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Ref. No. 926070.01/015435.00010

June 2, 2014

Michelle Mullin, Project Manager
U.S. Environmental Protection Agency - Region 10
1200 Sixth Avenue, Suite 900, OCE-084
Seattle, WA 98101

Re: Rainier Commons, LLC – Old Rainier Brewery Exterior Paint Abatement
Supplement to Phase I Individual Phased Work Plan (IPWP)

Dear Ms. Mullin:

EPA approved the Rainier Commons application for risk based approval of its Work Plan for Exterior Paint Removal by way of its conditional approval dated December 18, 2013. Rainier Commons submitted its Individual Phased Work Plan for the Phase I Work, on April 3, 2014 satisfying the conditions in the formal approval and additional requirements and supplements requested by EPA. After reviewing the IPWP for Phase I Work, EPA followed up with Rainier Commons on various questions that were answered and then May 15, 2014 EPA issued a list of 34 items requiring clarification, which were addressed on a preliminary basis in a phone conference on May 16, 2014. This correspondence additionally responds to those 34 items, at EPA's request. This letter and its attachments are a supplement to the Work Plan and the IPWP for Phase I.

1. King County wants SD-1 and CB-5 sampled and analyzed as well as the three locations you identified. You mentioned in our call on 2/11/14 that those may not have sediment, or may be covered by the containment structure. If so, you planned to note that in the report. The Phase I IPWP did not reflect any of this conversation. You must include these locations in the sampling plan.

These locations were not additionally referenced in the IPWP as Rainier Commons believed they had been removed from the sampling plan by agreement in the 2/11/14 conference call with EPA for the practical reasons discussed. Rainier Commons has confirmed with EPA that the SD-1 trench drain is covered by the containment on the east side of Building 13. CB-5 next to Building 11 similarly will be blocked or partially blocked by the containment. Any portion of these drains that is not full covered by the containment will be covered and sealed

with an impermeable material, during the hours of blasting work. In addition, those locations feed into the locations that are being sampled. Thus, any sediment or aqueous solution that is contained in the SD-1 trench drain and CB-5 areas would be reflected or represented in the samples collected from the Sample 1 and Sample 3 locations, in all events.

2. The King County discharge authorization is 0.1 micrograms per Liter (ug/L). Therefore, the action level for PCBs in water is 0.1 ug/L. This is stated in the RBDA. Both the General Workplan, the Phase I IPWP and a recent email from RC/NVL all continue to use 1ppm as the action level. 1 ppm (or 1 mg/kg) is the action level for PCBs in sediments. 0.1 ug/L is the action level for PCBs in water. Laboratory detection limits/reporting limits must be adequate for both of these levels.

Understood, for all purposes of the Work Plan and the IPWP, a concentration of PCBs in aqueous samples, in excess of 0.1 ug/L would be the action level. All references to aqueous samples from catch basins are considered by Rainier Commons to be amended to reflect the 0.1 ug/L as the maximum concentration level for PCBs in water and if exceeded will trigger additional action.

3. The RBDA only approved the use of blasting material identified in the General Workplan, which did not include copper slag or chemical strippers. At this time, neither of those materials are approved for abating the paint at the property. I understand that chemical strippers may be necessary for paint adhered to window frames, etc. Please send me information for the strippers you plan to use, including MSDS, application and disposal plans, and any other information that is necessary to determine the safety and environmental risk of using such a product. Copper slag is not approved for use at this time.

See product information sheets attached as a part of Exhibit 1 attached hereto. Any and all waste related to the chemical stripping required for metal substrates, such as window frames, which may include but not be limited to wipe rags, paper or other material used to cover the stripper while curing, and the stripper itself, will be drummed and labeled for disposal to be characterized and directed to the appropriate waste facility by the waste disposal sub-contractor at the end of the Phase I work, according to all applicable regulations.

4. You have provided an inventory of the inlets in the form of a map. On the 2/11/14 call I also requested a table that listed each inlet, it's feature attributes and lat/long coordinates. Please provide this table.

Rainier Commons provided a table of the inlets at issue in the Phase I Work with the IPWP. Rainier Commons does not have the latitude and longitude position of each of its inlets to the sanitary sewer. Rainier Commons is generally located at

3100 Airport Way South, Seattle, Washington 98134. A table of inputs previously developed by CDM is also included here as Exhibit 2.

5. The QA is still inadequate. I do note that you did include more specifics regarding duplicate and lab QA samples. And you did include the RPD required to accept the duplicate results. However, you did not include any parameters for how you will determine when to use or reject the sample results in general- such as what level of completeness is acceptable? You did not list the Reporting Limits for the analysis. I do not know if the analysis will be sensitive enough to detect contamination at the action levels. You mentioned the volume needed for your samples, but not for the QA samples. Do you need to collect extra volume for the lab-run MS/MSD, for example? You did not include any sampling QA such as equipment blanks or rinsate blanks.

See NVL supplemental responses as follows:

Parameters for how you will determine when to use or reject the sample results in general – such as what level of completeness is acceptable.

The decision to use or reject sample results is based on the surrogate recovery to determine if an extraction is complete. The exact parameters are set using a control chart based on previous sampling results. In general, the parameters are typically between 50 to 150 percent. Also, the matrix spike needs to be within the control charted levels, which is typically 65 to 135 percent.

You did not list the Reporting Limits for the analysis.

Liquid 0.1 ug/L
Soil 0.1 mg/Kg

I do not know if the analysis will be sensitive enough to detect contamination at the action levels.

The Reporting Limits for Aroclors = 0.1 ug/L (Liquid) which is the same as the King County Screening Limit = 0.1 ug/L.

You mentioned the volume needed for your samples, but not the QA samples.

Three times the sample volume, for example, if the sample volume collected is one liter, three liters need to be collected for the matrix spike.

Do you need to collect extra volume for the lab run MS/MSD, for example?

Yes. As referenced above, three times the sample volume, for example, if the sample volume collected is one liter, three liters need to be collected for the matrix spike.

You did not include any sampling QA such as equipment blanks or rinsate blanks?

Due to cost and to avoid the potential for any cross contamination, collection device equipment will be disposable, where possible, and/or sufficient quantity of, for example, trowels will be present for the sampling round to facilitate clean scoops for each sample for that sampling round. As a result, there are no rinsate blanks to be collected.

6. What if your sediment scoops include a lot of water? Recommend putting into a container, letting settle, then decanting.

Agreed, Rainier Commons will generally follow the procedure set forth by King County in Section 3.1 at page 7 of its East Waterway Source Tracing in King County Combined Sewer System Sampling and Analysis Plan document. Overlying water collected with the sediment will be allowed to decant from the sample container and be returned to the sewer line.

7. Inlets under the containment structure need to be separately wrapped/protected (CB-5 according to scaffold drawings). You did mention completely sealing some of the manholes, I just want to ensure that any inlet under the structure is also separately sealed.

Agreed and understood if fully under the containment structure. If partially under, portions not fully under will be sealed during blasting hours, but may be uncovered during non-blasting periods to prevent excessive ponding of any storm water on site, if precipitation levels warrant.

8. Pre-blasting you mentioned that you would inspect all of the filter fabric and clean or replace them if necessary. Not mentioned specifically in the IPWP, though you do mention the ongoing inspection and cleaning. I just want to be clear that you will do a specific inspection to ensure all filters in place are intact and clean.

Yes that was the intent of the statement in the IPWP. A special pre-Work inspection will be performed and any and all maintenance will be carried out at that time, in addition to the regular maintenance schedule.

9. You mention appropriate decon of tools for sampling the substrate, but I don't recall seeing that for the sediment and aqueous samples as well. Please ensure that all sampling equipment is either disposed between uses or provide decon plans.

Due to cost and to avoid the potential for any cross contamination, collection device equipment will be disposable, where possible, and/or sufficient quantity of, for example, trowels will be present for the sampling round to facilitate clean scoops for each sample for that sampling round. Decontamination of any sampling equipment that is not disposable will follow the general procedure and protocol outlined in the concrete substrate sampling plan.

10. Aqueous sampling plan- I would like to see in the schedule a plan to use the weather forecast to plan the sampling event. You should attempt to collect catch basin samples during or immediately following rain events, as practicable. I understand this may not always be feasible, which is why documenting the weather forecast will be helpful.

Understood, Rainier Commons will make best efforts to comply with the recommendation regarding timing of collection of aqueous samples as outlined in item 10 above, and it will consult the NOAA weather forecast for the Seattle area (<http://www.wrh.noaa.gov/sew/>) and/or other credible weather news source to assist in planning for collection of adequate aqueous sampling, before each round.

11. The workplan mentions that wet wiping will occur on the substrate prior to visual inspection- what will be the "wet" material, water?

See CGI clarification at Exhibit 1 attached hereto. The substrate will be brushed and HEPA vacuumed.

12. Workplan mentions storing equipment, and disposal materials, but does not explicitly state in accordance with 761 storage requirements at 65(b) or (c). Must ensure compliance with 761, as stated in the RBDA. Also, the staging area is described, but where will the full containers be stored?

See CGI clarification at Exhibit 1 including recognition of adherence to PCB regulations. It is understood that Rainier Commons and its contractors will adhere to all applicable PCB rules and regulations in the conduct of all aspects of the Work.

13. Backflow protection needs to be installed on water sources used for the showers, etc. to prevent contamination.

See Exhibit 1 confirming backflow prevention check valve to be installed on water sources as requested.

14. What is the total height of the scaffolding? Will it be installed applicable to OSHA/WISHA and manufacturers standards? Include a statement as such.

See CGI clarification at Exhibit 1 confirming compliance with all applicable regulations and standards including WISHA.

15. How will water collection effectively work in the containment area? It will be trapped on the plastic sheeting within the straw waddle berm, but then what?

Water used in the containment should be minimal, primarily for workers personal wash. If any water escapes the initial area, and it should not, it will be contained within the bathtub type lip of the base of the containment and shop vacuumed up and drummed immediately. If any water manages to escape the layers of structured containment, a secondary barrier of straw waddle will trap and adsorb any such water. In addition, absorbent spill kit materials will be kept on hand to immediately trap and absorb any water that is not trapped within the impermeable container or "bathtub" style flooring of the containment.

16. Have you considered having a wearing surface on top of the plastic sheeting on the ground, to prevent punctures and tears? Such as planks of wood or aluminum?

Yes. See the description in the CGI supplement attached at Exhibit 1 hereto regarding sacrificial, replaceable wear layers among other layers for containment.

17. How will the plastic sheets be sealed between the building and the scaffolding? Example photos show tape, drawing shows caulk- what is the plan?

Caulk or foam sealant will be used in most, if not all instances. See CGI supplement at Exhibit 1.

18. Numbers and units seem to be off in the calculation on airflow.

See CGI clarification at Exhibit 1.

19. Will need to ensure that spent blasting media and waste are also sampled to comply with WA Dangerous waste rules.

Yes. All waste will be appropriately characterized prior to designation for waste disposal facility including compliance with Washington State Dangerous Waste rules and regulations to the extent that those rules and requirements may determine the correct facility to which any and all waste, including, but not limited to dry blasting media waste, personal protection equipment and containment enclosure material, wet waste and/or water or liquid waste.

20. Demonstration project showed that sand was very aggressive to the substrate, and soda was not effective. Walnut shells were best, but aren't mentioned in the IPWP.

The IPWP incorporates the Work Plan by reference and all three media are referenced and considered viable options. The contractor will need the flexibility to make a field judgment call to change the blasting media as the work progresses according to results being achieved. Therefore, the contractor should not be constrained to any one particular blasting media and additives like copper slag or other similar blasting abrasive additives commonly used in this type of paint abatement work is reserved where industry standards would commonly utilize such additives. Product information for sample copper slag as an abrasive or as an additive are submitted herewith. If Rainier Commons is to achieve the goal of complete paint removal all viable blasting media commonly accepted in the industry should be considered available for approval if the need for an alternative presents itself in the field to achieve that goal. Rainier Commons requests EPA project manager approval for the copper slag product as an approved blasting media as attached on Exhibit 1. CGI was not the contractor on the pilot project and is an experienced paint remediation contractor. CGI currently believes the proposed product is the best candidate to achieve remediation goals while being protective of the building to the greatest extent possible. CGI explained, in the May 16, 2014 conference, that the copper slag has the ability to bite and tear the surface of the paint at a superior level with low dust creation, which are both desirable characteristics for the Work.

21. May want to use Aluminum planks instead of wood, to prevent PCBs from contaminating the wood. Otherwise will need to decon and sample to ensure they are not contaminated.

CGI is planning to utilize steel and/or aluminum planking. See Exhibit 1.

22. What is the waste sampling and analysis plan?

CGI is subcontracting the waste profiling and disposal work to Kleen Environment and all applicable rules and regulations will be adhered to for each type of waste, including but not limited to dry blasting media, personal protection and containment material, wet waste and water and/or liquid waste. See Exhibit 1. Rainier Commons understands that incineration may be required as to some of

this remediation waste. Rainier Commons reserves the right to appropriately characterize and dispose of any and all remediation waste that may qualify for disposal other than by incineration as may be allowed under all applicable rules and regulations.

23. Waste containers also need the date out of service for PCB waste.

Understood, Rainier Commons will follow the requirements outlined in EPA email of May 21, 2014, in follow up to the May 16, 2014 conference on this subject referencing among other regulations 761.65.(a)(1) and 761.65(c)(9). The contractor will include the date the PCB waste was removed from service, which means removed from the building, on each drum. The earliest date that PCB waste is removed from service and the drum is started to be filled will be the date placed upon the label for the out of service date.

24. CGI Workplan states “hazardous material”- this needs to be clearly “PCB wastes regulated for disposal or wastes that designate as dangerous waste pursuant to WAC 173-303”

Understood, this will be followed.

25. Where are you sending the collected waste water? Can't go to a landfill.

See item 22 above. Rainier Commons understands that PCB contaminated liquid waste may require disposal by incineration, unless cost of disposal and volume of waste justifies disposal contractor to set up filtration and treatment on site prior to disposal, which is not currently under consideration, but due to high cost of waste handling and disposal, Rainier Commons reserves the right to make any and all appropriate waste disposal arrangements that are available to it under all applicable laws and regulations, when the Phase I Work is complete and actual volumes of each category of waste are known, in consultation with the qualified waste disposal contractor.

26. Air monitoring- what is the sampling and QA plan? What are the MDL/RL?

The air sampling plan is to follow NIOSH Method 5503, attached hereto as Exhibit 3.

Per this method, with a 100 Liter air volume, the

RL = 0.01 mg/m³ or 10 ug/m³

MDL = 0.005 mg/m³ or 5 ug/m³

27. All field personnel must be aware of the RBDA.

Understood, they will be so informed at preconstruction meeting and as necessary throughout the Work.

28. Spill plan does not have any mention of 761 Subpart G- Spill Cleanup Policy. All PCB spills or releases must be cleaned up in accordance with that part of the regulations.

Understood, see supplement to CGI site specific work plan at Exhibit 1 attached.

29. HASP is not site specific, and only applies to CGI- what site specific health and safety plan procedures will be implemented to cover all the work being conducted by all parties?

See additional NVL HASP included here at Exhibit 4. To the extent that any person enters the containment they will adhere to the CGI HASP. Rainier Commons personnel that continue to conduct regular source control tasks such as filter sock replacement, hand collection of paint chips, vacuuming of paint chips or other site debris will continue to wear protective gloves and mask. Any additional source control tasks, which may include additional rounds of visual inspection of filter socks and visual inspection of the exterior condition of the containment and grounds adjacent to the containment while the blasting work is on-going, but that is outside of the contractor's established work area and does not require any physical contact with paint chips, will not require special personal protection.

30. In the Containment section drawing- what is the "4x4 cant"?

It is a rigid strip of building material installed at the base perimeter of the containment to provide the outside edge of the containment structure, rigidity and additional puncture protection.

31. NVL roof drain protection includes RD41 on Building 13, and RD 43 on Building 23 and RD45, 46 on Building 10 and 11. CGI plan does not include these. Ensure that all on the NVL plan are protected according to NVL's specs prior to work.

Understood, Rainier Commons will appropriately protect with filter sock at roof level or divert storm water and filter before entry into storm/sewer system. See Exhibit 5 attached.

32. Backup generator or power source to maintain neg pressure in the event of a power outage?

This was discussed and determined to not be required at the in person meeting with EPA in January due to the layered nature of the containment, the additional cost of providing this type of back-up power in a site ready status and the low likelihood of needing this type of back-up power.

33. What is the substrate on the west elevations of Bld 10 and 11? Pictures look like concrete, with stone near bottom. Was stone previously demonstrated to be PCB free?

The concrete portions at the base of the building, the stairs and landing, are not painted. The stone appears to be a form of brick. The PCBs in the dried applied paint at Rainier Commons have already been shown not to migrate to porous stone or cementitious like substrates, through substrate sampling, and specifically to be at or below 1 ppm in brick and cementitious plaster substrates. If, when the paint is removed from buildings 10 and 11, the brick-like substrate appears to be different enough from the brick and cementitious plaster substrates already demonstrated to be clear of PCB migration, then at EPA's request Rainier Commons will sample that substrate as well, with three substrate samples, generally following the sampling plan and SOP referenced therein for the concrete substrate submitted with the IPWP.

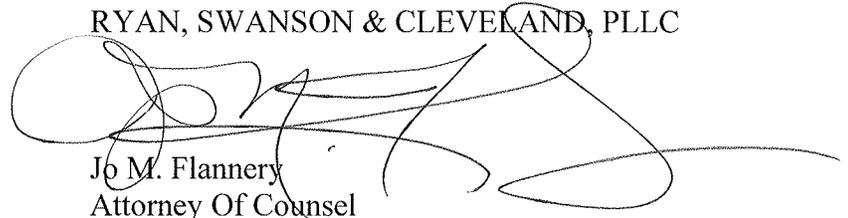
34. In the Visual Inspection addendum there is a note that the "infrequent small fleck of paint remaining post abatement is functionally unavoidable as a practical matter. Complete removal and completely clean to visual inspection will be required of the Contractor". I want to re-iterate that complete removal and completely clean is required. The statement "functionally unavoidable as a practical matter" is not a statement that EPA agreed to, and is not how the RBDA is written.

Understood, Rainier Commons is committed to making best efforts to carry out the Work Plan to the fullest extent practicable such that the substrate does not pose an unreasonable risk to human health or the environment at the completion of the Work.

We look forward to EPA's final approval of the Phase I IPWP. If you have questions please contact our office or Rainier Common's Project Manager.

Very truly yours,

RYAN, SWANSON & CLEVELAND, PLLC



Jo M. Flannery
Attorney Of Counsel

June 2, 2014

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Enclosures

cc: Client

Alex Fidis, EPA Regional Counsel (via electronic copy with enclosures)

Mark Marcell, CGI (via electronic copy with enclosures)

Dave Leonard, NVL (via electronic copy with enclosures)

**SUPPLEMENTAL AMENDMENTS TO RAINIER
COMMONS SITE SPECIFIC EXTERIOR PAINT
ABATEMENTWORK & SAFETY PLAN**

3. COPPER SLAG AND GREEN DIAMOND SAND

See attached Data Sheets for these products.

11. PCB PAINT REMOVAL

Correction to the cleaning process; Prior to inspection by NVL/EPA, "all surfaces shall be brushed and HEPA Vacuumed clean".

13. BACKFLOW PREVENTION

Water source used inside containment shall be equipped with a back-flow preventer check valve assembly.

14. SCAFFOLDING

Scaffolding erectors shall have proper certification by LNI. CGI and there subcontractor shall erect the scaffolding in compliance with WISHA and manufactures recommendations.

15. CONTAINMENT ENCLOSURE

Prior to scaffolding erection, CGI will install 1-layer of reinforced 6 mil poly, 2-layers of cardboard and 1-layer of 10-mil shrink-wrap on the ground. Scaffolding pads will then be placed at each base frame to ensure no floor puncturing. During the work, CGI will use a 6-mil poly drop to catch most of the debris and protect main layers of base floor containment. This shall be changed out periodically or as necessary to ensure no breach in containment.

17. Urethane caulking or foam will be used as necessary to seal poly containment to building and base systems.

18. NEGATIVE AIR MACHINES

2,200 CFM negative air machines (NAM's) will be utilized to create a negative pressure environment within the NPE, which will be monitored by a manometer adjacent to the P/MDU. The NAM calculations are as follows:

At least 1 NAM + 1 back-up NAM will be installed in each section of the scaffold enclosures. The NAM calculations are based on the entire scaffold enclosure volume as follows:

333 LF X 38' Average Height X 3.5' width = 44,289 FT³
44,289 FT³ X 4 air changes/hr = 177,156 FT³
177,156 FT³ / 60 minutes = 185 CFM
2,953 CFM / 1,540 CFM (2,200 @ 70% efficiency) = **1.9 NAM's**
CGI will use 4-units / work area or more if necessary.

21. SCAFFOLD PLANKING

CGI's intent is to use steel and aluminum planking systems for our work.

22. DISPOSAL PLAN

CGI has contracted with Kleen Environmental to profile all waste generated within the containment. With the caveat that if tests more favorably than schedule D facility we'll dispose pursuant to all applicable regulations.

28. SPILL RESPONSE

CGI acknowledges 761 Subpart G – Spill Cleanup Policy.

COPPERSLAG MSDS		
Product and Company Identification	Product Name	Copper Slag
	No	GSR - SDS 005
	Manufacturer Information	Manufacturer's Name PT. Smelting Gresik Smelter and Refinery Address Desa Roomo, Kecamatan Manyar PO. Box 555 Gresik 61151 Jawa Timur - Indonesia Telephone Number : 62-31-397-6458/59 Fax Number : 62-31-397-6460
Composition/ Information on Ingredients	Chemical formula	FeO-SiO ₂ -Al ₂ O ₃ -CaO
	Element and Content	FeO : 45 ~ 55 % SiO ₂ : 30 ~ 38 % CaO : 3 ~ 7 % Al ₂ O ₃ : 1 ~ 5 %
	CAS No	-
Hazard Identification	Non hazardous material	
First Aid Measures	Inhalation	None
	Eye Contact	Rinse thoroughly with water. Seek medical attention for abrasion
	Skin Contact	Wash with soap and water
	Ingestion	Seek medical attention for discomfort
Fire Fighting Measures	Flash point and method	None
	Flammable Limits	Not Combustible
	Fire fighting equipment	This product is not a fire hazard
Accidental Release Measures	Land Spill	Clean up spilled material
	Water Spill	Clean up spilled material
Handling and Storage	Handling	It is safe to handle copper slag, however recommended to use personal protection
	Storage	Open stock yard

Exposure Controls / Personal Protection	Exposure Controls	-
	Personal Protection	
	• Respirator Protection	Under ordinary condition no respiratory protection is required. Wear respirator/dust mask when exposed to dust above exposure limits
	• Eye Protection	Wear glasses or safety goggles to prevent contact with eyes
	• Skin Protection	Use gloves, shoes and protective clothing to prevent skin contact
Physical And Chemical Properties	Physical State	Solid
	Color	Grainy
	Odor	Odorless
	Boiling point	-
	Melting point	around 1200° C
	Specific gravity	
	• True	3.5-3.7
	• Apparent	1.0-2.1
	Solubility in Water	-
	Stability and Reactivity	General
Dust explosion		None
Ignition (reactivity of spontaneous ignition and water)		None
Oxidize ability		None
Combustibility		None
Toxicological Information	Skin corrosiveness	No
	Stimulation (skin and eyes)	No

Acute Toxicity (including lethal dose 50) No

Sub-acute toxicity No

Chronic toxicity No

Cancer field No

Mutation field (microorganism & abnormal chromosome) No

Genital Toxicity No

Decomposition There is no problem

Ecological Information Accumulation There is no problem

Fish toxicity There is no problem

Disposal Considerations	Dispose in landfill in accordance with all applicable regulation. Any disposal practice must be in compliance with local regulations
Transport Information	-
Regulatory Information	-
Other Information	Abbreviation CAS No Chemical Abstract Service Number

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Green Diamond Sand Products Abrasives Spec Sheet

Green Diamond Abrasives is fused magnesium ortho silicate, formed from molten lateritic ore and granulated by quenching. The quenching process produces an amorphous non-crystalline form of hard durable granule. Green Diamond Sand is non-metallic and chemically inert.

Green Diamond Abrasives are manufactured in the U.S.A.

Materials Properties

Shape: Angular to Sub Angular

Hardness: 7 on the Mohs hardness scale

Color: Green to Gray

Specific Gravity: 3.3

Bulk Density: 85 to 105 lb. Per Cu. Ft.

Certifications: QPL Mil 22262 b (SH), CARB Title 17,
AASHTO (T104-90-T12-87)

Contains no free silica

Product Specifications: See spec sheets also custom blending available

Packaging: Jumbo bags, 100 and 50 lb. paper bags

Bulk: Rail covered hoppers and trucks pneumatic or container type

Typical Analysis

Silicon Dioxide 50.9

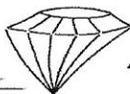
Magnesium Oxide 32.8

Iron Oxide 11.7

Aluminum Oxide 1.2

Environmental: ***Green Diamond Abrasives*** meet the TCLP (40 CFR 261.24a) Criteria prior to its use.

Green Diamond Abrasives contain no heavy metals exceeding the levels of the TCLP.

**GREEN  DIAMOND
SAND PRODUCTS**

ABRASIVE PRODUCTS

(1636, 2050, 3060)

**MATERIAL SAFETY
DATA SHEET**

SECTION I - PRODUCT IDENTIFICATION		HMIS
Manufacturer's Name:	Green Diamond Sand Products	Health - O
Telephone:	(541) 874-3111	Flammability - O
Address:	PO Box D, Riddle, OR 97469	Reactivity - O
Date Prepared:	August 1, 2013	Protective Gear - K

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION			
Hazardous Components (Specific Chemical ID - Common Names)	CAS No.	ACGIH TLV	OSHA PEL
SiO ₂ (Silicates)	112926-00-8	10 mg/m ³	10 mg/m ³
MgO (Magnesium Oxide)	1309-48-4	10 mg/m ³	10 mg/m ³
Fe ₂ O ₃ (Iron Oxide)	1309-37-1	10 mg/m ³ *	10 mg/m ³
Al ₂ O ₃ (Aluminum Oxide)	1344-28-1	10 mg/m ³	10 mg/m ³
CaO (Calcium Oxide)	1305-78-8	2 mg/m ³	5 mg/m ³
Ni (Nickel)	7440-02-0	1 mg/m ³	1 mg/m ³
Cr ₂ O ₃ (Chromium Oxide)	1308-38-9	10 mg/m ³ *	15 mg/m ³ *

*Regulated as for nuisance particulate (dust).

TYPICAL ANALYSIS:		
SiO ₂	50.2%	<i>All SiO₂ reported in Green Diamond materials is in the form of silicates and contains no crystalline silica. Crystalline silica is the only form of silica suspected of being carcinogenic.</i>
MgO	31.4%	
Fe ₂ O ₃	15.9%	
Al ₂ O ₃	1.6%	
CaO	0.7%	
Ni + NiO	<.1%	
Cr ₂ O ₃	.1%	
Trace Elements & Compounds (total)	1.5%	
TOTAL	99.8%	

SECTION 313 SUPPLIER NOTIFICATION		
This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):		
<u>CAS #</u>	<u>Chemical Name</u>	<u>Percent by Weight</u>
7440-02-0	Nickel	<.1%
This information should be included in all MSDSs that are copied and distributed for this material.		

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point:	NA
Vapor Pressure (mm Hg.):	NA
Vapor Density (AIR = 1):	NA
Specific Gravity (H2O = 1):	3.0
Melting Point:	2,650 Deg. F
Evaporation Rate:	NA
Solubility in Water:	Not soluble in water
Appearance and Odor:	Green, Gray granular, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	NA
Special Fire Fighting Procedures:	None
Unusual Fire & Explosion Hazards:	None

SECTION V - REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	None
Incompatibility (materials to avoid):	None
Hazardous Decomposition or By-Products:	None
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	None

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Yes
	Skin?	No
	Ingestion?	No
Health Hazards (Acute & Chronic):		No specific health hazards; should avoid specified limits for compounds listed in Section II.
Carcinogenicity:	NTP?	No
	IARC Monographs?	No
	OSHA Regulated?	Yes, control for compounds in Section II and for nuisance dust.
Sign & Symptoms of Exposure:		Typical of over exposure to nuisance dust.
Medical Conditions Generally Aggravated by Exposure:		Respiratory conditions.
Emergency & First Aid Procedures:		As relevant for over exposure to nuisance dust.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be Taken in Case Material is Released or Spilled:	Clean up with broom or vacuum.
Waste Disposal Method:	Follow federal, state, and local regulations for disposal as in inert solid waste.
Precautions to be Taken in Handling & Storing:	No specific precautions.
Other Precautions:	None

SECTION VIII - CONTROL MEASURES

Respiratory Protection (Specify Type):	NIOSH/OSHA/MSHA approved particulate filter respirator.
Ventilation:	Yes
Local Exhaust:	Yes
Mechanical (General):	Use to meet TLV requirement if dust is generated.
Special:	None
Other:	None
Protective Gloves:	Yes, if handling.
Eye Protection:	Yes, safety glasses.
Other Protective Clothing or Equipment:	Appropriate apparel.
Work/Hygienic Practices:	Use material for the purpose intended and incorporate methods of dust control that are effective in maintaining airborne dust concentrations within the TLV.

NOTICE

While the information included in this MSDS has been obtained from reliable sources, this information is furnished without any warranty (expressed or implied), representation, inducement, or license except that it is accurate to the best of Green Diamond Sand Products knowledge. This information is offered solely for your consideration, investigation, and verification. Any use of this information must be determined by the user to be in accordance with applicable federal, state, and local laws and regulations. Furthermore, the conditions or methods of handling, storage, use and disposal of the product are beyond the control and knowledge of Green Diamond Sand Products. Green Diamond Sand Products does not assume responsibility and expressly disclaim liability for any loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product. Buyer assumes all risks in its use of the product.

Piranha 4

Solvent Gel

Product Description

5740

Piranha 4 is a biodegradable, solvent-based gel formulated to remove multiple coats of lead-based paint. This fast acting, lemon scented, formula starts removing most paints and stubborn coatings in less than one hour, without the use of dangerous chlorinated solvents, caustics or methylene chloride. Gel formulation yields maximum coverage per gallon and has excellent resistance to sagging, enabling it to cling to vertical and overhead surfaces. Piranha 4 has a very slow rate of evaporation keeping it active for hours. Piranha 4 is a unique solvent formulation ideally suited for paint removal from historically significant architectural components since it does not discolor or raise wood grain or require neutralization. Piranha 4 can be used on virtually any substrate to remove oil based paint, latex paint, elastomeric paint, cementitious asbestos paint, epoxy and urethane. Piranha 4 is ideal for use on substrate metals like copper that are reactive with caustic alkaline paint removers.

Application Information

SURFACE PREPARATION

Warning! If you scrape, sand, or remove old paint from any surface, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. Before you start, find out how to protect yourself and your family by contacting the U.S. EPA/Lead Information Hotline at 1-800-424-LEAD (5323) or log on to www.epa.gov/lead.

Protect all surfaces not being stripped with polyethylene sheeting. For interior use, open windows and doors or use other means to assure a constant supply of fresh moving air during use. Ideal working temperature is between 65-85°F; not recommended when substrate temperature is below 60°F. Avoid direct sunlight.

APPLICATION TOOLS

Apply Piranha 4 with brush, roller or airless spray equipment.

Brush: Synthetic, nylon or polyester bristle

Roller: Synthetic fiber 3/8" nap or longer

Spray: .019 to .021 tips

PRODUCT APPLICATION

For best results, perform a test patch to determine the appropriate dwell time required to remove the existing paint system. The length of time required to remove a paint system is dependent on the application temperature, and the thickness and type of paint being stripped. If Piranha 4 is to be left for an extended period of time, cover with polyethylene sheeting.

Piranha 4 can be applied using a brush, roller or airless sprayer.

Be certain that all uneven or irregular surfaces receive adequate coverage. When Piranha 4 has penetrated to the substrate, scrape the softened paint residue.

Allow the surface to dry before lockdown of residual lead-based paint or dust with Lead Shield®. Contact Fiberlock Technologies for detailed application instructions.

COVERAGE

Smooth Surfaces: 125 ft²/gal.

Porous Surfaces: 50-100 ft²/gal.

CLEANUP

Clean tools and drippings with warm soapy water. Collect all waste in a plastic bag or drum. Properly dispose of waste and wastewater in accordance with Local, State and Federal regulations. Keep container closed when not in use. If practical, filter wastewater in accordance with a federally or locally accepted method to minimize the amount of waste which must be disposed of as hazardous.

PRECAUTIONS

Store in a dry place at temperatures between 40°F (4.5°C) and 90°F (32°C). Protective clothing should be worn. Wear rubber gloves. Wear eye protection at all times. Face and head protection should be worn when working at face level or overhead.

FIRST AID

EYE: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyes open. Get medical attention.

Properties

Product Specifications

Color:	Blue
Odor:	Mild Solvent Odor
Flash Point:	>212°F
pH:	7.0-8.0
Shelf Life:	36 Months Min. (Original Sealed Container)

Coverage

Smooth Surfaces:	125 ft ² /gal
Porous Surfaces:	50-100 ft ² /gal

Performance

Specific Gravity:	1.06 lbs/gal
Activation Time:	30 minutes
Minimum Activation Temp:	40°F

Available Package Sizes

5 gallon containers	
Weight Per Gallon ± .5 lbs:	10.7 lbs/gal

Application Information

SKIN: Remove contaminated clothing and shoes. Flush skin with water. Follow by washing skin thoroughly with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

INGESTION: If ingested, DO NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing.

SUPPLEMENT HEALTH INFORMATION: Overexposure may cause blurring vision.

CAUTION!

KEEP OUT OF REACH OF CHILDREN.

FOR PROFESSIONAL APPLICATORS ONLY!

OVER EXPOSURE MAY CAUSE BLURRING OF VISION.

Do not take internally. Close container after each use.

Keep from freezing.

Store between 40°F (4.5°C) and 90°F (32°C)

24 hour Emergency "CHEM-TEL" - 1-800-255-3924

For Technical Information call 800.342.3755

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of this product are beyond our control. Neither Fiberlock Technologies, Inc., nor its agents shall be responsible for the use or results of use of this product or any injury, loss or damage, direct or consequential. We recommend that the prospective user determine the suitability of this product for each specific project and for the health and safety of personnel working in the area.

Piranha 4, the Piranha 4 Logo and other marks in this literature are trademarks of Fiberlock Technologies, Inc.

Fiberlock Technologies, Inc. • 150 Dascomb Rd • Andover, MA 01810 • www.fiberlock.com • 800.342.3755

MATERIAL SAFETY DATA SHEET

PIRANHA® 4

MSDS DATE: 11/27/13

Per OSHA-recommended ANSI Z400.1-2004 standard format & in accordance with European standard format

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Piranha® 4
Product Description: Lemon Scented NMP Solvent Gel Paint Remover
Product Code: 5740
Manufacturer: Fiberlock Technologies, Inc.

Address:
Fiberlock Technologies
150 Dascomb Road
Andover MA, 01810

Contact Info:
Tel: (800) 342-3755
Fax: (978) 475-6205

Emergency Phone: 24 Hour Contact: CHEM-TEL: (800) 255-3924 (Contract Number: MIS0001450)
INTERNATIONAL 24 HOUR EMERGENCY Phone: 813-248-0585

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous:

Chemical Name	CAS#	Percent	OSHA PEL	ACGIH TLV
1 - N - Methyl-2-Pyrrolidone	872-50-4	45 - 50	Not Established	Not Established
2 - Dimethyl Adipate	627-93-0	40 - 45	Not Established	Not Established

This product contains N - Methyl-2- Pyrrolidone which is subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains N - METHYL-2- PYRROLIDONE which is known to the state of California to cause reproductive harm.

SECTION 3: HAZARDS IDENTIFICATION

Potential Health Hazards:

Inhalation health risks and symptoms of exposure: If mists or vapors are generated at high concentrations, may cause pallor, nausea, anesthetic or narcotic effects, blurred vision and irritation of the upper respiratory passages.

Skin and eye contact health risks and symptoms of exposure: Skin: This material may cause mild skin irritation. Prolonged or repeated contact may cause redness, cracking and blistering of skin. Eye contact can cause irritation. Direct contact with the liquid or exposure to vapors or mists may cause stinging, tearing, redness and blurred vision.

Skin absorption health risks and symptoms of exposure: Due to low evaporation rate, components can be absorbed through skin causing numbness and blurred vision.

Ingestion health risks and symptoms of exposure: Ingestion can cause severe internal irritation.

Health hazards (chronic): N-Methyl-2-Pyrrolidone: a component of this product was reported to be fetotoxic and to increase the incidence of skeletal abnormalities when administered dermally to rats at a dose of 750 mg/kg during gestation (fund. and appl. tox 2: 73-6, 1982).

Carcinogenicity: NTP: No IARC Monographs: No OSHA Regulated: No

Medical conditions generally aggravated by exposure: NONE

SECTION 4: FIRST AID MEASURES

Eyes: Flood with plenty of water with eye lids held open for at least 15 minutes and get medical attention promptly.

Skin: Wash thoroughly with soap and water. Thoroughly launder contaminated clothing before reuse. If irritation and redness persists, see physician.

Ingestion: Keep person warm and quiet get medical attention. Immediately give two glasses of water if conscious.

Inhalation: If illness occurs, remove patient to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, start artificial respiration. Call physician immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Product is non-combustible

Flash point: Autoignition Temperature:

F: 200°F F: Not Established
C: 93.3°C C: Not Established

Flammable Limits in Air:
(% BY VOLUME)

UPPER: Not applicable
LOWER: Not applicable

Extinguishing Media:

Use extinguishing media appropriate for surrounding fire

Water Spray	OK
Carbon Dioxide	OK
Foam	OK
Dry Chemical	OK
Halon	NO
Other	N/A

SPECIAL FIRE FIGHTING PROCEDURES: Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank container with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product may burn, but will not ignite readily.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

Review section IV- unusual fire and explosion hazards. Small spills: Wipe or scrape up any material. Wash area thoroughly with detergent and water; ventilate adequately with good fresh air movement at floor level. Large spills: Wear proper protective equipment. Stop spill at source, dike area of spill to keep from spreading and keep out of ground water and streams. Transfer material to metal containers. Absorb remainder with sand, clay, earth, floor absorbent, or other material and shovel into containers. Then wash area thoroughly with water and detergent. Ventilate adequately with good fresh air movement at floor level. Do not restart pilot lights or operate electrical devices or other sources of sparks, flames or heat until all vapors (odors) are gone.

Personal Precautions: Do not get in eyes. Do not take internally. Avoid skin contact. Prevent prolonged or repeated breathing of vapor or spray mists. Keep unnecessary people away. Floor may be slippery, use care to avoid falling. Remove all sources if ignition. Ventilate the area. Remove with inert absorbent.

SECTION 7: HANDLING AND STORAGE

Handling and Storage:

Precautions to be taken in handling and storing: Store in cool place, out of hot sun and below 100°F. All containers are subject to damage in storage and transit. Damaged containers may start leaking immediately or at a later time. Do not store where vapors may come in contact with flames, sparks or heat.

Other Precautions: Avoid contact with material. Do not eat, drink or smoke when handling this material.

Maximum Storage Temperature: 100°F (38°C), minimum 35°F (2°C).
Keep closure tight and containers upright to prevent leakage.

Precautionary labeling: KEEP FROM FREEZING®.
Product is non-combustible.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Precautions:**

Use only with adequate ventilation.

Work Hygienic Practices: Avoid contact with skin. Do not get in eyes. Do not take internally. Avoid breathing vapors or spray mists.

Ventilation: Use local exhaust to control vapors.

Respiratory Protection: Approved organic vapor respirator, if vapors or mists are generated.

Eye Protection: Chemical goggles or safety glasses with side shield.

Skin Protection: For repeated or prolonged exposure, neoprene gloves are recommended.

Other Protective Equipment: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous liquid	Solubility in Water:	Total
Odor:	Sweet odor	Color:	Light Blue
Boiling Point:	200°F	Viscosity @ 77°F:	N/A
Evaporation Rate: (Butyl Acetate=1)	Slower	Vapor Density (AIR = 1) @ 68°F:	Heavier
Vapor Pressure:	<1 mm Hg @ 68 F	Specific Gravity (H2O = 1) @ 68°F:	1.04
pH	7.0-8.0	Percent Volatile	98+

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: (Material to Avoid): Strong oxidizing agents (E.G. Nitric acid, permanganates, Etc.) Strong Alkalies (E.G. NAOH Ammonia, Etc.), Strong acids (E.G. HCL, Sulfuric, Etc.)

Hazardous Decomposition or By-Products: Not Established

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION**Toxicological Information:**

Health hazards (chronic): N-Methyl-2-Pyrrolidone: a component of this product was reported to be fetotoxic and to increase the incidence of skeletal abnormalities when administered dermally to rats at a dose of 750 mg/kg during gestation (fund. and appl. tox 2: 73-6, 1982).

SECTION 12: ECOLOGICAL INFORMATION**Ecological Information:**

No Data Available

SECTION 13: DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Dispose of in accordance with local, state and federal regulations. This product is not considered a hazardous waste under current RCRA regulations.

SECTION 14: TRANSPORT INFORMATION**U.S. Department of Transportation**

Hazard Class: "Non Regulated"

SECTION 15: REGULATORY INFORMATION**U.S. Federal Regulations:**

TSCA (TOXIC SUBSTANCE CONTROL ACT): The intentional ingredients of this product are listed.

SARA TITLE III (SECTION 312): Immediate/Health

SARA TITLE III (SECTION 313): This product contains N - Methyl-2- Pyrrolidone which is subject to reporting requirements of section 313 of Title III of Title III of The Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986. This product contains a chemical(s) known to the state of California to cause cancer, birth defects, or other reproductive harm.

Pennsylvania Substance List: N - Methyl-2- Pyrrolidone (872-50-4)

New Jersey Right to Know Hazardous Substance List: N - Methyl-2- Pyrrolidone (872-50-4)

SECTION 16: OTHER INFORMATION

Judgement of potential hazards of this product is based on information available about individual components listed under section II - Ingredients. Direct testing of mixture has not been done. Flash point has been tested. Information given herein is believed to be accurate and is given in good faith; however, no warranty either expressed or implied is made. It is strongly suggested that users confirm in advance of need that the information is current and applicable to their situations.

To comply with New Jersey DOH Right-To-Know labeling law (NJAC 8:59 – 5.1 & 5.2)

CAS. No.:**CHEMICAL INGREDIENTS**

872-50-4

N-Methyl-2-Pyrrolidone

627-93-0

Dimethyl Adipate

HMS HAZARD RATING

Health 1	Flammability 1	Physical Hazard 0	Personal Protection C
HAZARD INDEX: 0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe			
PERSONAL PROTECTION CODE:			
C = Safety Glasses, Gloves, Synthetic Apron			

This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of our products either alone or in combination with other products. It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. This company will accept no liability for damages or loss incurred from the improper handling and use of this product.

Catch Basin, Manhole and Drain Summary

Rainier Commons/Former Rainier Brewery

Seattle, Washington

Location (Bldg. # / Tank farm/ Roof)	Storm / combined/s anitary	MH / Drain Lid Description	Dimensions (ft, in)			Grate removable Y /N	Condition	Pipes			Observations			Surrounding area / Comments
			L	W	D			In /Outlet	Dia. (in)	Orient.	sediment	paint chips	other	
CB 2*	Storm	Steel Grate	2.4'	2.1'	3.4'	Y	Good	Outlet	4" Green PVC	South	~ 0.5"			asphalt pavement; traffic area
CB 3*	Storm	Steel Grate	2'	1.7'	4.7'	Y	Good	Inlet Inlet Outlet	4" Green PVC 4" Green PVC 6 " Cast iron	North South West	4-6"			Site Plan ID - BNSF CB 2, asphalt pavement; traffic area
CB 6*	Storm	Steel Grate	2.2'	1.9'	4.3'	Y	Good		6" Cast iron 3" Cast iron	East South	2.1'			Tank Farm ID - CB2; with sock installed Concrete pavement and brick tile
CB 7*	Storm	Steel Grate	2.2'	2'	4.25'	Y	Good	Outlet	6" PVC	North	1.35'			Tank Farm ID - CB6; with sock, with sediment on concrete pavement
CB 8*	Storm	Steel Grate	2.3'	2'	3.05'	Y	Good	Outlet	6" Cast iron	West	1.15'			Tank Farm ID - CB4; without sock, concrete pavement, constr. Material adj. to CB
CB 9*	Storm	Steel Grate	2.3'	2'	4.3'	Y	Good		6" Green PVC 6" PVC 6" Black plastic	West South East	3'			Tank Farm ID- CB5; with sock , observed bentonite grout in sock Sediment on concrete pavement, constr. Mat. and vegetation adj.
CB 10*	Storm	Steel Grate	2.3'	2'	2.9'	Y	Good	Outlet	6" Cast iron	West	10"			Tank Farm ID - CB1; with sock installed, sediment on Brick Tile, constr. Mat. surrounding
CB 11*	Storm	Steel Grate	2.3'	2'		Y	Good	See comments						Tank Farm ID - CB3; with sock; unable to access - construction wall supports on grate
CB 18*	Storm	Steel grate	2.2'	1.9'	5'	Y	Good	Inlet Outlet	8" Green PVC 8" Green PVC	South North	0.75'			Asphalt pavement; standing water in CB
CB 19*	Storm	Steel grate	2.2'	1.9'	5.2'	Y	Good	Outlet	8" Green PVC	East	0.3'	present		Asphalt pavement, stall
CB 20*	Storm	Steel Plate	2'	2'	10.9'	Y	Good	Outlet Inlet	12" Cast iron 12" Cast iron	South North	0.4'	present		Roof of Bldg adj. and North of Bldg 19
CB 22*	Storm	Steel Grate	2.1'	1.9'	4.32'	N	Good	Inlet Outlet	8" Green PVC 8" Green PVC	South North	6"		organics	Lid locked in place asphalt pavement, traffic area
CB 24*	Storm	Steel Grate	2.1'	1.9'	4.1'	Y	Good	Inlet Outlet	4" plastic 8" Green PVC	West East	6"			asphalt pavement, traffic area black corrugated plastic pipe
CB 26*	Storm	Steel Grate	2.2'	1.9'	4.5'	Y	Good	Outlet Inlet	8" PVC 4" plastic	West Southeast	6"			with sock black corrugated plastic

Catch Basin, Manhole and Drain Summary

Rainier Commons/Former Rainier Brewery
Seattle, Washington

Location (Bldg. # / Tank farm/ Roof)	Storm / combined/s anitary	MH / Drain Lid Description	Dimensions (ft, in)			Grate removable Y /N	Condition	Pipes			Observations			Surrounding area / Comments
			L	W	D			In /Outlet	Dia. (in)	Orient.	sediment	paint chips	other	
CB 1	Storm	Steel Plate w/holes	3'	2.6'	3'	Y	Good	Inlet Inlet Outlet	6" PVC 4" Cast iron 8" Cast iron	West SW North	~ 1 "			Site Plan ID -BNSF CB 1; concrete vault asphalt pavement; traffic area Brick fragments in vault
CB 4	Storm	Steel Grate	1.25'	1.25'	1.33'	Y	Good	Outlet	4"Green PVC	North	~ 1"			asphalt pavement; traffic area
CB 5	Storm	Circular steel Lid, with partial grate	See comments		5'	Y	Good		8" Cast iron 8" Cast iron 4" PVC 8" Cast iron	NE East West South	2-4 "	present	organics and debris	Lid diameter - 2.3'; Inside diameter- 5'; asphalt pavement; in parking stall and adj. to sidewalk
CB 12	Storm	Steel Grate	1'	1'	0.83'	Y	Good	Outlet	3" concrete	North	3.5"		organics	near concrete steps, broken concrete fragments in CB
CB 13	Storm	Steel Grate	10.5'	0.65'	1.1'	Y	Good	Outlet	6"	West end of Strip drain	1-2"	present	organics and debris	Strip drain, asphalt pavement surrounding
CB 14	Storm	Steel Grate	2.1'	0.65'	1'	Y	Good	Outlet	6"cast iron	West	4-5"	present		covered with metal plate and sediment
CB 15	Storm	Steel Grate	2'	0.65'	1'	Y	Good	Outlet	6" cast iron	West	1-2"	present		Asphalt pavement surrounding
CB 16	Storm	Steel Grate	2.1'	0.7'	0.8'	Y	Good	Outlet	8" cast iron	North	¼-½"	present		Asphalt pavement surrounding
CB 17	Storm	Steel Grate	0.8'	0.8'	1.5'	Y	Good	Outlet	4" PVC	West	trace	present		in a concrete walkway near entrance to Bldg 25
CB 21	Storm	Steel Grate	see comments			N	Good	Outlet	6" PVC	Northeast	trace	present		Brass roof drain cover - 6" diameter, screws have been stripped Paint chips adj. to drain and on roof
CB 23	Storm	Steel Stormceptor	10.4'	2.4'	4.7'	Y	Good	Outlet	6	North	3"			asphalt pavement, traffic area
CB 25	Storm	Steel Grate	88.15'	0.4'	1'	Y	Good	Outlet	4" PVC	North	¼ - 3 "	present	organics	¼ inch sediment at north end, 3" sed. at south end; strip drain located outside truck bay doors
CB 27	Storm	Steel Stormceptor	8.8'	2.4'	3.75'	Y	Good				3.75'			Plugged with Sediment

Catch Basin, Manhole and Drain Summary

Rainier Commons/Former Rainier Brewery

Seattle, Washington

Location (Bldg. # / Tank farm/ Roof)	Storm / combined/s anitary	MH / Drain Lid Description	Dimensions (ft, in)			Grate removable Y /N	Condition	Pipes			Observations			Surrounding area / Comments
			L	W	D			In /Outlet	Dia. (in)	Orient.	sediment	paint chips	other	
MH 1	Sanitary	"Sewer" MH Lid	See comments		2'	Y	Good	Inlet Outlet	6" Cast iron 4" Terra Cotta	NE South			plugged w/ bio solids & Toilet products	MH Lid diameter- 1.85' / inside diameter-3'; asphalt pavement; in parking stall
MH 2	Combined	"Sewer" MH Lid	4.5'	4.5'	5'	Y	Good	Inlet Inlet Inlet Outlet	8" Terra Cotta 8" Terra Cotta 12" Cast iron 12" Concrete	North North East West	trace			Lid diameter - 2.25', Site Plan ID - CB14 concrete and brick constr. traffic area, asphalt pavement parking stall
MH 3	Sanitary	"Sewer" MH Lid	3'	2.5'	5'	Y	Good	Inlet Outlet	12" Concrete 12" Concrete	East SW	trace			Lid diameter - 2.25' asphalt pavement; traffic area
MH 4	Sanitary	MH Lid	5'	5'	5.2'	Y	Good	Inlet Outlet	12"Cast iron 12"Cast iron	North/NE South/SW	trace			Lid Diameter - 2.3' 4" water line crosses above
MH 5	Combined	"Sewer" MH Lid			5.35'	Y	Good	Inlet Inlet Outlet	4" Cast iron 12" Concrete 12" Concrete	NE North South	trace			Lid diameter- 1.8'; 2.5' diameter brick and mortar vault traffic area, asphalt pavement
MH 6	Combined	Steel MH lid with handle	5.3'	5'	8.3'	Y	Good	Inlet Inlet Inlet Inlet Inlet Outlet	12" 12" 8" cast iron 8" cast iron 6" PVC 4" PVC 18" concrete	East SE East East South South West	trace	present		Steel Lid-1.85' diameter with handle Ladder present wooden lagging and concrete construction
MH 7	Storm	Circ. MH Lid	see comments		3.05'	Y	Good	Inlet Inlet	6" cast iron 4" Terra Cotta	East SW	3"	present		MH lid-1.5' diameter; covered with metal plate
MH 8	Storm	Steel MH Lid	3'	3'	5'	Y	Good		4" cast iron 6" cast iron 6" cast iron 6" cast iron	South South South West	1-2"	present		Circ. concrete vault casing MH Lid - 2' diameter Asphalt pavement surrounding
MH 9	Storm	Steel Lid	4.5'	3'	7'	Y	Good	Inlet Inlet	6" Cast iron 4" Cast iron 12" Cast iron 4" Cast Iron 4" Cast iron	North West South South	6"	present		Steel lid - 2.1' diameter Ladder present 12" Cast iron - capped paint chips and debris near MH lid
MH 10	Storm	Steel Lid	see comments		13.75'	Y	Good		4" Cast iron 6" Cast iron	North East	trace	present		Inside bldg. 20; Steel lid-2.15' diameter, Concrete casing- 2.5' in diameter paint chips at top of casing

Catch Basin, Manhole and Drain Summary

Rainier Commons/Former Rainier Brewery
Seattle, Washington

Location (Bldg. # / Tank farm/ Roof)	Storm / combined/sanitary	MH / Drain Lid Description	Dimensions (ft, in)			Grate removable Y /N	Condition	Pipes			Observations			Surrounding area / Comments
			L	W	D			In /Outlet	Dia. (in)	Orient.	sediment	paint chips	other	
D1		circ. cast iron drain	see comments			y	good							6 in. diameter cast iron drain. Surrounded by organic growth and sediment.
D2		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D3		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D4		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D5		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D6		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Inlet plugged with sediment and debris.
D7		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D8		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D9		circ. cast iron drain	see comments			y	good	outlet	1.75"	down				7.5" diameter cast iron drain. Partially covered in organic growth and sediment.
D10		circ. cast iron drain	see comments			y	good							6 in. diameter cast iron drain. Surrounded by organic growth and sediment.

MH - Manhole (access)

CB - Catch Basin (drainage)

D - Drain (drainage)

* - should be compatible with standard sized catch basin inserts

Roof Drain Summary

Rainier Commons/Former Rainier Brewery
Seattle, Washington

Building #	Influent downspout sources (sources that flow onto roof of building)	Effluent runoff sources (sources that flow from the roof)	Comments
3	DS1 (roof 4)	RD1, RD2	RDs appear to go into concrete slab into system
2	none	RD5, RD4, RD3	RD3 and RD4 appear to drain onto grass, RD5 drains into system
25	DS2 and DS3 (from stairwell section of bldg 25)	RD6, RD7, RD8, RD9, RD10, RD11, RD12	RD6-12 appear to collect and drain onto BLDG22 through DS4, old RD opening on S side of roof 2" above roof floor
22	DS4, DS5	DS6, DS7, DS8, RD13, RD14	DS6, DS7 drain onto BLDG6, DS8 drains onto BLDG7, RD13 and RD14 drain down to the ground and system
21 high point	DS9, DS11, RD16 and RD17 through DS10	RD15	RD15 drains down to ground into system
5A	DS12 (roof 5)	DS14	DS14 drains onto BLDG4
4	DS14	DS1	DS runs onto roof of building 3
6	DS6, DS7, DS15, DS16	RD19, RD20	RD19 and RD20 appear to collect and flow through pipes down to roof of building 9 and enter there. Breaks in the wall connect building 6 and 7.
7	DS8	RD29, RD28	RD27 and RD28 run down the S.side of building 7 and enter into building 18.
9	DS17	RD21, RD22, RD23, RD24	all roof drains enter into building 9, pipes from roof of building 6 also enter building 9
8		DS18, DS19	Flow onto lower part of building 8 (see plan drawing)
8 Low	DS18, DS19	RD25, RD26	roof drains enter building 8 low
18		RD27, RD28, RD29, RD30, RD31, RD32, RD33	RD 27 - 31 enter building 18 while RD32 and RD33 appear to enter combined system on ground
15		RD34, RD35	RD34, RD35 appear to enter combined system on ground
14		RD36, RD37, RD38, RD39	RD36-39 enter into building 14
13		RD40, RD41, RD42	RD 41 enters building 13, RD40 and RD42 enter drains on the side of the building
23		RD45	RD45 runs on side of building and drains into system
12		RD44	RD44 runs on side of building and drains into system, hole in wall on roof of building 12 appears to be location of old RD
11		RD43	RD43 runs on side of building and drains into system
10		RD46	RD46 runs on side of building and drains into system
5		DS12, DS15	runoff from building 5 flows onto building 5a and building 6

Bolded items drain into storm or combined sewer system

RD - Roof Drains, sources that go into storm or combined sewer

DS - Down Spouts, drainage from one roof down to another roof

POLYCHLOROBIPHENYLS

5503

mixture: C₁₂H_{10-x}Cl_x
[where x = 1 to 10]

MW: ca. 258 (42% Cl ; C₁₂H₇Cl₅);
ca. 326 (54% Cl ; C₁₂H₅Cl₇)

CAS: Table 1

RTECS: Table 1

METHOD: 5503, Issue 2

EVALUATION: PARTIAL

Issue 1: 15 February 1984

Revision #1: 15 August 1987

Issue 2: 15 August 1994

OSHA : 1 mg/m³ (42% Cl);
0.5 mg/m³ (54% Cl)

NIOSH: 0.001 mg/m³/10 h (carcinogen)

ACGIH: 1 mg/m³ (42% Cl) (skin)
0.5 mg/m³ (54% Cl) (skin)

PROPERTIES: 42% Cl: BP 325 to 366 °C; MP -19 °C;
d 1.38 g/mL @ 25 °C;

VP 0.01 Pa (8 x 10⁻⁵ mm Hg;
1 mg/m³) @ 20 °C

54% Cl: BP 365 to 390 °C; MP 10 °C;
d 1.54 g/mL @ 25 °C; VP
0.0004 Pa (3 x 10⁻⁶ mm Hg;
0.05 mg/m³) @ 20 °C

SYNONYMS: PCB; 1,1'-biphenyl chloro; chlorodiphenyl, 42% Cl (Aroclor 1242); and 54% Cl (Aroclor 1254)

SAMPLING		MEASUREMENT	
SAMPLER:	FILTER + SOLID SORBENT (13-mm glass fiber + Florisil, 100 mg/50 mg)	TECHNIQUE:	GAS CHROMATOGRAPHY, ECD (⁶³ Ni)
FLOW RATE:	0.05 to 0.2 L/min or less	ANALYTE:	polychlorobiphenyls
VOL-MIN:	1 L @ 0.5 mg/m ³	DESORPTION:	filter + front section, 5 mL hexane; back section, 2 mL hexane
-MAX:	50 L	INJECTION	
SHIPMENT:	transfer filters to glass vials after sampling	VOLUME:	4-µL with 1-µL backflush
SAMPLE		TEMPERATURE-INJECTION:	250 to 300 °C
STABILITY:	unknown for filters; 2 months for Florisil tubes [1]	-DETECTOR:	300 to 325 °C
BLANKS:	2 to 10 field blanks per set	-COLUMN:	180 °C
ACCURACY		CARRIER GAS:	N ₂ , 40 mL/min
RANGE STUDIED:	not studied	COLUMN:	glass, 1.8 m x 2-mm ID, 1.5% OV-17/1.95% QF-1 on 80/100 mesh Chromosorb WHP
BIAS:	none identified	CALIBRATION:	standard PCB mixture in hexane
OVERALL PRECISION (Ŝ_{r,T}):	not evaluated	RANGE:	0.4 to 4 µg per sample [2]
ACCURACY:	not determined	ESTIMATED LOD:	0.03 µg per sample [2]
		PRECISION (Ŝ_r):	0.044 [1]

APPLICABILITY: The working range is 0.01 to 10 mg/m³ for a 40-L air sample [1]. With modifications, surface wipe samples may be analyzed [3,4].

INTERFERENCES: Chlorinated pesticides, such as DDT and DDE, may interfere with quantification of PCB. Sulfur-containing compounds in petroleum products also interfere [5].

OTHER METHODS: This method revises methods S120 [6] and P&CAM 244 [1]. Methods S121 [7] and P&CAM 253 [8] for PCB have not been revised.

REAGENTS:

1. Hexane, pesticide quality.
2. Florisil, 30/48 mesh sieved from 30/60 mesh. After sieving, dry at 105 °C for 45 min. Mix the cooled Florisil with 3% (w/w) distilled water.
3. Nitrogen, purified.
4. Stock standard solution of the PCB in methanol or isooctane (commercially available).*

* See SPECIAL PRECAUTIONS.

EQUIPMENT:

1. Sampler: 13-mm glass fiber filter without binders in a Swinnex cassette (Cat. No. SX 0001300, Millipore Corp.) followed by a glass tube, 7 cm long, 6-mm OD, 4-mm ID containing two sections of 30/48 mesh deactivated Florisil. The front section is preceded by glass wool and contains 100 mg and the backup section contains 50 mg; urethane foam between sections and behind the backup section. (SKC 226-39, Supelco ORBO-60, or equivalent) Join the cassette and Florisil tube with PVC tubing, 3/8" L x 9/32" OD x 5/32" ID, on the outlet of the cassette and with another piece of PVC tubing, 3/4" L x 5/16" OD x 3/16" ID, complete the union.
2. Personal sampling pump, 0.05 to 0.2 L/min, with flexible connecting tubing.
3. Tweezers.
4. Vials, glass, 4- and 7-mL, with aluminum or PTFE-lined caps
5. Gas chromatograph, electron capture detection (⁶³Ni), integrator and column (page 5503-1).
6. Volumetric flasks, 10-mL and other convenient sizes for preparing standards.
7. Syringe, 10- μ L.

SPECIAL PRECAUTIONS: Avoid prolonged or repeated contact of skin with PCB and prolonged or repeated breathing of the vapor [9-11].

SAMPLING:

1. Calibrate each personal sampling pump with a representative sampler in line.
2. Break the ends of the Florisil tube immediately before sampling. Connect Florisil tube to Swinnex cassette and attach sampler to personal sampling pump with flexible tubing.
3. Sample at an accurately known flow rate between 0.05 and 0.2 L/min for a total sample size of 1 to 50 L.
NOTE: At low PCB concentrations, the sampler was found to be efficient when operated at flow rates up to 1 L/min, for 24 hours [4]. Under these conditions, the limit of detection was 0.02 μ g/m³.
4. Transfer the glass fiber filters to 7-mL vials. Cap the Florisil tubes with plastic (not rubber) caps and pack securely for shipment.

SAMPLE PREPARATION:

5. Place the glass wool and 100-mg Florisil bed in the same 7-mL vial in which the filter was stored. Add 5.0 mL hexane.
6. In a 4-mL vial, place the 50-mg Florisil bed including the two urethane plugs. Add 2.0 mL hexane.
7. Allow to stand 20 min with occasional agitation.

CALIBRATION AND QUALITY CONTROL:

8. Calibrate daily with at least six working standards over the range 10 to 500 ng/mL PCB.
 - a. Add known amounts of stock standard solution to hexane in 10-mL volumetric flasks and dilute to the mark.
 - b. Analyze together with samples and blanks (steps 11 and 12).
 - c. Prepare calibration graph (sum of areas of selected peaks vs. ng PCB per sample).
9. Determine desorption efficiency (DE) at least once for each lot of glass fiber filters and Florisil used for sampling in the calibration range (step 8). Prepare three tubes at each of five levels plus three media blanks.
 - a. Remove and discard back sorbent section of a media blank Florisil tube.
 - b. Inject known amounts of stock standard solution directly onto front sorbent section and onto a media blank filter with a microliter syringe.
 - c. Cap the tube. Allow to stand overnight.
 - d. Desorb (steps 5 through 7) and analyze together with working standards (steps 11 and 12).
 - e. Prepare a graph of DE vs. µg PCB recovered.
10. Analyze three quality control blind spikes and three analyst spikes to ensure that the calibration graph and DE graph are in control.

MEASUREMENT:

11. Set gas chromatograph according to manufacturer's recommendations and to conditions given on page 5503-1. Inject sample aliquot manually using solvent flush technique or with autosampler.

NOTE 1: Where individual identification of PCB is needed, a procedure using a capillary column may be used [12].

NOTE 2: If peak area is above the linear range of the working standards, dilute with hexane, reanalyze and apply the appropriate dilution factor in calculations.
12. Sum the areas for five or more selected peaks.

CALCULATIONS:

13. Determine the mass, µg (corrected for DE) of PCB found on the glass fiber filter (W) and in the Florisil front (W_f) and back (W_b) sorbent sections, and in the average media blank filter (B) and front (B_f) and back (B_b) sorbent sections.

NOTE: If $W_b > W_f/10$, report breakthrough and possible sample loss.
14. Calculate concentration, C, of PCB in the air volume sampled, V (L):

$$C = \frac{(W + W_f + W_b - B - B_f - B_b)}{V}, \text{ mg/m}^3.$$

EVALUATION OF METHOD:

This method uses 13-mm glass fiber filters which have not been evaluated for collecting PCB. In Method S120, however, Aroclor 1242 was completely recovered from 37-mm glass fiber filters using 15 mL isoctane [8,13,14]. With 5 mL of hexane, Aroclor 1016 was also completely recovered from 100-mg Florisil beds after one-day storage [1]. Thus, with no adsorption effect likely on glass fiber filters for PCB, 5 mL hexane should be adequate to completely extract PCB from combined filters and front sorbent sections. Sample stability on glass fiber filters has not been investigated. Breakthrough volume was >48 L for the Florisil tube at 75% RH in an atmosphere containing 10 µg/m³ Aroclor 1016 [1].

REFERENCES:

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METHOD REVISED BY:

James E. Arnold, NIOSH/DPSE; S120 originally validated under NIOSH Contract 210-76-0123.

Table 1. General Information.

<u>Compound</u>	<u>CAS</u>	<u>RTECS</u>
Polychlorinated Biphenyls	1336-36-3	TQ1350000
Chlorobiphenyl	27323-18-8	DV2063000
Aroclor 1016 (41% Cl)	12674-11-2	TQ1351000
Aroclor 1242 (42% Cl)	53469-21-9	TQ1356000
Aroclor 1254 (54% Cl)	11097-69-1	TQ1360000

Table 2. Composition of some Aroclors [15].

<u>Major Components</u>	<u>Aroclor 1016</u>	<u>Aroclor 1242</u>	<u>Aroclor 1254</u>
Biphenyl	0.1%	<0.1%	<0.1%
Monochlorobiphenyls	1	1	<0.1
Dichlorobiphenyls	20	16	0.5
Trichlorobiphenyls	57	49	1
Tetrachlorobiphenyls	21	25	21
Pentachlorobiphenyls	1	8	48
Hexachlorobiphenyls	<0.1	1	23
Heptachlorobiphenyls	none detected	<0.1	6
Octachlorobiphenyls	none detected	none detected	none detected



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NVL's

HEALTH AND SAFETY PLAN

(HASP)

for the

Rainier Common's

Exterior Paint Removal Project

NVL Laboratories
4708 Aurora Ave North
Seattle WA 98103

NVL Project #: 2012-494

Version Date: May 26, 2014

The HASP is to be reviewed and updated by the CIH minimally after completion of an IPWP (Individual Phase Work Plan) and more frequently if the work changes. Updates are done as new tasks are implemented. The latest version date is posted at the NVL construction site office.

HEALTH AND SAFETY PLAN APPROVAL

NVL Laboratories (NVL) developed this Health and Safety Plan (HASP) for its use. NVL claims no responsibility for its use by others. This plan covers activities with the potential for exposure to hazardous materials during activities associated with the project.

The Contractor at the Site (CGI) has a HASP in operation at the site. The intent is to follow the procedures documented in CGI's HASP with NVL's HASP providing specifics and clarity for NVL operations.

With this said, NVL's HASP is written for the specific site conditions, purposes, dates, and personnel specified and must be amended as described in the document, particularly if conditions change. It is recognized that this is a living document and will be continuously improved and updated during the course of the project. At a minimum, this HASP is to be reviewed and updated by the CIH minimally after completion of an IPWP (Individual Phase Work Plan) and more frequently if the work changes. Updates are done as new tasks are implemented. As a result, even though initially approved as signed below, it is critical that the latest version of the HASP is used. The latest version date is posted at the NVL construction site office.

The HASP is not intended to address normal safety practices on the construction site or NVL's standard operating procedures that are covered in the Washington State Department of Labor and Industries Safety Standards for Construction Work (WAC 296-155).

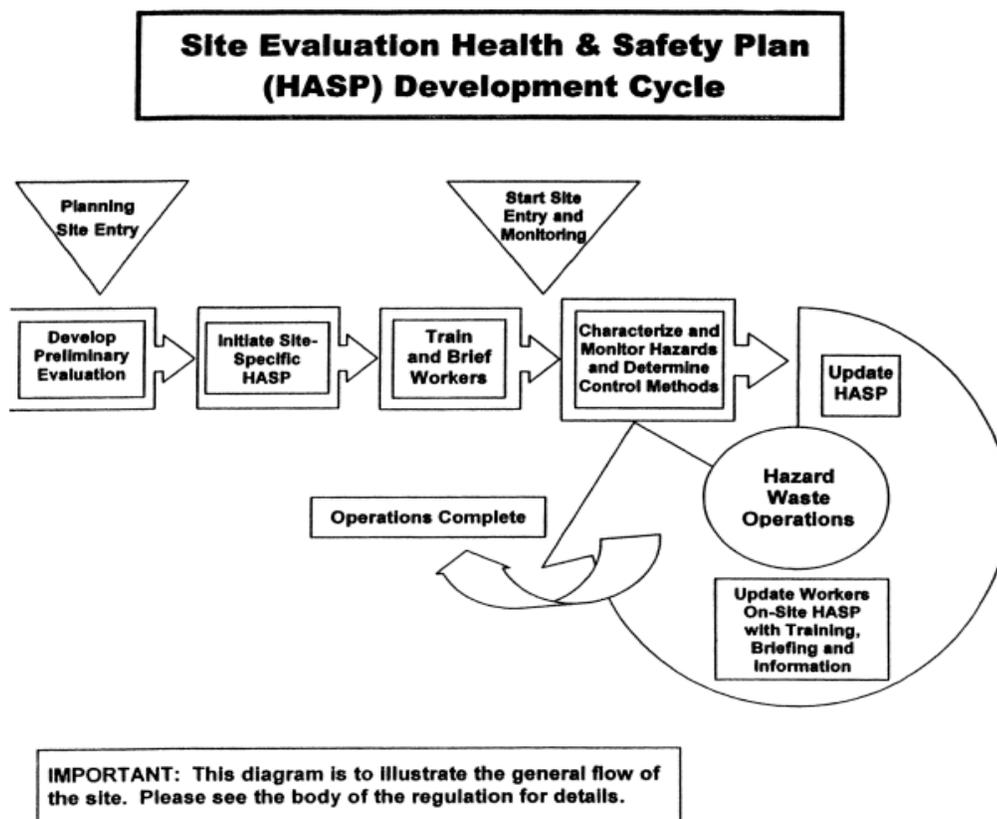
PROJECT CONTACTS AND EMERGENCY INFORMATION	
SITE LOCATION:	3100 Airport Way South Seattle, WA 98134
NVL JOBSITE ADDRESS:	3100 Airport Way South Seattle, WA 98134
NVL LABORATORIES, INC. (NVL) KEY PERSONNEL HEALTH AND SAFETY <ul style="list-style-type: none"> • SITE SAFETY OFFICER 	NVL Laboratories, Inc. (NVL) 4708 Aurora Ave. N. Seattle WA 98103 Office: Phone: (206) 547-0100 Fax: (206) 634-1936
	Munaf Khan Project Manager/Laboratory Directory/President CELL: 206-914-4646 E-mail: Munaf.K@nvlabs.com
	Dave Leonard MSPH CIH Certified Industrial Hygienist (CIH) CELL: 206-498-0326 E-mail: catalystnw@comcast.net
	Marcus Gladden Site Safety Officer / Industrial Hygienist CELL: 206-819-4213 E-mail: Marcus.G@nvlabs.com
Project Site KEY PERSONNEL	Vered Mizrahi Project Manager : Rainier Commons 918 S Horton Street, Suite 1018 Seattle WA 98134 CELL: 206-948-2821 Office: 206-447-0263 E-mail: vered@arieldevelopment.com
	Mark Marcell, President Contractor: CGI Office: 425-487-2618 Cell: 206-718-5501 E-mail: markm@cgius.net
NEAREST HOSPITAL:	Harborview Medical Center 325 Ninth Avenue Seattle, WA 98104-2499 General Information: 206-744-3300 Emergency Department: 206-744-3074 Urgent Care, 206-744-5867
EMERGENCY FIRE AND AMBULANCE:	Call 911

<u>EMERGENCY PROCEDURES</u>	
Emergency Phone Number	Call 911 for POLICE / FIRE / MEDICAL AID
Jobsite Address:	3100 Airport Way South Seattle, WA 98134
NEAREST HOSPITAL: (Map with directions on next page)	Harborview Medical Center 325 Ninth Avenue Seattle, WA 98104-2499 General Information: 206-744-3300 Emergency Department: 206-744-3074 Urgent Care, 206-744-5867
FIRST AID KIT LOCATIONS	NVL Construction Site Office
SITE EVACUATION	In the event of an emergency situation such as fire, explosion, or significant release of toxic gases, project personnel in the field will be directed to evacuate the area. In the event of an emergency, personnel will gather at their pre-determined meeting point for a head count. The meeting point is in front of Tulley's Coffee (West Side). This location (or any change) will be communicated to the work crew(s) during the safety briefing prior to commencement of work activities and weekly thereafter.

1.0 INTRODUCTION

This site specific Health and Safety Plan (HASP) provides a general description of the levels of personal protection and safe operating guidelines expected of each NVL employee associated with the work being conducted under the control of Rainier Commons during the Exterior Paint Removal project.

It is recognized that this is a living document and will be continuously improved and updated during the course of the project. As described and shown in the following diagram from WAC 296-843-100, characterization and analysis of site hazards is an ongoing process:



In order to do this, HASP supplements will be generated as necessary to address any additional activities or changes in site conditions which may occur during field operations. Once generated, each Supplement will be reviewed and acknowledged by NVL, communicated to field personnel prior to the start of applicable work activities and appended to this HASP.

At a minimum, this HASP is to be reviewed and updated by the CIH minimally after completion of an IPWP (Individual Phase Work Plan) and more frequently if the work changes. Updates are done as new task are implemented. As a result, even though initially

approved as signed below, it is critical that the latest version of the HASP is used. The latest version date is posted at the NVL construction site office.

1.1 GENERAL

The provisions of this HASP are mandatory for all NVL personnel engaged in fieldwork associated with the Rainier Commons Exterior Paint Removal project. A copy of this HASP, any applicable HASP Supplements and applicable NVL safety documents shall be maintained on site and available for review at all times. Record keeping will be maintained in accordance with this HASP.

In the event of a conflict between this HASP and federal, state, and local regulations, workers shall follow the most stringent/protective requirements.

1.2 SCOPE OF HEALTH AND SAFETY PLAN

This HASP covers specific site activities that will be conducted by NVL personnel.

Site Investigation and Monitoring

Activities include, but are not limited to: the industrial hygiene and safety sampling and testing for air contaminants and material testing by NVL personnel in support of HASP activities. Other site investigation activities not specifically listed here will be covered by Health and Safety Supplements, which will be appended to this HASP as needed.

Other activities not specifically listed here will be covered by Health and Safety Supplements, which will be appended to this HASP as needed.

1.3 PURPOSE OF THE SITE SPECIFIC HASP

The information in this HASP has been developed in accordance with applicable standards and the project specification and is, to the extent possible, based on information available to date and is tailored to be site specific. The HASP is a living document and is to be constantly updated as conditions and knowledge of the work activities develop.

1. This site specific *Health and Safety Plan* (HASP) is required in the specification for the project to identify, evaluate and control safety and health hazards.
2. Also, as part of this project, NVL provides support to Rainier Commons with health and safety services, including an experienced Certified Industrial Hygienist to perform the duties of identifying and taking immediate actions to correct hazards found during the course of the project.

3. NVL's duties per this HASP is to assess safety hazards, conduct exposure monitoring and interpret laboratory data to provide the professional industrial hygiene, safety and laboratory services needed to support operations and assure compliance with Environmental and Health and Safety regulations

1.4 HASP REQUIREMENTS

The HASP includes the following requirements:

- **Communication** the contents of this HASP to all NVL personnel which includes at a minimum an initial briefing regarding health and safety procedures. During the briefing, employees shall be instructed on the following topics:
 - The nature of the hazardous materials at the site and the controls in place
 - The atmospheric monitoring program and equipment
 - Action levels and requirements, if exceeded
- **Elimination of unsafe conditions**, i.e. efforts to identify conditions that can contribute to an incident and to remove exposure to these conditions.
- **Scheduled formal review and update of the HASP.** To ensure this HASP maintains compliance with regulatory and specification requirements, and is serving its purpose to protect people and the environment, this HASP is to be reviewed and updated by the CIH minimally after completion of an IPWP (Individual Phase Work Plan) and more frequently if the work changes. Updates are done as new task are implemented. As a result, even though initially approved as signed below, it is critical that the latest version of the HASP is used. The latest version date is posted at the NVL construction site office.

2.0 PROJECT HEALTH AND SAFETY ORGANIZATION

PROJECT MANAGER

The Project Manager (PM) has overall management authority and responsibility for all NVL site operations, including safety. The PM will provide the site supervisor and NVL with the necessary work plans, staff and budgetary resources which are appropriate to meet the safety needs of the project operations.

PROJECT SITE SUPERVISOR

The Site Supervisor (SS) has the overall responsibility and authority to direct NVL work operations at the job site according to the provided work plans, this HASP and applicable THAs (Task Hazard Analysis forms). This includes:

- Discussing deviations from the work plan with the PM.
- Discussing safety issues with the PM and field personnel.
- Assisting with the development and implementation of corrective actions for site safety deficiencies.
- Assist the with the implementation of this HASP and ensuring compliance.
- Assist the with inspections of the site for compliance with this HASP.

At this project, the competent person for NVL is the SS who the Department of Labor and Industries (L&I) regulations define a "competent person" as one who is capable of identifying existing and predictable hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

NVL's INDUSTRIAL HYGIENE AND SAFETY SUPPORT

For this project NVL Laboratories (NVL) provides the professional industrial hygiene, safety and laboratory services needed to assess safety hazards, conduct exposure monitoring and interpret laboratory data to support operations and assure compliance with Environmental and Health and Safety regulations.

EMPLOYEES

Employee Responsibilities

Responsibilities of employees associated with this project include, but are not limited to:

- Understanding and abiding by the policies and procedures specified in the HASP and other applicable safety policies, and clarifying those areas where understanding is incomplete.
- Providing feedback to the NVL relating to omissions and modifications in the HASP or other safety policies.
- Notifying NVL of unsafe conditions and acts.

Employee Authority

The health and safety authority of each employee assigned to the site includes the following:

- The right to refuse to work and/or stop work authority when the employee feels that the work is unsafe, or where specified safety precautions are not adequate or fully understood.
- The right to refuse to work on any site or operation where the safety procedures specified in this HASP or other safety policies are not being followed.
- The right to contact NVL at any time to discuss potential concerns.

3.0 SITE HAZARDS

The project is to remove exterior paint that is known to contain PCBs. The methods to be used by CGI to remove the paint include abrasive blasting and chemical removal.

Other hazards also exist at the site and are categorized as construction hazards.

4.0 SITE CONTROL

GENERAL

The purpose of site control is to minimize potential contamination of workers and protect the adjacent area from the site hazards.

Controlled work areas will be established at each work location, and if required, will be established directly prior to the work being conducted. Diagrams designating specific controlled work areas will be provided by CGI, posted in the support area and discussed during the daily safety meetings. If the site layout changes, the new areas and their potential hazards will be discussed immediately after the changes are made.

5.0 SAFE WORK PRACTICES

STOP WORK AUTHORITY

- **Project Manager and Site Safety Officer**

The PM and SS have the ultimate responsibility and authority to stop work if they determine if workplace conditions present an uncontrolled risk of injury or illness to employees. Resumption of safe operations is the primary objective AND operations shall not resume until NVL has concurred that workplace conditions meet acceptable safety standards.

- **Employees**

All employees have the right and duty to stop work when conditions are unsafe and to assist in correcting these conditions.

6.0 TRAINING

HAZWOPPER training is required for workers at the site.

The CIH will work with PM to identify if additional training is required. Topics for training may include:

- **HASP training**

Instruction on the contents of applicable portions of this HASP and any supplemental health and safety information developed for the tasks to be performed, including:

- Information about the potential routes of exposure, protective clothing, precautionary measures, and symptoms or signs of chemical exposure and heat stress.
- Awareness of task-specific physical hazards and other hazards that may be encountered during site work. This includes any specific required training for health and safety.
- Awareness of emergency and evacuation procedures.

- **Personal Protective Equipment (PPE)**

- **Respiratory Protection**

- **Hazard Communication Program**

7.0 PERSONAL PROTECTIVE EQUIPMENT

NVL's existing Personal Protective Equipment (PPE) procedures/program will be followed at this site, which includes training in its use.

Priority for control of site hazards will be eliminated or reduced to the greatest extent possible first through administrative and/or engineering controls along with safe work practices prior to relying on personal protective equipment. The goal, if PPE is used, is that it is as a back-up if the other controls are ineffective.

General Information about Personal Protective Equipment		
Type	Material	Information
Safety Vest	High Visibility	Must be visible from all sides
Boots		
Safety Glasses		ANSI Approved
Hearing Protection	Ear Plugs and/or Muffs	When in noisy environments
Gloves	Any	When working with sharp objects or powered equipment
Protective chemical gloves	Inner: Best Safety N-DEX Outer: Heavy duty Nitrile, PVC, Neoprene, and Viton	When in contact with potentially contaminated materials

Protective Chemical Overalls	Tyvek	When clothing may contact contaminated materials
Protective Chemical Boots	Rubber, Neoprene, PVC	If needed
Level C Respiratory Protection	Full Face Respirator	If in containment
Face shield	Debris/splash shield	If needed
Cold weather gear	Hard hat liner, hand warmers, and insulated gloves	If needed

8.0 GENERAL SAFETY AT THE SITE

Smoking, Eating, or Drinking

Smoking, eating and drinking will not be permitted inside any controlled work area at any time. Field workers will first wash hands and face immediately after leaving controlled work areas (and always prior to eating or drinking).

Personal Hygiene

The following personal hygiene requirements will be observed:

- Water Supply: A water supply meeting the following requirements will be utilized:
- *Potable Water* - An adequate supply of potable water will be available for field personnel consumption. Potable water can be provided in the form of water bottles, canteens, water coolers, or drinking fountains. Where drinking fountains are not available, individual-use cups will be provided as well as adequate disposal containers. Potable water containers will be properly identified in order to distinguish them from non-potable water sources.
- *Non-Potable Water* - Non-potable water may be used for hand washing and cleaning activities. No potable water will not be used for drinking purposes. All containers of non-potable water will be marked with a label stating:

***Non-Potable Water
Not Intended for Drinking Water Consumption***

Heat and Cold Stress

Heat and cold stress may vary based upon work activities, PPE/clothing selection, and weather conditions. To reduce the potential of developing heat/cold stress, NVL will be aware of the signs and symptoms of heat/cold stress and watch fellow employees for signs of heat/cold stress.

9.0 RECORDKEEPING

Records shall established and maintained of all necessary and prudent monitoring activities as described in the appendices.

Copies of air sampling results will be maintained in the project files.

Addendum Item # 31

Roof Drain Protection Plan Phase 1

The purpose of this document is to clarify the protection plan for the roof drain in building 13, 10 and 11 to Exhibit 10 in Phase 1 IPWP".

RD #	Location	Action/Protection	Notes
RD40	South East corner on the out side wall	Drain will be reroute so it drains to courtyard. Filter at the outside end of the corrugated pipe	Before blasting work starts
RD41	South West of Corner roof deck	Filter fabric	Before blasting work starts
RD42	North West corner on the out side wall	Drain will be reroute so it drains to parking lot. Filter will be placed on the outside end of the corrugated pipe	Before blasting work starts

- Building 10 and 11 roof drain (RD 43, RD45 and RD 46) will protect with filter and will be out side of the containment.

