consists of one tax parcel (224900-0285) that is 61,440 square feet in size in the South Lake Union area of Seattle.

Area/Property Description

The adjacent properties to the Property are predominantly used for commercial businesses and multi-family housing. The property to the south is used as a parking and storage lot by the Seattle Department of Transportation. The lot to the east is a maintenance facility for vehicles owned by Seattle City Light. The property to the north is a car dealership and vehicle parking lot. The property to the west is occupied by multi-family apartments. The Property is currently vacant and in the process of being redeveloped.

Property History and Current Use

The Property was occupied by a single residence from at least 1893 through 1925, when an additional building was built on the Property. In 1930 a refueling facility was constructed on the northwest portion of the Property and consisted of several underground storage tanks (UST's) and two dispenser islands. Additional buildings were constructed on the Property in 1947 and 1966. Four 6,000 gallon UST's containing heating oil were installed on the Property in 1947. The 1930's vintage refueling station was demolished in 1966. An additional refueling facility, that included as many as three UST's installed between 1947 and 1966. Dry cleaning operations began on the Property in 1966. The dry cleaning machines were no longer on the Property by the mid-1990s. After dry cleaning operations ceased, the Property was leased to multiple tenants including automotive repair shops, a bakery, and car rental agency. Currently the buildings on the Property have been demolished and the Property is being redeveloped. Planned redevelopment of the Property includes excavation from lot-line to lot-line, building underground parking, and construction of an office building.

Contaminant Source and History

There are limited records of specific releases from previous facilities at the Property, however, residual contamination is found in soil and groundwater corresponding to locations occupied by storage tanks, drains, and sewer lines. Contamination of concern identified at this Site includes chlorinated solvents [tetrachloroethylene (PCE), trichloroethene (TCE), Cis-1,2-dichloroethene (DCE), and vinyl chloride], gasoline, diesel, and oil range petroleum hydrocarbons (GRPH, DRPH, ORPH), and benzene. Leaks from petroleum facilities likely occurred between 1930 through 1966 and leaks from dry cleaning operations occurred from

1966 through the mid-1990s.

Physiographic Setting

The Site is located in the Puget trough of the Pacific Border Physiographic Province in the low lying South Lake Union neighborhood of Seattle. The physiographic features at the Site are the results of glacial processes with lacustrine deposits closer to Lake Union. The Property is at an elevation of 60 to 80 feet above mean sea level. The ground surface at the Property slopes from west to east.

Ecological Setting

The area within 500 feet of the Property is developed as commercial and multi-family housing. There is no significant terrestrial habitat in the area.

Geology

The lithology in the areas consists of the following units,

1. Fill material from ground surface to a depth of 4 to 15 feet and consisting of wood, bricks, and furnace slag mixed with sand, silt and gravel.
2. Beneath the fill are lacustrine deposits near Lake Union or glacial till beneath the property. The glacial till unit is about 95 feet thick beneath the Property and thins out toward Lake Union. The glacial till consists of dense silty fine sand with variable gravel and cobbles.
3. Glacial outwash deposits comprise the deep unit which is about 45 feet thick beneath the Property. This unit consists of relatively clean sand and gravelly sand with silt rich interbeds.
4. The deepest unit is comprised of old glacial till and drift deposits from the pre-Fraser glacial period. These deposits consist of moderately cemented silty sand to sandy silt with variable gravel content.

Groundwater

There are four distinct hydrogeologic units that have been identified for this Site.

1. A shallow water-bearing zone comprised of fill materials, lacustrine deposits, and weathered and unweathered glacial deposits.
2. An intermediate water-bearing zone comprised of dense to very dense heterogeneous glacial deposits that function as a leaky aquitard.
3. A deep aquifer comprised of glacial outwash deposits.
4. A lower aquitard comprised of very dense, fine grained glacial drift deposits.

The shallow water-bearing zone is encountered at 10 to 20 feet below ground surface. The

groundwater flow direction is from the west toward the east, in the direction of Lake Union.

Surface Water

There is no surface water present at the property. Water from precipitation will flow in the down gradient direction toward Lake Union which is located 0.1 miles to the east. The area surrounding and down gradient of the property is covered by buildings and asphalt with storm drains throughout the area. Any surface water will be captured by the storm sewer system.

Water Use/Water Supply

There are no water supply wells within one mile of the property.

Release and Extent of Contamination – Soil

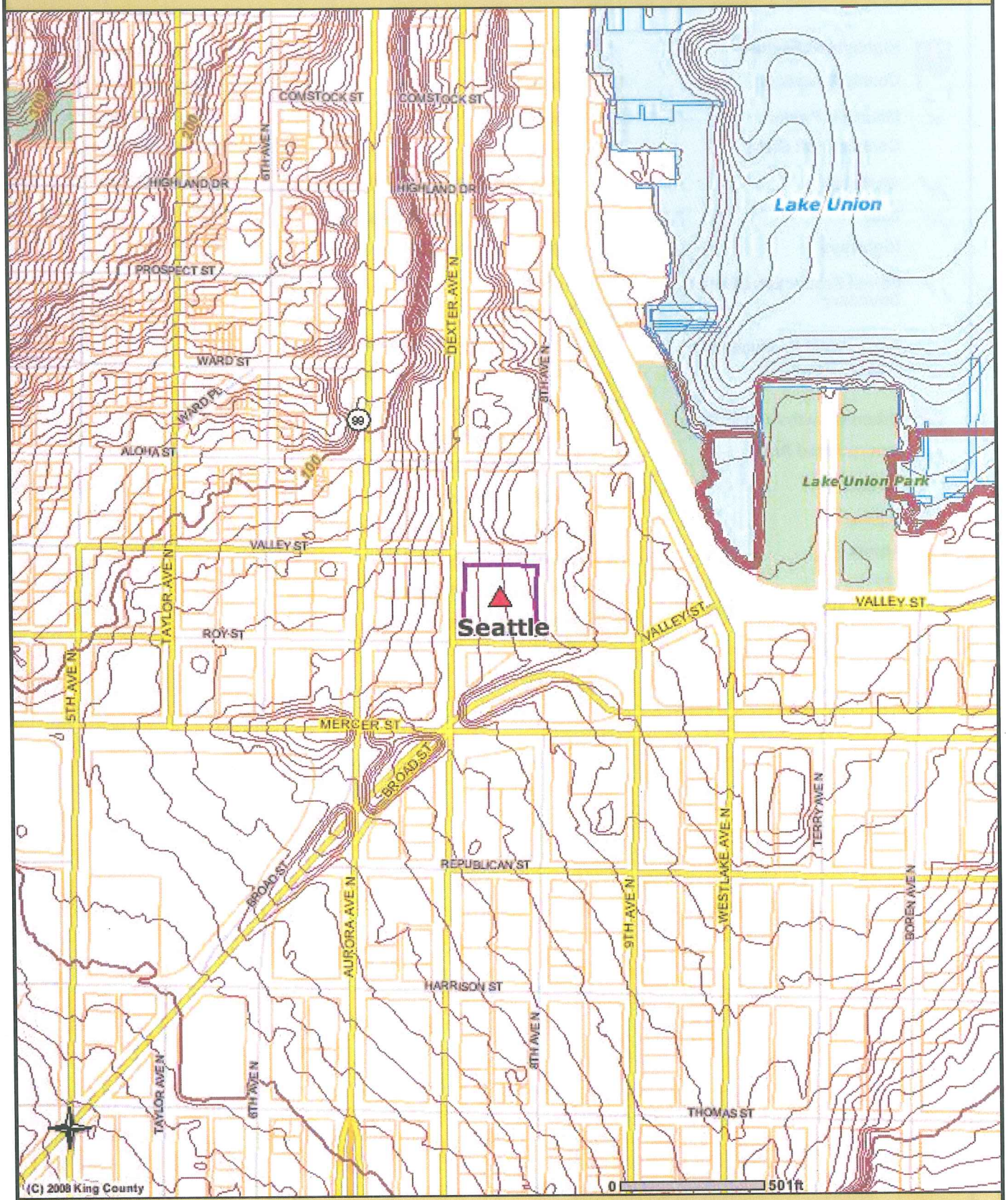
Soil contamination above the MTCA Method A cleanup levels is located predominantly beneath the tanks, drains, and sewer line within the Property boundary. Soil contamination above the MTCA cleanup levels beneath the Property is found in the shallow and intermediate aquifer zones. Highest concentrations are beneath former tank, piping, and drain locations on property.

Release and Extent of Contamination – Groundwater

The most pervasive contamination on and off the Property is that of the chlorinated solvents. Contamination is in soil and groundwater and in the groundwater extends off-Property in the direction of groundwater flow to the east. A PCE concentration of 230,000 µg/L was measured in groundwater beneath the property. Contamination above the MTCA cleanup levels extends several hundred yards to the east in the direction of groundwater flow. The plume extends slightly more to the south than to the north. The extent of the plume has been bounded by off-Property groundwater monitoring wells. After the initiation of the cleanup activities, a Property to the southeast (Vulcan/Block 43) began development that includes aquifer dewatering. The result of the dewatering is to change the direction of groundwater flow and increase the gradient to the southeast. The groundwater cleanup plan for the American Linen Co. Property has been modified to accommodate the potential redistribution of the contaminated plume as a result of the dewatering operations to the southeast.

Site Diagrams

iMAP



COMMENTS: American Linen Supply Co. 700 Dexter

Date: 3/17/2014 Source: King County iMAP - Property Information (http://www.metrokc.gov/GIS/iMAP)

King County

iMAP

Legend


Highlighted Feature


County Boundary


Mountain Peaks

Contours (5ft dark)


100;500;1000


Other

Highways


Forest Production District Boundary


Agricultural Production District Boundary


Urban Growth Area Line


Incorporated Area

Streets


Highway


Arterials

Local


Lakes and Large Rivers


Streams


Tribal Lands

Parcels


Parks

Unincorporated KC Zoning


A-10 - Agricultural, one DU per 10 acres


A-35 - Agricultural, one DU per 35 acres


F - Forest


M - Mineral

RA-2.5 - Rural Area, one DU per 5 acres

RA-5 - Rural Area, one DU per 5 acres


RA-10 - Rural Area, one DU per 10 acres

UR - Urban Reserve, one DU per 5 acres

R-1 - Residential, one DU per acre

R-4 - Residential, 4 DU per acre

R-6 - Residential, 6 DU per acre

R-8 - Residential, 8 DU per acre


R-12 - Residential, 12 DU per acre


R-18 - Residential, 18 DU per acre

(cont)


R-24 - Residential, 24 DU per acre


R-48 - Residential, 48 DU per acre


NB - Neighborhood Business


CB - Community Business


RB - Regional Business

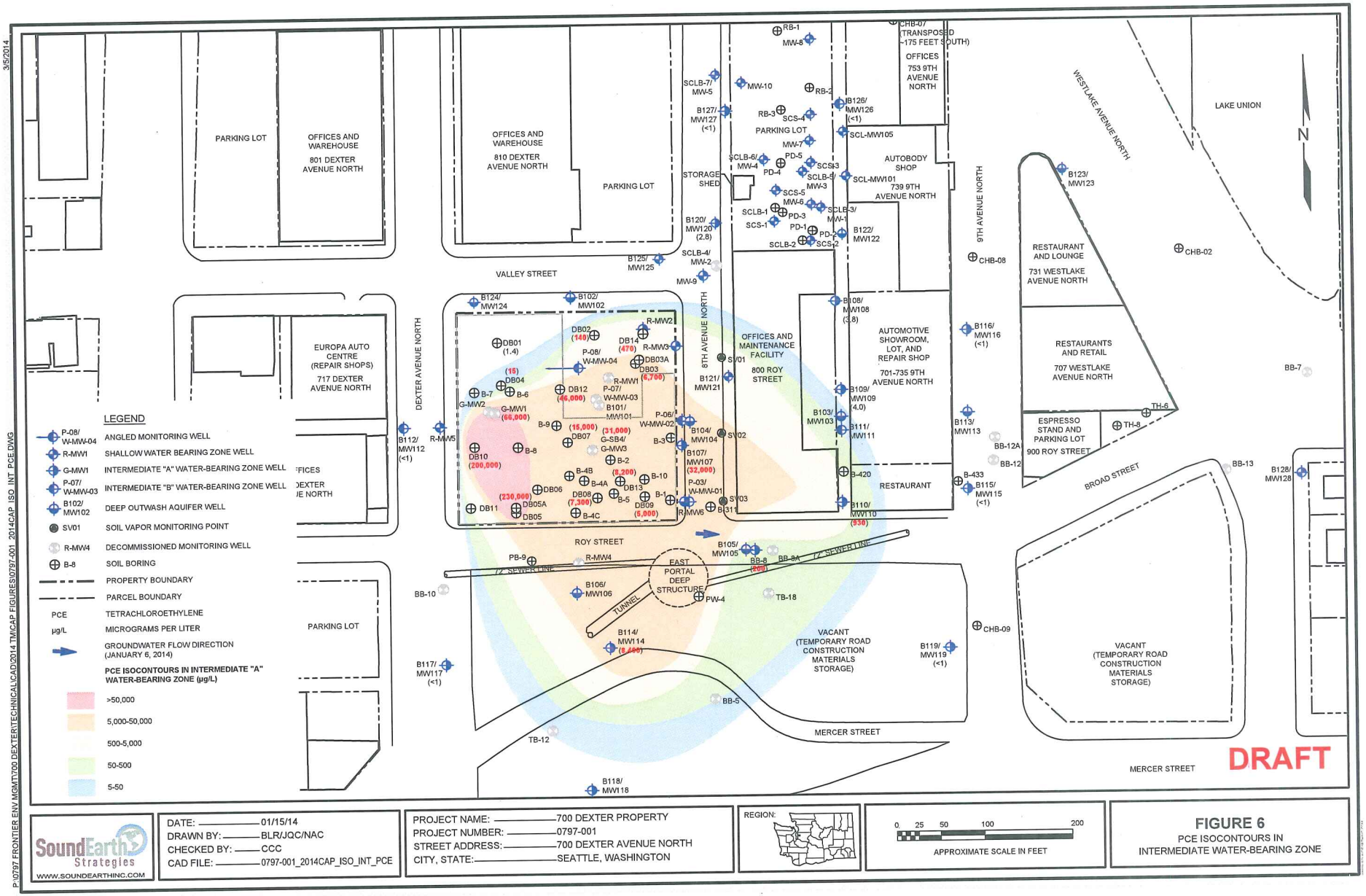

O - Office


I - Industrial


Other

Date: 3/17/2014 Source: King County iMAP - Property Information (http://www.metrokc.gov/GIS/iMAP)

King County



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_ISO_INT_PCE

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 6
PCE ISOCONTOURS IN INTERMEDIATE WATER-BEARING ZONE

3/5/2014
P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 TM\CAP FIGURES\0797-001 2014CAP ISO INT PCE.DWG