

# SITE HAZARD ASSESSMENT

## Worksheet 1

### Summary Score Sheet

#### SITE INFORMATION:

Bayview Development Partners  
4050 30th Ave SW  
Seattle, King County, WA 98126

Cleanup Site ID: 2591

Facility/Site ID: 4547512

Section:	13	Latitude:	47.56746
Township:	24N	Longitude:	-122.37059
Range:	3E	Tax/Parcel ID:	9358000610, 9358000605

*Site Scored/ranked for the Hazardous Sites List Publication: August 2015*

#### SITE DESCRIPTION:

The Bayview Development Partners site (Site) is a former gasoline station and grocery store located in Seattle, King County, Washington. The 0.12-acre property is located approximately 3,300 feet from the Lower Duwamish Waterway (LDW), and zoned for midrise (MR) use.

The Site is located on the southeast corner of the five-way intersection of Southwest Yancy Street, 30th Avenue Southwest, Southwest Avalon Way, and Southwest Andover Street. Adjacent properties include a self-storage warehouse to the north, an apartment building to the west, and single family residences to the east and south.

The Site is currently operated as a multi-family residence (under construction) by S & A Hale Holdings LLC.

The Site is located in the West Seattle neighborhood of Seattle, to the east of the LDW. Aerial imagery of the Site indicates that construction of several buildings on the Site began between 2007 and 2009, and are not yet completed.

#### SITE BACKGROUND:

A summary of prior operations/tenants at the subject property is presented below.

<u>From</u>	<u>To</u>	<u>Operator/Tenant</u>	<u>Activity</u>
	1950		Gasoline station and grocery store
	1992	John Frederick Foster	
1998	2000	Chatsri Chanthorn	Vacant property
2000	2004	Fremont Dock Co Inc	Vacant property
2004	2009	Cobb Construction & Associates LLC	Vacant property; development as a multi-unit housing complex
2009	2010	Anchor Mutual Savings Bank	Vacant property; development as a multi-unit housing complex
2010	2014	Bayview Townhomes LLC	Vacant property; development as a multi-unit housing complex
2014	2014	S & A Hale Holdings LLC	Vacant property; development as a multi-unit housing complex

#### SITE CONTAMINATION:

In 2008 the Bayview Development Partners site was reported to Washington State Department of Ecology (Ecology) and placed on the Confirmed and Suspected Contaminated Sites (CSCSL) list with ID number 2591.

In 2008, two underground storage tanks (USTs) were excavated and removed from the Site, along with approximately 148 tons of petroleum-impacted soil. The tanks included one 1,100-gallon heating oil tank, and one 100-gallon UST (contents unknown).

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Soil samples collected from the tank excavation prior to overexcavation contained concentrations of gasoline, ethylbenzene, and xylenes above MTCA Method A cleanup levels. Benzene was not detected above the laboratory reporting limit, however the reporting limit was above the MTCA Method A cleanup level. Soil samples were analyzed for diesel and lead, however concentrations were below the MTCA Method A cleanup levels. No soil samples were collected after overexcavation of soil, however the consultant present during tank removal (Filco) suspected that impacted soil was still present in the excavation. This observation was supported by visual and olfactory evidence of petroleum-impacted soil. The final excavation limits were partially constrained by concerns about destabilizing the onsite building, and about the stability of the sidewalls.

#### PAST REMEDIATION ACTIVITIES:

No additional remedial actions were available for review in Ecology's files.

#### CURRENT SITE CONDITIONS:

Prior to overexcavation, the Site contained petroleum-impacted soil. Residual volumes of this soil are expected to be present at the Site where overexcavation was not completed due to concerns regarding the excavation stability. A Site map was not available for review. The extent of impacted soil has not been characterized, nor have groundwater conditions at the Site. Groundwater has not been encountered at the Site.

The approximate depth to groundwater is less than 25 feet below ground surface, with groundwater flowing to the east (estimated based on surface topography). Subsurface soils are expected to be sand and silt (based on nearby sites).

#### SPECIAL CONSIDERATIONS:

Checked boxes indicate routes applicable for Washington Ranking Method (WARM) scoring

☐ **Surface Water**

Release occurred in the subsurface.

☒ **Air**

Release of volatile compounds occurred to subsurface soils.

☒ **Groundwater**

Prior detection of gasoline, ethylbenzene, and xylenes in Site soil and potential for transport to groundwater.

#### ROUTE SCORES:

Surface Water/ Human Health:

Surface Water/ Environment:

Air/ Human Health: 36.2

Air/ Environment: 1.3

Groundwater/ Human Health: 32.8

**Overall Rank: 4**

#### REFERENCES:

- 1 Ecology Water Resources Explorer, accessed December 2014.  
<https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx>
- 2 Filco Company Inc., 2008, Letter Re: Work Done at 4050 30th Avenue SW in Seattle. April 19, 2008.
- 3 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed December 2014.  
<http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx>

# **SITE HAZARD ASSESSMENT**

## **Worksheet 1**

### **Summary Score Sheet**

- 4 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. <http://mcdc.missouri.edu/websas/caps10c.html>. Accessed December 2014.
  - 5 National Climatic Data Center 2011 Local Climatological Data for Seattle, Seattle Tacoma Airport. <http://www1.ncdc.noaa.gov/pub/orders/IPS-90B1F39F-6CFA-4A6B-AA82-5ED1FF897CCC.pdf>
  - 6 WARM Scoring Manual
  - 7 WARM Toxicological Database
  - 8 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. <http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIsopluvials.pdf>
  - 9 Washington State Department of Ecology, 2008, ERTS # 605598.
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# **SITE HAZARD ASSESSMENT**

## **Worksheet 2**

### **Route Documentation**

Cleanup Site ID: 2591

Bayview Development Partners

Facility/Site ID: 4547512

#### **1. SURFACE WATER ROUTE**

**List those substances to be considered for scoring:**

Not applicable

**Explain the basis for choice of substances to be used in scoring:**

**List those management units to be considered for scoring:**

**Explain basis for choice of unit to be used in scoring:**

#### **2. AIR ROUTE**

**List those substances to be considered for scoring:**

Gasoline, ethylbenzene, xylenes

**Explain the basis for choice of substances to be used in scoring:**

Prior detection in Site soil at concentrations above the MTCA Method A cleanup levels

**List those management units to be considered for scoring:**

Soil vapor

**Explain basis for choice of unit to be used in scoring:**

Potential for vapor transport

#### **3. GROUNDWATER ROUTE**

**List those substances to be considered for scoring:**

Gasoline, ethylbenzene, xylenes

**Explain the basis for choice of substances to be used in scoring:**

Prior detection in Site soil at concentrations above the MTCA Method A cleanup levels

**List those management units to be considered for scoring:**

Groundwater

**Explain basis for choice of unit to be used in scoring:**

Potential for transport to groundwater

**Worksheet 5****Air Route**

CSID: 2591

Site Name: Bayview Development Partners

**1.0 Substance Characteristics****1.1 Introduction (WARM Scoring Manual) - Please Review before scoring****1.2 Human Toxicity**

Substance	Ambient Air Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Gasoline	10	3	X	5
Ethylbenzene	1	X	X	X
Xylenes	1	3	1	X

Highest Value 10

Bonus Points? 0

Toxicity Value **1.3 Mobility**

Gaseous Mobility	Max Value:	4
Particulate Mobility	Soil Type:	
	Erodibility:	
	Climatic Factor:	

Mobility Value **1.4 Final Human Health Toxicity/Mobility Matrix Value**HH Final Matrix Value **1.5 Environmental Toxicity/Mobility**

Substance	Non-human Mammalian Inhalation Toxicity (mg/m3)	Acute Value	Mobility Value	Table A-7 Matrix Value
Gasoline	31947	3	4	6
Ethylbenzene	X	X	3	X
Xylenes	21714	3	3	5

Env. Final Matrix Value **1.6 Substance Quantity**

Amount: Approximately 500 square feet

Basis: Estimated extent of potentially impacted soil

Substance Quantity Value

**Worksheet 5****Air Route**

CSID: 2591

Site Name: Bayview Development Partners

**2.0 Migration Potential****2.1 Containment**Containment Value 

Explain Basis: Expected to be more than 2 feet of soil cover  
but no vapor collection system present

**3.0 Targets****3.1 Nearest Population**Population Distance Value 

Less than 100 feet to the nearest dwelling

**3.2 Distance to and name of nearest sensitive environments**Sensitive Environment Value 

Approximately 1,600 feet to Delridge Playfield

**3.3 Population within 0.5 miles**Population Value 

4,296 population

**4.0 Release**Release to Air Value 

Explain basis for scoring a release to air:

No confirmed release to air

**Pathway Scoring - Air Route, Human Health Pathway**

$$AIR_H = (SUB_{AH} * 60/329) * [REL_A + (TAR_{AH} * 35/85)] / 24$$

Where:

$SUB_{AH} = (\text{Human toxicity} + 5) * (\text{Containment} + 1) + \text{Substance Qty}$

$REL_A = \text{Release to Air}$

$TAR_{AH} = \text{Nearest Population} + \text{Population within 1/2 mile}$

$SUB_{AH}$	153
$REL_A$	0
$TAR_{AH}$	75.5
$AIR_H$	36.2

**Pathway Scoring - Air Route, Environmental Pathway**

$$AIR_E = (SUB_{AE} * 60/329) * [REL_A + (TAR_{AE} * 35/85)] / 24$$

Where:

$SUB_{AE} = (\text{Environmental Toxicity Value} + 5) * (\text{Containment} + 1) + \text{Substance Qty}$

$REL_A = \text{Release to Air}$

$TAR_{AE} = \text{Nearest Sensitive Environment}$

$SUB_{AE}$	69
$REL_A$	0
$TAR_{AE}$	6.0
$AIR_E$	1.3

**Worksheet 6**  
**Groundwater Route**

**CSID:** 2591

**Site Name:** Bayview Development Partners

**1.0 Substance Characteristics**

**1.1 Human Toxicity**

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Gasoline	8	3	X	5
Ethylbenzene	4	3	1	X
Xylenes	2	10	1	X

Highest Value 10

Bonus Points? 2

Toxicity Value

**1.2 Mobility**

Cations/Anions

Max Value:

Solubility

Max Value:

3

Mobility Value

**1.3 Substance Quantity**

Amount: Approximately 55 cubic yards

Basis: Estimated volume of potentially impacted soil

Substance Quantity Value

**2.0 Migration Potential**

**2.1 Containment**

Containment Value

Explain Basis: Contaminated soil

**2.2 Net Precipitation**

> 10 to 20 inches

Net Precipitation Value

**2.3 Subsurface Hydraulic Conductivity**

Expected to be sand and silt

Conductivity Value

**2.4 Vertical Depth to Groundwater**

0 to 25 feet

Confirmed release: No

Depth to Aquifer Value

**3.0 Targets**

**3.1 Groundwater Usage**

Aquifer Use Value

Private supply, but alternate sources available with minimum hookup requirements

**3.2 Distance to Nearest Drinking Water Well**

9,300 feet

Well Distance Value

**3.3 Population Served within 2 Miles**

3 people

Population Served Value

**Worksheet 6**  
**Groundwater Route**

**CSID:** 2591

**Site Name:** Bayview Development Partners

**3.4 Area Irrigated by GW Wells within 2 miles**

Area Irrigated Value

1 acres

**4.0 Release**

Release to Groundwater Value

Explain basis for scoring a release to groundwater:

No confirmed release to groundwater

**Pathway Scoring - Groundwater Route, Human Health Pathway**

$$GW_H = (SUB_{GH} * 40 / 208) * [(MIG_G * 25 / 17) + REL_G + (TAR_{GH} * 30 / 165)] / 24$$

Where:

$SUB_{GH} = (\text{Human toxicity} + \text{mobility} + 3) * (\text{Containment} + 1) + \text{Substance Qty}$

$MIG_G = \text{Depth to Aquifer} + \text{Net Precip} + \text{Hydraulic Conductivity}$

$REL_G = \text{Release to Groundwater}$

$TAR_{GH} = \text{Aquifer Use} + \text{Well Distance} + \text{Population Served} + \text{Area Irrigated}$

$SUB_{GH}$	200
$MIG_G$	13
$REL_G$	0
$TAR_{GH}$	7.5
$GW_H$	32.8



## Washington Ranking Method

### Route Scores Summary and Ranking Calculation Sheet

**Site Name:** Bayview Development Partners

**CSID:** 2591

**Site Address:** 4050 30th Ave SW

**FSID:** 4547512

#### HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	36.2	4
Groundwater	32.8	2

H=	4
M=	2
L=	0

$$\begin{array}{c} H^2 \\ 16 \end{array} + \begin{array}{c} 2M \\ 4 \end{array} + \begin{array}{c} L \\ 0 \end{array} = \frac{\quad}{8}$$

**Human Health  
Priority Bin Score:**  
**3**  
rounded up to next  
whole number

#### ENVIRONMENT ROUTE SCORES

Enter Environment Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	1.3	1

H=	1
L=	0

$$\begin{array}{c} H^2 \\ 1 \end{array} + \begin{array}{c} 2L \\ 0 \end{array} = \frac{\quad}{7}$$

**Environment  
Priority Bin Score:**  
**1**  
rounded up to next  
whole number

**Comments/Notes:**

**FINAL MATRIX  
RANKING**

**4**

#### FOR REFERENCE:

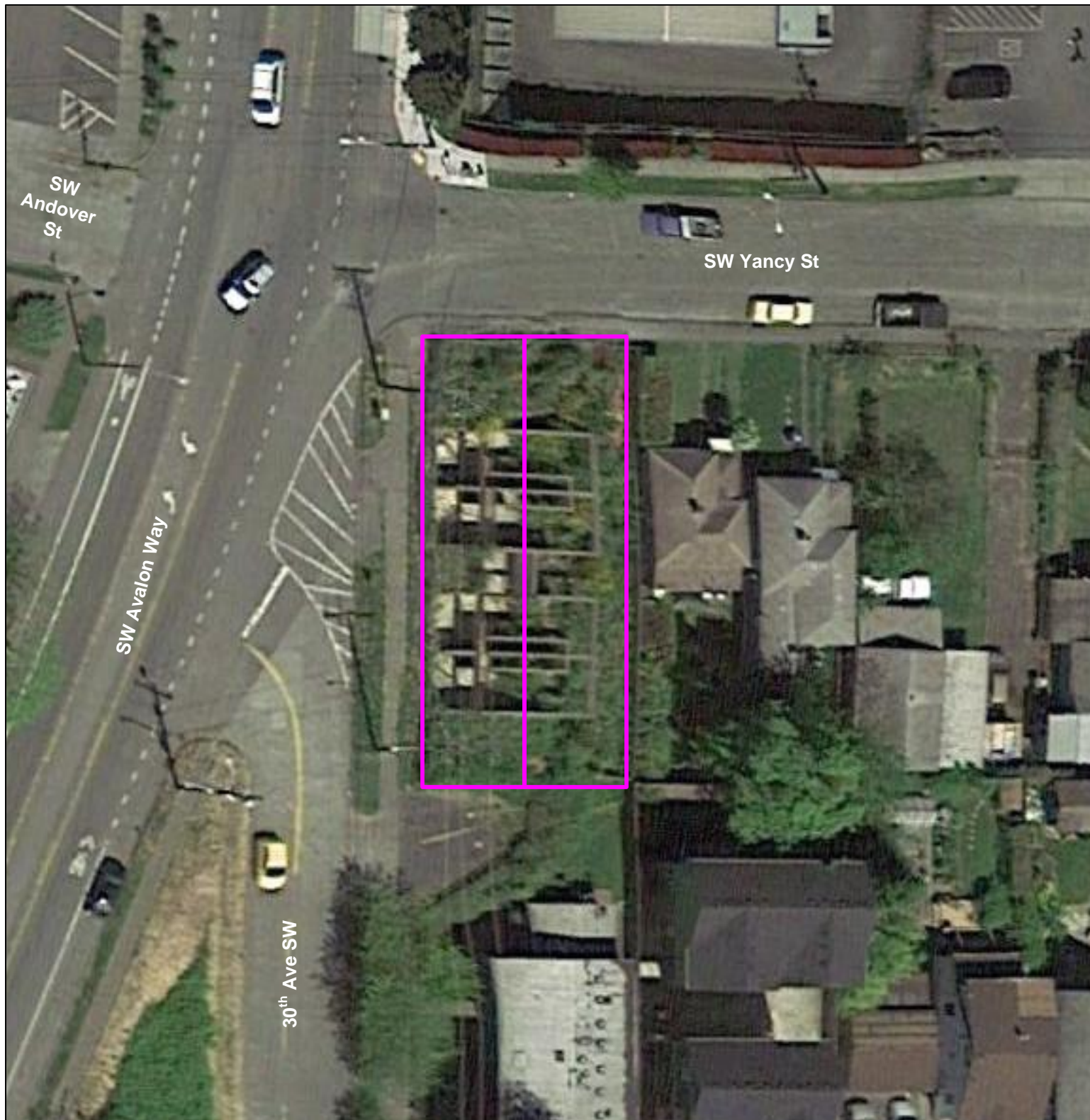
##### Final WARM Bin Ranking Matrix

Human Health Priority	Environment Priority					
	5	4	3	2	1	N/A
5	1	1	1	1	1	1
4	1	2	2	2	3	2
3	1	2	3	4	4	3
2	2	3	4	4	5	3
1	2	3	4	5	5	5
N/A	3	4	5	5	5	NFA


##### Quintile Values for Route Scores - February 2015 Values

Quintile	Human Health			Environment	
	Surface Water	Air	Ground Water	Surface Water	Air
5	>= 30.7	>= 37.6	>= 51.6	>= 50.9	>= 29.9
4	>= 23.1	>= 23.8	>= 40.9	>= 31.2	>= 22.5
3	>= 14.1	>= 15.5	>= 33.2	>= 23.6	>= 14.0
2	>= 7.0	>= 8.5	>= 23.5	>= 11.0	>= 1.6
1	<= 6.9	<= 8.4	<= 23.4	<= 10.9	<= 1.5

Quintile value associated with each route score entered above



Legend:

 Property location (approximate)

Notes:

1. All locations are approximate, and not to scale.



**Bayview Development Partners**  
**4050 30<sup>th</sup> Ave SW**  
**Seattle, WA 98126**



**Site Overview Map**

**CSID 2591**  
 CSID2591.vsd