SITE HAZARD ASSESSMENT
Worksheet 1
Summary Score Sheet

SITE INFORMATION:

Cleanup Site ID: 5652

Coatings Unlimited Inc Kent

Facility/Site ID: 18965792

18420 68th Ave S

Kent, King County, WA 98032

Section:	36	Latitude:	47.43731
Township:	23N	Longitude:	-122.24597
Range:	4E	Tax/Parcel ID:	6407600050

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

SITE DESCRIPTION:

The Coatings Unlimited Inc Kent site (Site) is a former and current industrial coatings company located in Kent, King County, Washington. The 6.55-acre property is located approximately 310 feet from the Green River, and zoned for industrial (M1) use.

Adjacent properties include an office park to the west, an industrial business park to the south, a warehouse to the east, and a private residence and office to the north. The Site is located south of South 182nd Street and is bordered on the west by 68th Avenue South and on the east by 72nd Avenue South.

The Site is currently operated as Coatings Unlimited, Inc by Snider & Associates LLC.

Current activities at the Site include the base of operations and shop for an industrial coatings company. The company's offices are also located at the Site.

SITE BACKGROUND:

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

From	To	Operator/Tenant	Activity
	1998	Sullivan Group	
1998	2003	CAM Properties	Coatings Unlimited, Inc.
2003	2015	Snider & Associates LLC	Coatings Unlimited, Inc.

SITE CONTAMINATION:

In 1991 the Coatings Unlimited Inc Kent site was reported to Washington State Department of Ecology (Ecology) and placed on the Leaking Underground Storage Tank (LUST) list.

Based on a summary provided in a subsequent report (Environmental Associates, Inc., 2003), two USTs (one diesel, one gasoline) were removed from the Site in 1987. In 1990, two soil borings (names and exact locations unknown) were advanced at the Site in the former UST area, and soil samples were collected from the boring locations. Groundwater was encountered at approximately 7.5 feet below ground surface (bgs), but was not sampled. One of the soil samples reportedly contained motor oil-range hydrocarbons at a concentration of 580 milligrams per kilogram (mg/kg). Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not present in the soil samples at concentrations greater than MTCA Method A cleanup levels.

Based on the summary by Environmental Associates, Inc., surface soil sampling conducted in 1991 indicated that chromium- and lead-impacted soil was present at the Site near the blast room at depths of 0-6 inches bgs. Twenty-eight cubic yards of metals-impacted soil were excavated and removed from the property from near the blast room; however, metals-impacted soil located beneath the onsite building was left in place. Concentrations of toluene (18 mg/kg) and xylenes (17 mg/kg) in surface soil samples were reportedly below the MTCA cleanup levels at the time, but are above the current MTCA Method A cleanup levels of 7 mg/kg for toluene and 9 mg/kg for xylenes.

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In 2000, five soil borings were advanced at the Site (B-1 through B-5) by TerraSolve. Soil samples were collected from each location and analyzed for volatile organic compounds (VOCs). Concentrations were less than laboratory reporting limits in all locations.

A Phase I Environmental Site Assessment (ESA) was conducted at the Site by Environmental Associates, Inc. in 2003. Several recognized environmental conditions were observed, including potential historic releases of petroleum products and solvents from a sump located either on the property, or on the south-adjacent property; potential groundwater impacts associated with the undeground storage tanks (USTs) formerly located at the Site; and remaining metal-impacted soil beneath onsite buildings. Some of the conditions recognized by Environmental Associates, Inc. were based on their review of previous reports prepared about the Site, however these reports were not available for review in Ecology's files.

In 2003, five borings (B1, B3, S2, S4, and S5) were completed in the former UST area, and soil samples from B1 and B3 were analyzed for gasoline-, diesel-, and oil-range hydrocarbons and BTEX constituents, none of which were present at concentrations above MTCA Method A cleanup levels. Borings B6 through B16 were completed along the southern border of the property. Groundwater samples were collected from each location, and vinyl chloride was detected in samples collected from borings B6, B9, B10, and B13 at concentrations above the MTCA Method A cleanup level; 1,2-dichloroethane was detected at a concentration greater than the MTCA Method A cleanup level in groundwater from borings B10 and B13.

The Site joined the Voluntary Cleanup Program (VCP) in 2003, and was terminated in 2007 due to inactivity.

PAST REMEDIATION ACTIVITIES:

An air sparging system consisting of 5 wells was installed at the Site in 2004, and was reportedly operated until December 2006. The current status of the air sparging system is unknown.

In 2005, groundwater was sampled from wells MW-1 through MW-3. Vinyl chloride was detected in groundwater samples from wells MW-1 and MW-2 at concentrations above the MTCA Method A cleanup level.

In February and March 2008, eight soil borings (B6 through B14) were advanced at the Site, north of the existing building. Soil samples did not contain concentrations of VOCs above laboratory reporting limits. Concentrations of vinyl chloride in groundwater samples from locations B8 and B9 were greater than the MTCA Method A cleanup level. Cis-1,2-dichloroethylene (cis-1,2-DCE) was detected above laboratory reporting limits in groundwater from borings B8, B9, and B12, though only the sample collected from B9 contained a concentration above the MTCA Method B cleanup level.

CURRENT SITE CONDITIONS:

Vinyl chloride and cis-1,2-dichloroethylene were detected in Site groundwater in 2008, and 1,2-dichloroethane was present in Site groundwater in 2003. The source of these constituents is unknown. Chromium- and lead-impacted soil is still present at the Site near the blast room, beneath the building foundation. Toluene and xylene were also previously detected beneath the building foundation at concentrations above MTCA Method A cleanup levels. It is unclear if groundwater has been analyzed for metals.

VOCs are present in groundwater on the south side of the property line with the southern-adjacent Site, West Valley Business Park. These releases may be coincident.

The approximate depth to groundwater is 4 feet below ground surface, with groundwater flowing to the north, towards the Green River. Subsurface soils are gravel, silt, and sand.

SPECIAL CONSIDERATIONS:

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

☑ **Surface Water**

The Site is located approximately 310 feet from the Green River. Impacted groundwater at the Site has the potential to discharge to the Green River.

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☑ **Air**

Release of volatile compounds occurred to subsurface soil.

☑ **Groundwater**

Impacted groundwater is present at the Site.

In 1998 and 1999, groundwater on the southern-adjacent property (West Valley Business Park) contained vinyl chloride and cis-1,2-dichloroethylene at concentrations above the MTCA Method A or B cleanup levels. The source of VOCs in groundwater is unknown. Subsequent groundwater samples collected in 2002 and 2008 did not contain either contaminant of concern at concentrations above the MTCA Method A cleanup levels; however, four consecutive quarters of groundwater monitoring with concentrations below cleanup levels have not been reported to Ecology.

Surface water rights in Angle Lake were not considered in the scoring for this Site, as Angle Lake is located upgradient of the Site.

ROUTE SCORES:

Surface Water/ Human Health:	9.8	Surface Water/ Environment:	19.6
Air/ Human Health:	7.3	Air/ Environment:	1.8
Groundwater/ Human Health:	47.0		

Overall Rank: 4

REFERENCES:

1 Ecology Water Resources Explorer, accessed April 2015. https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx

2 Environmental Associates, Inc., 2003, Phase I Environmental Assessment, Industrial Park, 18250 - 18430 - 68th Avenue South, Kent, Washington 98032. Prepared for Coatings Unlimited, Inc. 8 August.

3 Environmental Management Services, LLC, 2003, Corrective Action Plan, Vinyl Chloride Remediation, 18420 68th Avenue S., Kent, Washington. Prepared for CAM Properties. 8 December.

4 Environmental Management Services, LLC, 2003, Limited Groundwater Sampling Project. Prepared for Coatings Unlimited. 1 October.

5 Environmental Management Services, LLC, 2005, Quarterly Sampling Report - 1st Quarter 2005. 31 March.

6 Environmental Management Services, LLC, 2008, Subsurface Investigation Soil & Groundwater Delineation Report. Prepared for CAM Properties. May 5.

7 Environmental Management Services, LLC, 2008, Subsurface Site Investigation, 18401-18652 172nd Avenue South (West Valley Business Park), 18420 68th Avenue South (CAM Properties/Coatings Unlmited), Kent, Washington, 98032. February 15.

8 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed April 2015. http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx

9 LSI Adapt, Inc., 2003, Third Party Peer Review, Phase I Environmental Site Assessment Report and Settlement Agreement, Industrial Park (Coatings, Inc.), 18250 - 18430 - 68th Avenue South, Kent, Washington. 25 August.

10 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. http://mcdc.missouri.edu/websas/caps10c.html. Accessed April 2015.

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11 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

12 Prologis, 2015, Letter Re: Site Hazard Assessment - West Valley Business Park, 18401-18652 72nd Avenue South, Kent, Washington. August 10.

13 TerraSolve, 2000, Final Report, Soil Analysis Project, 18250 68th Avenue S, Kent, WA 98032. Prepared for Mr. Peter Coates. 23 March.

14 WARM Scoring Manual

15 WARM Toxicological Database

16 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIspoluvials.pdf

SITE HAZARD ASSESSMENT
Worksheet 2
Route Documentation

Cleanup Site ID: 5652 Coatings Unlimited Inc Kent

Facility/Site ID: 18965792

1. SURFACE WATER ROUTE

List those substances to be considered for scoring:

Vinyl chloride, cis-1,2-dichloroethylene and 1,2-dichloroethane

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

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

List those management units to be considered for scoring:

Surface water

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

Potential for groundwater to discharge to surface water in the Green River

2. AIR ROUTE

List those substances to be considered for scoring:

Vinyl chloride, cis-1,2-dichloroethylene and 1,2-dichloroethane

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

Prior detection in Site groundwater at concentrations above 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:

Vinyl chloride, cis-1,2-dichloroethylene and 1,2-dichloroethane

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

Prior detection in Site groundwater at concentrations above 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:

Presence in groundwater

Worksheet 4

Surface Water Route

CSID: 5652 **Site Name:** Coatings Unlimited Kent

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Vinyl chloride	8	5	X	7
1,2-dichloroethane	8	5	X	4
cis-1,2-dichloroethylene	6	X	3	X

Highest Value 8

Bonus Points? 2

Human Health Toxicity Value 10

1.2 Environmental Toxicity

Substance	Acute Water Quality Criteria ug/L	Value	Non-human Mammalian Acute Toxicity mg/kg	Value
Vinyl chloride	X	X	500	5
1,2-dichloroethane	118000	2	670	5
cis-1,2-dichloroethylene	11600	2	X	X

Environmental Toxicity Value 5

1.3 Substance Quantity

Amount: Approximately 3,500 square feet

Basis: Estimated extent of impacted groundwater

Substance Quantity Value 7

2.0 Migration Potential

2.1 Containment Containment Value 4

Explain Basis: Spill may have occurred at the surface, however unmaintained or ineffectively maintained runoff controls exist

2.2 Surface Soil Permeability Soil Permeability Value 1

Gravelly silty sand

2.3 Total Annual Precipitation Total Precipitation Value 3

37 inches

2.4 Max 2-yr/24-hour Precipitation 2YR/24HR Precipitation Value 3

2.4 inches

2.5 Floodplain Floodplain Value 0

Not in the floodplain

2.6 Terrain Slope Slope Value 1

Less than 2% slope

Worksheet 4

Surface Water Route

CSID: 5652 **Site Name:** Coatings Unlimited Kent

3.0 Targets

3.1 Distance to Surface Water	Surface Water Distance Value	10
Approximately 310 feet to the Green River		
3.2 Population Served within 2 miles	Population Value	0
0 people		
3.3 Area Irrigated within 2 miles	Irrigation Value	13
299 acres		
3.4 Distance to Nearest Fishery Resource	Fishery Value	12
Approximately 310 feet to the Green River		
3.5 Distance to and Name of Nearest Sensitive Environment	Sensitive Environment Value	12
Approximately 310 feet to the Green River		

4.0 Release	Release to Surface Water Value	0

Explain basis for scoring a release to surface water

No confirmed release to surface water

Pathway Scoring - Surface Water Route, Human Health Pathway

$SW_H = (SUB_{SH}*40/175)*[(MIG_S*25/24) + REL_S + (TAR_{SH}*30/115)]/24$

Where:

SUB_{SH} = (Human Toxicity Value + 3)*(Containment + 1) + Substance Quantity	SUB_{SH}	72
MIG_S = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope	MIG_S	8
REL_S = Release to Surface Water	REL_S	0
TAR_{SH} = Distance to Surface Water + Population Served by Surface Water + Area Irrigated	TAR_{SH}	23.0
	SW_H	9.8

Pathway Scoring -Surface Water Route, Environmental Pathway

$SW_E = (SUB_{SE}*40/153)*[(MIG_S*25/24) + REL_S + (TAR_{SE}*30/34)]/24$

Where:

SUB_{SE} = (Env Tox Value + 3) * (Containment + 1) + Substance Qty	SUB_{SE}	47
MIG_S = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope	MIG_S	8
REL_S = Release to Surface Water	REL_S	0
TAR_{SE} = Distance to Surface Water + Distance to Fishery + Distance to Sensitive Environment	TAR_{SE}	34.0
	SW_E	19.6

Worksheet 5

Air Route

CSID: 5652 **Site Name:** Coatings Unlimited Inc Kent

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
Vinyl chloride	10	1	X	X
1,2-dichloroethane	10	5	X	4
cis-1,2-dichloroethylene	1	3	X	X

Highest Value 10

Bonus Points? 2

Toxicity Value 12

1.3 Mobility

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

Mobility Value 4

1.4 Final Human Health Toxicity/Mobility Matrix Value **HH Final Matrix Value** 24

1.5 Environmental Toxicity/Mobility

Substance	Non-human Mammalian Inhalation Toxicity (mg/m3)	Acute Value	Mobility Value	Table A-7 Matrix Value
Vinyl chloride	460123	1	4	2
1,2-dichloroethane	4047	5	4	10
cis-1,2-dichloroethylene	65000	3	4	6

Env. Final Matrix Value 10

1.6 Substance Quantity

Amount: Approximately 3,500 square feet

Basis: Estimated extent of impacted groundwater

Substance Quantity Value 5

Worksheet 5

Air Route

CSID: 5652 **Site Name:** Coatings Unlimited Inc Kent

2.0 Migration Potential

2.1 Containment Containment Value 5

Explain Basis: At least 2 feet of soil cover but no vapor collection system present

3.0 Targets

3.1 Nearest Population Population Distance Value 10

Approximately 800 feet to a hotel/extended stay residence

3.2 Distance to and name of nearest sensitive environments Sensitive Environment Value 6

Approximately 1,100 feet to Springbrook Greenbelt

3.3 Population within 0.5 miles Population Value 3

9 population

4.0 Release Release to Air Value 0

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} =(Human toxicity + 5) * (Containment + 1) + Substance Qty	SUB_{AH}	179
REL_A = Release to Air	REL_A	0
TAR_{AH} = Nearest Population + Population within 1/2 mile	TAR_{AH}	13.0
	AIR_H	7.3

Pathway Scoring - Air Route, Environmental Pathway

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

Where:

SUB_{AE} =(Environmental Toxicity Value +5)*(Containment +1) +Substance Qty	SUB_{AE}	95
REL_A = Release to Air	REL_A	0
TAR_{AE} = Nearest Sensitive Environment	TAR_{AE}	6.0
	AIR_E	1.8

Worksheet 6

Groundwater Route

CSID: 5652 **Site Name:** Coatings Unlimited Inc Kent

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Vinyl chloride	8	5	X	7
1,2-Dichloroethane	8	5	X	4
cis-1,2-dichloroethylene	6	X	3	X

Highest Value 8

Bonus Points? 2

Toxicity Value 10

1.2 Mobility

Cations/Anions Max Value:

Solubility Max Value: 3 Mobility Value 3

1.3 Substance Quantity

Amount: Approximately 400 cubic yards

Basis: Estimated volume of impacted soil

Substance Quantity Value 3

2.0 Migration Potential

2.1 Containment Containment Value 10

Explain Basis: Contaminated soil

2.2 Net Precipitation >10 to 20 inches Net Precipitation Value 5

2.3 Subsurface Hydraulic Conductivity Conductivity Value 3

gravel, silt, and sand

2.4 Vertical Depth to Groundwater 4 feet

Confirmed release: Yes Depth to Aquifer Value 8

3.0 Targets

3.1 Groundwater Usage Aquifer Use Value 4

Private supply, but alternate sources available with minimum hookup requirements

3.2 Distance to Nearest Drinking Water Well 500 feet

Well Distance Value 5

3.3 Population Served within 2 Miles Population Served Value 7

51 people

Worksheet 6

Groundwater Route

CSID: 5652 **Site Name:** Coatings Unlimited Inc Kent

3.4 Area Irrigated by GW Wells within 2 miles Area Irrigated Value 7

95 acres

4.0 Release Release to Groundwater Value 5

Explain basis for scoring a release to groundwater:

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} =(Human toxicity + mobility + 3) * (Containment + 1) + Substance Qty	SUB_{GH}	179
MIG_G=Depth to Aquifer+Net Precip + Hydraulic Conductivity	MIG_G	16
REL_G = Release to Groundwater	REL_G	5
TAR_{GH} = Aquifer Use + Well Distance + Population Served + Area Irrigated	TAR_{GH}	23.5
	GW_H	47.0

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Coatings Unlimited Inc Kent **CSID:** 5652

Site Address: 18420 68th Ave S, Kent, 98032 **FSID:** 18965792

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	9.8	2
Air	7.3	1
Groundwater	47.0	4

H= 4
M= 2
L= 1

$$\frac{H^2 + 2M + L}{8} = \frac{16 + 4 + 1}{8}$$

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	19.6	2
Air	1.8	2

H= 2
L= 2

$$\frac{H^2 + 2L}{7} = \frac{4 + 4}{7}$$

Environment Priority Bin Score: **2**

rounded up to next whole number

Comments/Notes:

FINAL MATRIX RANKING **4**

FOR REFERENCE:

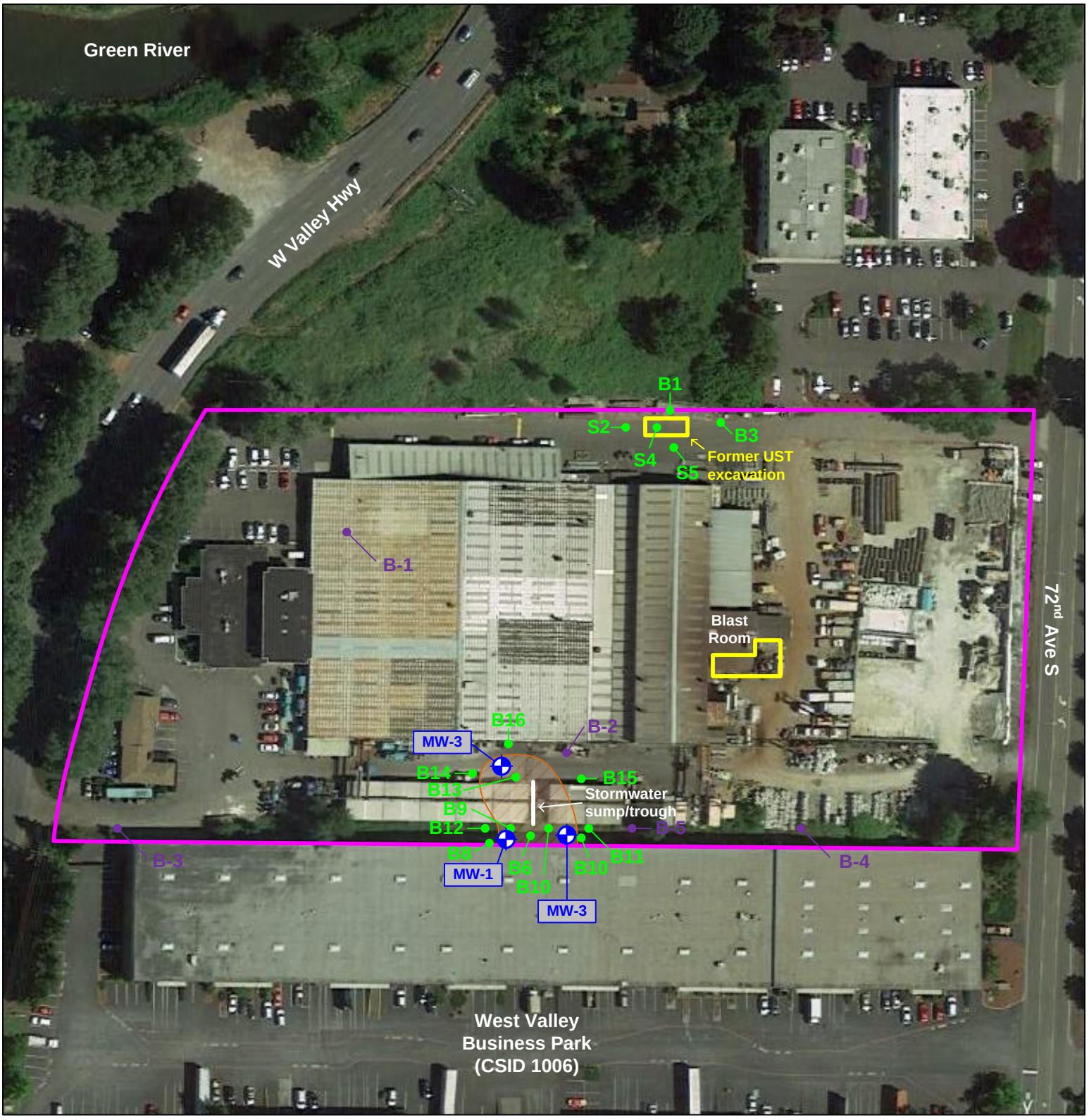
Final WARM Bin Ranking Matrix

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 Surface Water	Human Health Air	Human Health Ground Water	Environment Surface Water	Environment 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)
- Excavation area (approximate)
- Extent of vinyl chloride groundwater plume (approximate)
- Monitoring well (approximate)
- 2000 Soil boring (approximate)
- Soil and/or groundwater sample (approximate)

Notes:

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

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Coatings Unlimited Inc Kent
18420 68th Ave S
Kent, WA 98032

DEPARTMENT OF ECOLOGY
State of Washington

Site Overview Map

CSID 5652
CSID5652.vsd