

TECHNICAL MEMORANDUM

TO: Stuart Milbrad (by email)

cc: Josh Lipsky – Cascadia Law Group (by email)

FROM: Jeffrey Kaspar, Principal Geologist

DATE: November 7, 2018

RE: ESTIMATED FUTURE CLEANUP COSTS

FORMER CITY HAND LAUNDRY PROPERTY

1002 4TH STREET

BREMERTON, WASHINGTON

FARALLON PN: 603-001

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum to provide an estimate of future cleanup costs at the former City Hand Laundry property at 1002 4th Street in Bremerton, Washington (herein referred to as the Property) (Figure 1). Historical operations at the former dry cleaning facility on the Property resulted in confirmed releases of the dry cleaning solvent tetrachloroethene (PCE) that affected soil gas, soil, and groundwater quality on the Property and at locations beyond the boundaries of the Property. A "site," as defined by the criteria set forth under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), comprises all areas where hazardous substances have come to be located at concentrations exceeding applicable MTCA cleanup levels in media of concern (i.e., soil, groundwater, soil gas, indoor air, surface water, sediment). The site associated with PCE releases at the Property includes areas extending off the Property to the north, east, and south where PCE concentrations exceed the applicable MTCA cleanup level for groundwater (herein referred to as the Site) (Figure 2). The extent of contamination has not been adequately assessed by subsurface investigations completed to date to meet the requirements for a Remedial Investigation and define the limits of the Site under MTCA.

The purpose of this Technical Memorandum is to present a summary of the anticipated work and associated costs required to complete the cleanup of the Property, define the limits of the Site under MTCA, and complete the cleanup of the entire Site. This Technical Memorandum includes a



summary of historical background information, including source-control interim cleanup action cleanup work conducted through October 2017 to remediate the source(s) of PCE affecting groundwater that resulted in off-Property impacts, and a summary of the anticipated work elements and associated costs to complete the Site-wide cleanup action in accordance with the requirements set forth under MTCA.

BACKGROUND

The Property consists of approximately 0.28 acre of land that was occupied by a dry cleaning facility from the 1940s to 1985, when the dry cleaning facility burned down. The Property was owned/operated by the insured, Mr. Stuart Milbrad, between approximately 1961 and 1986. The Property was sold in May 1986 to the Land Title Company of Kitsap County, which used the Property as a parking lot for its business on the eastern side of Warren Avenue. The Property was sold again in February 2004 to the current owner/operator, Bremerton Christian Center, north of the Property, which continues to use the Property as a parking lot. The only owner/operator that used PCE at the Property is Mr. Milbrad, during operation of the former City Hand Laundry.

Previous environmental investigations pertaining to the Site have included the following:

- A limited site investigation completed by SECOR International Incorporated in 1998, with the results presented in the *Land Title Building Site Investigation Report* dated June 12, 1998;
- A Phase II subsurface investigation completed by Farallon in 1999, with the results presented in the *Phase II Subsurface Investigation, Land Title Building Parking Lot, 1002 4th Street, Bremerton, Washington* report dated December 6, 1999;
- A subsurface investigation and a soil vapor extraction (SVE) feasibility pilot test completed by Farallon in 2000, with the results presented in the *Subsurface Investigation and Soil Vapor Extraction Feasibility Pilot Test, Former City Hand Laundry, 1002 4th Street, Bremerton, Washington report dated January 27, 2004; and*
- An additional phase of subsurface investigation and an air sparge feasibility pilot test completed by Farallon in 2005, with the results presented in the Additional Subsurface Investigation and Feasibility Testing Report, Former City Hand Laundry Property, 1002 4th Street, Bremerton, Washington dated January 25, 2006.

The results of the various phases of investigation work in the late 1990s and early 2000s confirmed that releases of PCE had occurred at a former laundry machine sump and subsurface drains in the northern portion of the Property and near a former dry cleaning machine at the southeastern portion of the Property. Investigation of groundwater quality included installation of monitoring wells at the Property and off the Property in adjacent rights-of-way to the north, east, and south to define the Site. PCE was detected at concentrations exceeding the applicable MTCA cleanup level of 5 micrograms per liter in groundwater samples collected from monitoring well MW-8 across the alley north of the northeastern Property corner, from monitoring wells MW-6 and MW-7 within



the eastern right-of-way of Warren Avenue east of the Property, and from monitoring well MW-10 south of the Property within the right-of-way of 4th Street (Figure 2). The vertical limits of PCE impact to groundwater also were evaluated at the Property, and PCE concentrations exceeding the MTCA cleanup level of 5 micrograms per liter were confirmed to extend to a depth of at least 80 feet below ground surface.

The Property had been enrolled in Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) in 2004, and Ecology had been provided historical reports regarding remedial investigation work and evaluation of technically feasible cleanup technologies for soil and groundwater. The Property initially was rejected from the VCP because the Ecology project manager conveyed that the high concentrations of PCE in soil and groundwater, extensive depth of contamination, and potential for off-Property impacts indicated that the Property should be under an Agreed Order or Consent Decree with Ecology. Farallon worked with Ecology to retain the Property in the VCP because an Agreed Order or Consent Decree pathway would not allow any leeway for deviation from the formal cleanup pathway requirements for remedial investigation, feasibility study, and cleanup action alternative evaluation. This would have very likely resulted in exhausting the limited project funding available through the Washington Insurance Guaranty Association prior to achieving any significant cleanup of the Property or Site.

Farallon worked with Ecology between 2004 and 2007 under the VCP and in accordance with requirements under WAC 173-340-350 regarding remedial investigations/feasibility studies, and WAC 173-340-430 regarding interim actions, to obtain concurrence on a path forward that would provide sufficient information to implement an interim action that would address the source(s) of PCE at the Property and reduce threats to human health and the environment. Further assessment of the Site was discontinued in 2005, and a source-control interim cleanup action was proposed and accepted by Ecology. The purpose of the source-control interim cleanup action was to clean up the source(s) of PCE contamination at the Property and limit further dispersion of PCE in groundwater off the Property. Pilot testing to evaluate the feasibility of SVE and air sparging technologies was conducted during the investigations conducted by Farallon in 2000 and 2005. Both technologies were technically feasible and were incorporated into the source-control interim cleanup action.

Farallon also worked with the Washington Insurance Guaranty Association, and their consultant, Kleinfelder, Inc. (Kleinfelder) between 2006 and 2008 regarding the remedial investigation, feasibility study pilot testing of SVE and air sparging technologies, and implementation of the source-control interim cleanup action. Kleinfelder reviewed Farallon's work and recommendation for the source-control interim cleanup action. Kleinfelder issued a report to the Washington Insurance Guaranty Association entitled *Environmental Peer Review Services, Environmental Site Assessment Reports, 1998 – Present, City Hand Laundry Site, Land Title Building Parking Lot, 1002 4th Street, Bremerton, Washington, dated October 26, 2006. This report validated Farallon's remedial investigation and feasibility study work conducted through 2006. Kleinfelder concluded that application of SVE and air sparging technologies were the most technically feasible and cost-effective options for the source-control interim cleanup action and recommended proceeding. Kleinfelder also concurred with Farallon's and Ecology's conclusions that additional remedial*



investigation and feasibility study work eventually would be required to define the Site under MTCA and assess what cleanup activities would be necessary for the entire Site.

The source-control interim cleanup action implemented at the Property included installation and intermittent operation of an ozone sparge system from July 2008 through January 2012, and installation and continual operation of an SVE system from August 2008 through October 2017. Source-control interim cleanup action progress was monitored via extracted vapor and groundwater sampling. Ozone sparging was selected rather than air sparging to further accelerate the groundwater cleanup. Ozone is a gaseous oxidant with the ability to react rapidly with PCE, destroying it in situ. Air sparging would have increased the granular activated carbon usage needs associated with capturing vapor phase PCE generated by the physical stripping and volatilization of the air sparging and SVE, increasing the cost of the source-control interim cleanup action. Granular activated carbon must be replaced periodically once its capacity to retain the captured PCE is achieved and then must be treated as a hazardous waste.

As of October 31, 2017, the source-control interim cleanup action work had removed an estimated 5,217 pounds (approximately 387 gallons) of PCE from the subsurface based on the extracted vapor sampling data. Performance groundwater and extracted vapor sampling data have indicated that the source-control interim cleanup action has resulted in a substantial decrease in PCE concentrations at locations both on and off the Property (Figure 2). PCE removal through October 2017 has not yet declined based on the extracted vapor sampling results, indicating that Property cleanup is not completed. A precise time frame for completion of Property cleanup cannot be determined until PCE mass removal begins to decline. Periodic evaluation of the source-control interim cleanup action status has indicated that some areas of the Property may meet the cleanup goals. However, areas closer to the source(s) of historical PCE releases continue to contribute sufficient PCE mass removal to substantiate continued operation of the SVE system.

The source-control interim cleanup action was discontinued in October 2017 when allowable PCE concentrations in the granular activated carbon used to capture PCE removed from the subsurface exceeded the existing Puget Sound Clean Air Agency operating permit. Continued operation of the SVE system necessitated replacement of the granular activated carbon. Further work has been discontinued pending evaluation of available funding to continue the source-control interim cleanup action and Site-wide investigation/cleanup work required under MTCA.

The estimated cost of work conducted by Farallon for past remedial investigation, feasibility study, and source-control interim cleanup action work is summarized in Table 1. The total project cost through September 2018 is \$1,306,295. Farallon also has included summary tables that include project payment summaries of payments received from Reliance Insurance Company and the Washington Insurance Guaranty Association for project work conducted by SECOR International Incorporated and Farallon. The project payment tables are included in Attachment A.



FUTURE WORK REQUIRED

The source-control interim cleanup action work conducted through October 2017 has effectively reduced the mass of PCE, resulting in a corresponding reduction of PCE concentrations in groundwater. However, as previously stated, cleanup of the PCE sources at the Property is not complete. PCE concentrations in groundwater persist and continue to migrate off-Property beyond the limits of the existing monitoring well network. The limits of the Site require further investigation, and a Site-wide cleanup of the affected media throughout the Site that exceed the MTCA cleanup levels will be required by Ecology.

Future cleanup work for the Property and Site that will be required by Ecology under MTCA includes the following work elements:

- Continuing to work with Ecology under the Voluntary Cleanup Program.
- Continuing the source-control interim cleanup action work to complete cleanup of soil gas, soil, and groundwater at the Property.
- Conducting additional remedial investigation work to define the Site under MTCA and determine whether Site-wide cleanup work will be required.
- Conducting additional feasibility study work to evaluate potential cleanup technologies that could be applied to conduct cleanup of contamination in the affected media off the Property. At this time, Farallon has assumed that groundwater is the only medium that would require cleanup off the Property.
- Submitting a Remedial Investigation/Feasibility Study report to Ecology for a formal opinion regarding the sufficiency of characterization of the Site under MTCA.
- Submitting a Cleanup Action Plan to Ecology for a formal opinion letter regarding completion of the source-control interim cleanup action as a component of the final cleanup action and regarding the selected remedial action for cleanup of the Site.
- Implementing Site-wide cleanup of groundwater and conducting compliance emissions and groundwater monitoring and sampling to evaluate performance of the Site-wide cleanup action and confirm that the cleanup action for the Site is completed.
- Submitting a Cleanup Action Completion report to Ecology for a formal opinion letter regarding a request for a No Further Action determination for the Site.
- Interacting with Ecology throughout the cleanup action, including processing data collected during the remedial investigation, feasibility study, and cleanup action work for submittal to Ecology's electronic information management system database.
- Decommissioning remediation system components and monitoring wells following receipt of a No Further Action determination for the Site from Ecology.



ESTIMATED FUTURE PROJECT COSTS

As stated above, future project work includes both Site-wide remedial investigation and cleanup work. Table 1 presents a summary of estimated costs associated with the future work elements cited above. The estimated costs presented in Table 1 are based on Farallon's historical experience with the Site and similar dry cleaning facility cleanup sites. Table 2 includes additional details regarding the basis for the costs presented in Table 1.

The estimated costs in Tables 1 and 2 include some degree of uncertainty associated with the following data gaps:

- The limits of the Site are not defined at this time. As previously stated, groundwater data from the existing monitoring well network and remedial investigation work conducted indicate that groundwater contamination with PCE concentrations exceeding the MTCA cleanup level exists beyond the limits of Property. Defining the limits of the Site under MTCA is necessary to assess the Site-wide cleanup costs.
- The time frame for completing the source-control interim cleanup action work for the Property cannot be definitively determined at this time because PCE mass continues to be removed without a consistent decline in the removal rate. Farallon is estimating an additional 5 to 6 years of operation of the SVE and ozone sparging systems due to the current uncertainty associated with the decline of PCE mass removal.
- The Site-wide cleanup requirements cannot be confirmed until the additional remedial investigation and feasibility study work for the Site is completed.
- The time frame for the Site-wide cleanup cannot be confirmed at this time because the limits of contamination and affected media requiring cleanup are presently uncertain. Vapor intrusion mitigation and groundwater cleanup may be required in limited areas of the Site or throughout the Site. Farallon has based the Site-wide cleanup costs on an initial time frame for cleanup of 6 to 8 years, with Site completion extending for a total of up to 14 years (6 additional years). It is likely that select components of the Site-wide cleanup action, including the additional remedial action and feasibility study work to select appropriate cleanup technologies for the affected media, will be initiated concurrently with the source-control interim cleanup action. However, Farallon anticipates that obtaining Ecology's concurrence on the completion of the remedial investigation, selection of the Site-wide cleanup alternative, and implementing/completing the Site-wide cleanup action will likely exceed the 6- to 8-year time frame. As a result, and for purposes of this estimate, Farallon has assumed Site completion will take up to 14 years to account for non-concurrent work elements and unknowns regarding the effectiveness of the selected cleanup technologies.

Due to the uncertainties cited above and Farallon's experience to date with the source-control interim cleanup action work, which has required more time to complete due to the mass of PCE released, Farallon applied a contingency cost of 20 percent on the estimated totals presented in Table 1. The contingency cost includes: an additional time component to complete the source-



control interim and Site-wide cleanup actions; costs associated with potential unknown conditions encountered during cleanup and remedial investigation work; and/or regulatory requests for additional work elements not presently included in the cost estimate. Based on Farallon's historical experience with work conducted at the Site and other dry cleaning facility cleanups that extend beyond property boundaries, the basis for the cost estimates represents a reasonable estimate of potential future project costs.

The costs associated with investigation and cleanup of the Property and Site include:

- \$1,306,295 in remedial investigation, feasibility study, source-control interim cleanup action, and regulatory interaction costs from June 2000 to September 2018.
- \$934,100 in future source-control interim cleanup action work at the Property for an estimated time frame of 5 to 6 years. This work likely will also become a component of the final Site-wide cleanup action.
- \$1,612,000 in future remedial investigation, feasibility study, and cleanup action work for the Site, which includes confirmation of cleanup, regulatory closure, and decommissioning of all monitoring wells and remediation system(s) components. This estimate assumes that a majority of the work will be completed over an estimated time frame of 6 to 8 years but all work elements cited above and in Table 1 likely will not occur concurrently with the source-control interim action work, which would extend the time frame beyond the 8 year estimate. Farallon has therefore assumed an additional 6 years to complete the cleanup of the entire Site, which could extend the time frame to achieve regulatory closure to 14 years.

The total estimated future costs for both the source-control interim cleanup action and Site-wide cleanup action are \$2,546,100. This estimate is based on a time frame of 5 to 14 years to complete all investigation and cleanup work required under MTCA for the entire Site and obtain a No Further Action determination under the VCP. The outside estimate of 14 years would reflect completion of the source-control interim cleanup action in 6 years, followed by implementation and completion of the Site-wide cleanup within 8 years after that.

Attachments: Figure 1, Site Plan

Figure 2, Site Plan Showing Groundwater Analytical Results

Table 1, Preliminary Cleanup Action Cost Estimate

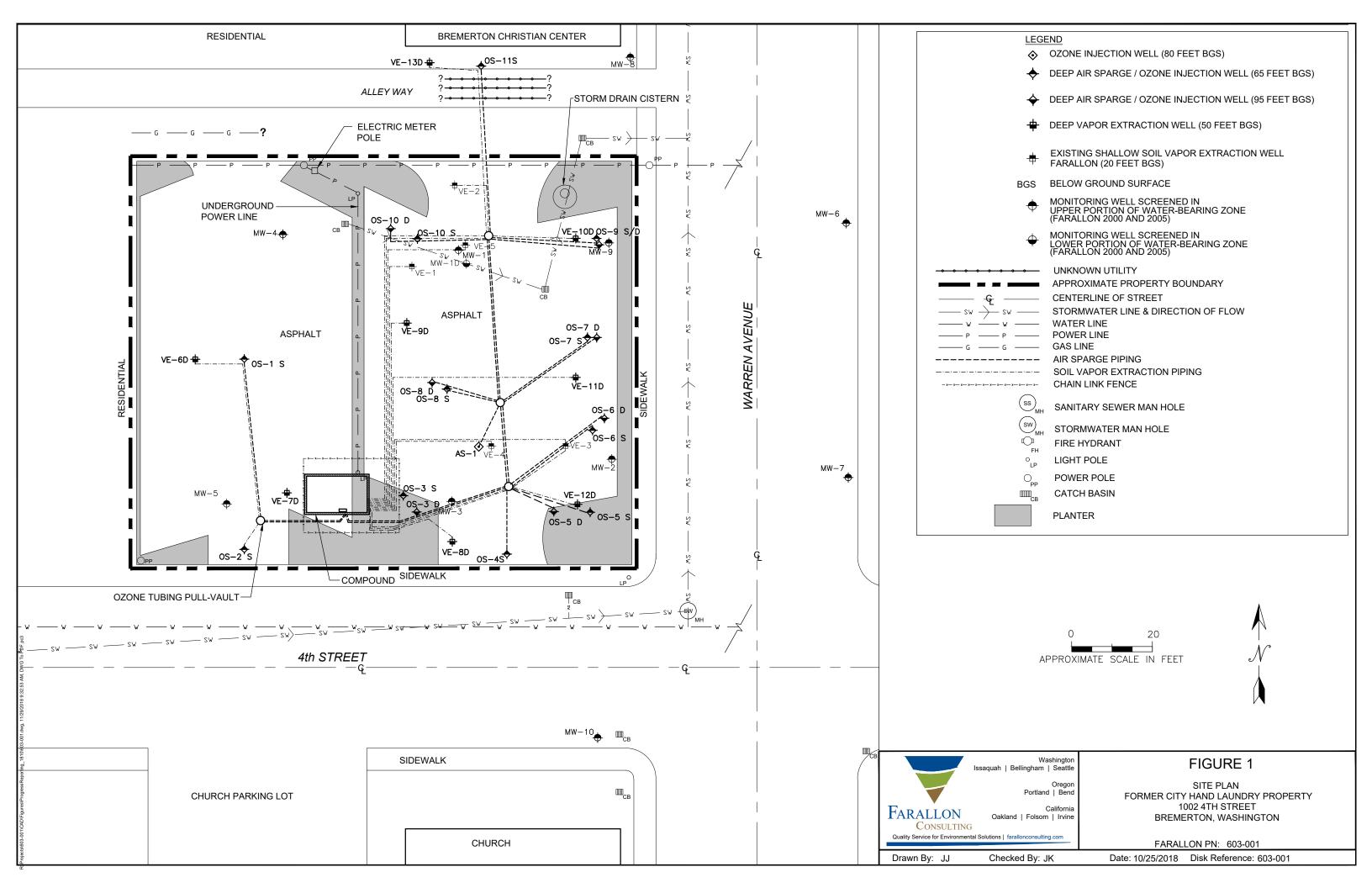
Table 2, Preliminary Cleanup Action Cost Estimate Details

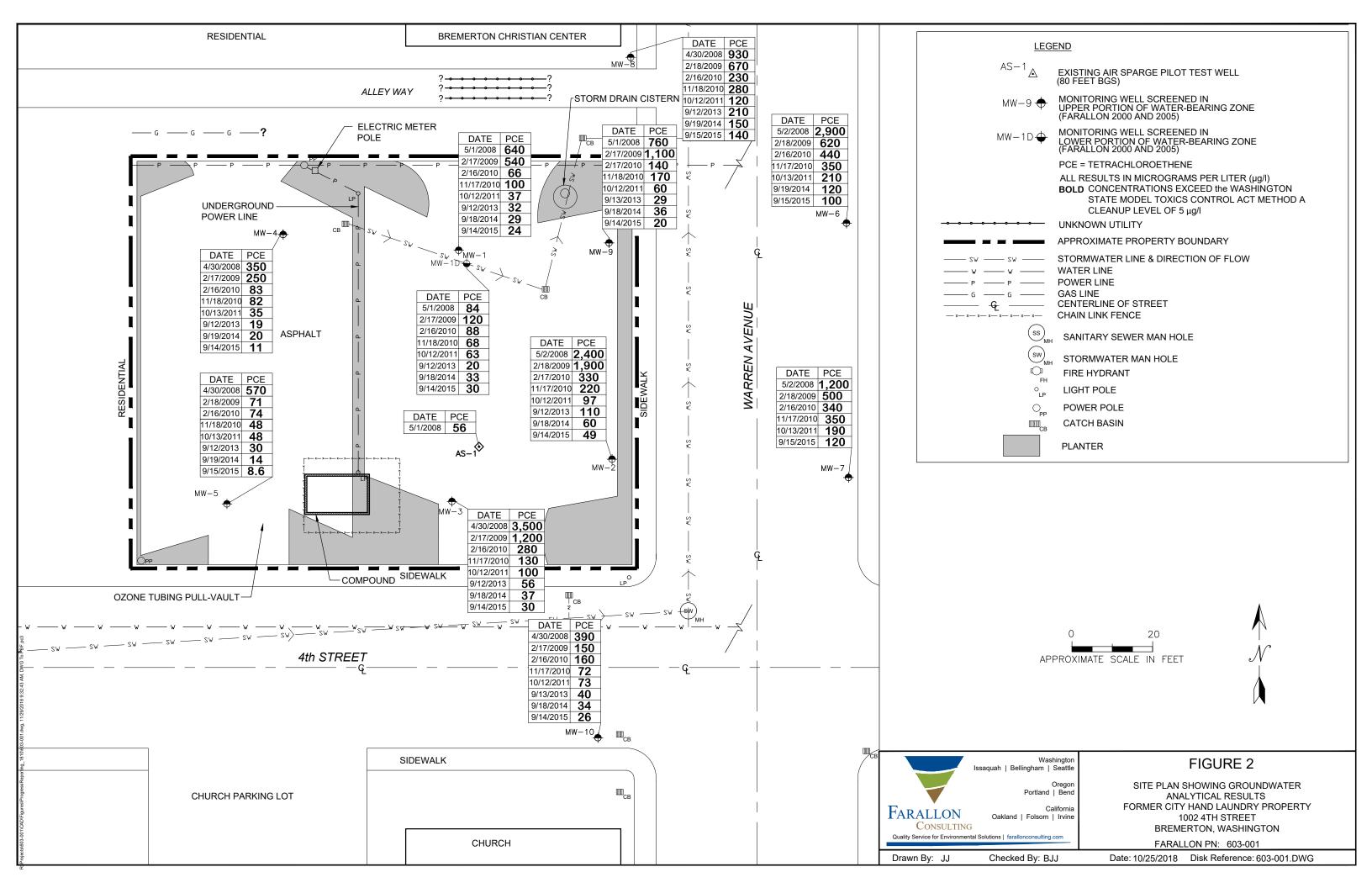
Attachment A, Project Payment Summary Tables

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FIGURES

ESTIMATED FUTURE CLEANUP COSTS
Former City Hand Laundry Property
1002 4th Street
Bremerton, Washington





TABLES

ESTIMATED FUTURE CLEANUP COSTS
Former City Hand Laundry Property
1002 4th Street
Bremerton, Washington

WORK COMPLETED THROUGH SEPTEMBER 2018						
Project Task	Estimated Duration	Estimated Cost				
	Limited Remedial Investigation/Feasibility Study and Source-Control Interim Cleanup Action Work					
Project Management	Project management to date. Includes project management to support site investigation, feasibility testing, and implementation of the source-control interim cleanup action from June 2000 through September 2018.	18 years (Actual)	\$147,561			
Remedial Investigation	Conducted limited remedial investigation work to collect information required to estimate the limits of soil and groundwater impacts at and immediately adjacent to the Property. The work was conducted in various phases from June 2000 through September 2005.	5 years (Actual)	\$122,261			
Feasibility Testing	Performed focused feasibility testing of select technologies that could be feasible for the source-control interim cleanup action alternative and for cleanup of the Property. Feasibility testing work was conducted in August and September 2000, followed by additional feasibility study work that was conducted from February 2005 through March 2006.	1 year (Actual)	\$37,452			
Source-Control Interim Cleanup Action (Soil Vapor Extraction and Ozone Sparging)	Included preliminary and final engineering design, permitting, installation of soil vapor extraction and ozone sparging systems, construction management from September 2005 through July 2008, intermittent operation of the ozone sparging system from July 2008 through January 2012, and continual operation of the soil vapor extraction system from August 2008 through October 2017. Source-control interim cleanup action included periodic groundwater monitoring and reporting throughout the duration of the remediation systems operation to monitor progress of the cleanup action.	12 years (Actual)	\$999,021			
	CURRENT WORK COMPLETED TOTAL	18 years (Actual)	\$1,306,295			

Project Task	Scope of Work	Estimated Duration	Estimated Cost				
FUTURE WORK ELEMENTS FOR THE PROPERTY AND SITE							
	Source-Control Interim Cleanup Action for Groundwater (Property)						
Ozone Sparging System Installation	4 months	\$30,600					
Operation and Maintenance of Ozone Sparging System	Includes operation and maintenance of ozone sparging system, equipment rental, electrical costs, equipment servicing, and optimization. Estimate assumes that the ozone sparge system will operate for 3 years.	3 years	\$275,500				
Performance Groundwater Monitoring	5 years	\$81,900					
	Source-Control Interim Cleanup Action for Soil and Soil Gas (Property)						
Operation and Maintenance of Soil Vapor Extraction System Includes operation and maintenance of existing soil vapor extraction system, compliance sampling for Puget Sound Clean Air Agency permit, and electrical costs. Estimate assumes that the soil vapor extraction system will operate for 5 years and the carbon change-out would occur at 1.5-year intervals. Estimate also assumes blower motor will be replaced once during the 5-year operation due to continuous operation needs.		5 years	\$269,000				
	Source-Control Interim Cleanup Action Additional Tasks (Property)						
Reporting	Prepare annual Cleanup Action Status Report. Estimate assumes five annual reports.	5 years	\$50,700				
Project Management	Project management throughout the interim cleanup action and vapor intrusion assessment (assumed 10 percent of total interim action estimated cost).	5 years	\$70,800				
Contingency Cost	Due to uncertainty associated with the cleanup time frame, a 20 percent contingency cost is included based on all interim cleanup action work cited above. Includes one additional year of work beyond the estimated 5-year time frame.						
ESTIMATED SOURCE CONTROL INTERIM CLEANUP ACTION FOR <u>THE PROPERTY</u> TOTAL 5-6 ye							

Project Task	Scope of Work	Estimated Duration	Estimated Cost					
	Site-Wide Cleanup Action - Remedial Investigation and Feasibility Study (Site)							
Remedial Investigation Field Program (Additional Groundwater Characterization)	Conduct additional field work to install monitoring wells and collect groundwater samples to define the extent of the Site per MTCA and complete the remedial investigation. Estimate assumes installation and sampling of 10 monitoring wells.	5 months	\$89,300					
Vapor Intrusion Assessment (Remedial Investigation Work)	Conduct vapor intrusion assessment at adjacent properties within the areas where dry cleaning solvent contamination in groundwater exceeds Washington State Model Toxics Control Act Cleanup Regulation screening levels for protection of indoor air. Estimate assumes collection of soil gas and indoor and outdoor air samples at the north-, south-, and east-adjacent properties.	4 months	\$28,800					
Feasibility Study Pilot Testing for Off-Property Groundwater Impacts	Conduct a pilot-scale test for in-situ chemical oxidation. Estimate assumes the pilot test will be conducted on the Property and includes installing four injection wells and monitoring migration and depletion of chemical oxidant in one monitoring well for 3 months.	5 months	\$100,100					
Remedial Investigation/Feasibility Study Report	Prepare and submit draft and final versions of Remedial Investigation/Feasibility Study Report for submittal to the Washington State Department of Ecology (Ecology).	2 months	\$29,800					
	Site-Wide Cleanup Action - Cleanup Work Elements (Site)							
Cleanup Action Plan	Prepare and submit draft and final versions of Cleanup Action Plan to Ecology.	2 months	\$17,800					
Cleanup Action for Off-Property Groundwater	Implement cleanup alternative for contaminated groundwater off the Property using in-situ chemical oxidation technology. Estimate assumes groundwater will be cleaned up by injecting chemical oxidant into nested injection wells installed along three transects perpendicular to plume axis (est. 28 injection wells). Estimate assumes two injection events.		\$683,600					
Performance Groundwater Monitoring	Performance Groundwater Monitoring Estimate assumes semiannual sampling of 10 monitoring wells for 6 years and annual reporting.		\$99,600					
	Site-Wide Cleanup Action - Confirmational Monitoring and Reporting (Site)							
Confirmation Groundwater Monitoring	Conduct four quarters of confirmation groundwater monitoring following completion of the performance groundwater monitoring and attaining the cleanup levels for groundwater at standard points of compliance. Estimate assumes sampling 20 monitoring wells.	1 year	\$47,100					
Confirmation Soil Sampling	Conduct subsurface investigation to collect samples to confirm soil cleanup levels have been attained throughout the Site. Estimate assumes 10 borings advanced to a depth of 30 feet below ground surface.	2 months	\$28,300					
Site-Wide Cleanup Action Completion Report	Summarize the completed cleanup action on and off the Property in the Cleanup Action Completion Report and request a Site-wide No Further Action determination from Ecology.	3 months	\$23,200					

Project Task	Scope of Work	Estimated Duration	Estimated Cost
	Site-Wide Cleanup Action - Additional Tasks (Site)		
Regulatory Interaction	Prepare an application for the Ecology Voluntary Cleanup Program. The application will be prepared in conjunction with preparation of the Remedial Investigation/Feasibility Study Report and Cleanup Action Plan. Includes preparation and electronic transfer of analytical and pertinent field-measured data into the Ecology Environmental Information Management System database. Includes ongoing interactions with Ecology and estimated regulatory fees for Ecology review and opinion during various phases of the investigation and cleanup action under the Voluntary Cleanup Program.	6 years	\$49,900
Monitoring Well and Remediation System(s) Decommissioning	Decommission the monitoring well network in accordance with Washington Administrative Code 173-160 for well abandonment and decommission the soil vapor extraction and ozone sparge systems following receipt of No Further Action determination for the Site from Ecology.	2 months	\$23,700
Project Management	6 years	\$122,100	
Contingency Cost	Due to uncertainty associated with the cleanup time frame and the remedial investigation work necessary to define the Site and affected media of concern, a 20 percent contingency cost is included based on all remedial investigation and cleanup action work cited above. Includes an additional 2 years beyond the 6 years estimated.	Not Applicable	\$268,600
	6-8 years	\$1,611,900	
ESTIMATED FUTURE PROJECT COST GRAND TO	5-14 years	\$2,546,100	

Table 2

Project Task	Cost Detail					
Source-Control Interim Cleanup Action for Groundwater (Property)						
	Farallon Labor	\$15,800				
Ozone Sparging System Installation	Farallon Equipment	\$1,500				
Ozone Sparging System Instanation	Subcontractors/Vendors (installation of rental ozone unit, system repairs, electrical hookup)	\$13,300				
	Estimated Task Total	\$30,600				
	Farallon Labor	\$59,800				
Operation and Maintenance of Ozone Sparging System	Farallon Equipment	\$4,000				
Operation and Maintenance of Ozone Sparging System	Subcontractors/Vendors (ozone system rental, periodic service, electricity)	\$211,700				
	Estimated Task Total	\$275,500				
	Farallon Labor	\$50,200				
Performance Groundwater Monitoring	Farallon Equipment	\$16,500				
Teriormance Groundwater Womtoring	Subcontractors/Vendors (laboratory)	\$15,200				
	Estimated Task Total	\$81,900				
9	Source Control Interim Cleanup Action for Soil and Soil Gas (Property)					
	Farallon Labor	\$97,500				
Operation and Maintenance of Soil Vapor Extraction System	Farallon Equipment	\$19,000				
Operation and Maintenance of Son Vapor Extraction System	Subcontractors/Vendors (carbon change-out and blower replacement)	\$152,500				
	Estimated Task Total	\$269,000				
	Source-Control Interim Action Additional Tasks (Property)					
Reporting	Farallon Labor	\$50,700				
(Source-Control Interim Cleanup Action)	Estimated Task Total	\$50,700				
Project Management	Farallon Labor	\$70,800				
1 Toject Management	Estimated Task Total	\$70,800				
	Farallon Labor	\$69,000				
Contingency Cost (20 percent)	Farallon Equipment	\$8,200				
Contingency Cost (20 per cent)	Subcontractors/Vendors (various)	\$78,500				
	Estimated Task Total	\$155,700				
	ESTIMATED SOURCE-CONTROL INTERIM CLEANUP ACTION FOR THE PROPERTY TOTAL	\$934,200				

Table 2

Project Task	Cost Detail	
Site	-Wide Cleanup Action - Remedial Investigation and Feasibility Study (Site)	
	Farallon Labor	\$20,300
Remedial Investigation Field Program	Farallon Equipment	\$4,400
(Additional Groundwater Characterization)	Subcontractors/Vendors (driller, utility locates, laboratory)	\$64,600
	Estimated Task Total	\$89,300
	Farallon Labor	\$18,300
Vapor Intrusion Assessment	Farallon Equipment	\$2,600
(Remedial Investigation Work)	Subcontractors/Vendors (utility locates, laboratory)	\$7,900
	Estimated Task Total	\$28,800
	Farallon Labor	\$25,800
Facilities Stade Dilet Testing for Off Duran outs Commission	Farallon Equipment	\$4,000
Feasibility Study Pilot Testing for Off-Property Groundwater Impacts	Subcontractors/Vendors (utility locates, drilling contractor, injection contractor, chemical oxidant vendor, underground injection control permit, laboratory)	\$70,300
	Estimated Task Total	\$100,100
D	Farallon Labor	\$29,800
Remedial Investigation/Feasibility Study Report	Estimated Task Total	\$29,800
	Site-Wide Cleanup Action - Cleanup Work Elements (Site)	
Cleanum Action Dlan	Farallon Labor	\$17,800
Cleanup Action Plan	Estimated Task Total	\$17,800
	Farallon Labor	\$125,600
	Farallon Equipment	\$22,700
Cleanup Action for Off-Property Groundwater	Subcontractors/Vendors (utility locates, drilling contractor, traffic control, street use permit, injection contractor, chemical oxidant vendor, underground injection control permit, laboratory)	\$535,300
	Estimated Task Total	\$683,600
	Farallon Labor	\$67,600
Douglasses Committee Maritimis	Farallon Equipment	\$19,800
Performance Groundwater Monitoring	Subcontractors/Vendors (laboratory)	\$12,200
	Estimated Task Total	\$99,600

Table 2

Project Task	Cost Detail					
Site-Wide Cleanup Action - Confirmational Monitoring and Reporting (Site)						
	Farallon Labor	\$27,000				
Confirmation Groundwater Monitoring	Farallon Equipment	\$9,900				
Communation Groundwater Monitoring	Subcontractors/Vendors (laboratory)	\$10,200				
	Estimated Task Total	\$47,100				
	Farallon Labor	\$11,200				
Confirmation Soil Sampling	Farallon Equipment	\$1,900				
Conti mation Son Sampring	Subcontractors/Vendors (drilling contractor, utility locates, laboratory)	\$15,200				
	Estimated Task Total	\$28,300				
Site-Wide Cleanup Action Completion Report	Farallon Labor	\$23,200				
Site-wide Cleanup Action Completion Report	Estimated Task Total	\$23,200				
	Site-Wide Cleanup Action - Additional Tasks (Site)					
	Farallon Labor	\$31,900				
Regulatory Interaction	Ecology Fees	\$18,000				
	Estimated Task Total	\$49,900				
	Farallon Labor	\$6,100				
Monitoring Well and Remediation System Decommissioning	Farallon Equipment	\$1,600				
Withintoring wen and Remediation System Decommissioning	Subcontractors/Vendors (drilling and remediation decommissioning contractors)	\$16,000				
	Estimated Task Total	\$23,700				
Project Management	Farallon Labor	\$122,100				
110ject Management	Estimated Task Total	\$122,100				
	Farallon Labor	\$105,300				
Contingency Cost (20 percent)	Farallon Equipment	\$13,400				
Contingency Cost (20 percent)	Subcontractors/Vendors/Ecology (various)	\$149,900				
	Estimated Task Total	\$268,600				
ESTIMATED SITE-WIDE REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION WORK TOTAL						
ESTIMATED FUTURE PROJECT COST GRAND TOTAL						

ATTACHMENT A PROJECT PAYMENT SUMMARY TABLES

ESTIMATED FUTURE CLEANUP COSTS Former City Hand Laundry Property 1002 4th Street Bremerton, Washington

Table 1
Reliance Insurance Company Payment Summary
Former City Hand Laundry Property
Bremerton, Washington
Farallon PN: 603-001

<u>Invoice</u>	Invoice Amount	Payment Date	Payment Amount	<u>Payor</u>	Check #
SECOR International	, Inc.				
1980899	8,242.80	11/6/1998	8,242.80	Reliance	2201516
Various	Unknown	12/10/1998	16,489.00	Reliance	2201713
Farallon Consulting, I	L.L.C.				
1373	632.50	5/2/2000	632.50	Reliance	40249796
1413	1,222.50	5/2/2000	1,222.50	Reliance	40249796
1466	11,639.13	5/2/2000	11,639.13	Reliance	40249796
1513	17,566.02	5/2/2000	17,566.02	Reliance	40249796
1553	2,338.25	5/2/2000	2,338.25	Reliance	40249796
1602	1,901.25	5/2/2000	1,901.25	Reliance	40249796
1646	611.25	5/2/2000	611.25	Reliance	40249796
1765	3,231.25	5/2/2000	3,231.25	Reliance	40249796
1783	220.00	5/2/2000	220.00	Reliance	40249796
1821	243.75	5/2/2000	243.75	Reliance	40249796
1888	776.25	5/2/2000	776.25	Reliance	40249796
1952	764.30	5/2/2000	764.30	Reliance	40249796
1995	5,923.50	5/2/2000	818.55	Reliance	40249796
1995	Balance Paid in 2003	3/28/2003	4,590.88	Reliance	40778571
Reliance Insurance Co	ompany Total Payments		71,287.68		

Table 2 Washington Insurance Guaranty Association Payment Summary

Former City Hand Laundry Property Bremerton, Washington

Invoice	Invoice Amount	Payment Date	Payment Amount	<u>Payor</u>	Check
lon Consulting, L.L.		7/30/2003	1,722.95	WA Ins. Association	19576
0000198	1,722.95	7/30/2003	· · · · · · · · · · · · · · · · · · ·	WA Ins. Association WA Ins. Association	19576
0000315	774.50		774.50		
0000428	2,954.36	7/30/2003	2,954.36	WA Ins. Association	19576
0000477	2,187.40	2/23/2004	2,187.40	WA Ins. Association	1191
0000572	1,637.50	2/23/2004	1,637.50	WA Ins. Association	1191
0000826	1,170.00	2/23/2004	1,170.00	WA Ins. Association	1191
0000884	2,610.00	2/23/2004	2,610.00	WA Ins. Association	1191
0001015	2,052.85	1/10/2005	2,052.85	WA Insur Guaranty Association	1295
0001097	1,787.50	4/6/2004	1,737.50	WA Ins. Co. Association	1211
0001097	Balance Paid	1/10/2005	50.00	WA Insur Guaranty Association	1295
0001240	347.50	4/29/2004	347.50	WA Ins. Cio. Ass.	1220
0001312	2,599.97	1/10/2005	2,599.97	WA Insur Guaranty Association	1295
0001312	876.25	1/10/2005	341.62	WA Insur Guaranty Association	1295
0001387	Balance Paid	1/19/2005	534.63	WA Insurance Guaranty Association	1296
		1/19/2005	787.50	WA Insurance Guaranty Association	1296
0001591	787.50			•	
0001768	1,438.58	1/19/2005	1,438.58	WA Insurance Guaranty Association	1296
0001948	2,780.00	1/10/2005	2,780.00	WA Insurance Guaranty Association	1292
0005245	1,773.75	7/6/2005	1,773.75	Washington Insurance Guaranty Assoc	1331
0005333	1,117.50	7/6/2005	1,117.50	Washington Insurance Guaranty Assoc	1331
0005419	55,134.24	9/28/2005	55,134.24	Washington Insurance Guaranty Associatio	1344
0005494	12,623.38	9/28/2005	12,623.38	Washington Insurance Guaranty Associatio	1345
0005583	22,941.51	9/30/2005	22,941.51	Washington Insurance Guarnty Assoc	1345
0005676	5,785.29	9/30/2005	5,785.29	Washington Insurance Guaranty Associatio	1345
0005757	2,895.00	1/3/2006	2,895.00	Washington Ins. Guaranty Association	1356
0005757	1,620.00	1/3/2006	1,620.00	Washington Ins. Guaranty Association	1356
	·			Washington Ins. Guaranty Association	1356
0005983	6,746.25	1/3/2006	6,746.25		
0006065	6,576.25	1/18/2005	6,576.25	WA Ins Guaranty Association	1360
0006162	9,590.95	5/25/2006	9,590.95	Washington Ins. Guaranty Assoc.	1383
0006251	3,177.30	5/25/2006	3,177.30	Washington Ins. Guaranty Assoc.	1383
0006348	10,902.83	5/24/2006	9,254.05	Washington Ins. Guaranty Assoc.	1382
0006516	4,070.92	11/22/2006	4,070.92	WA Insurance Guaranty Assoc.	1521
0006631	5,589.25	11/22/2006	5,589.25	WA Insurance Guaranty Assoc.	1521
0006737	3,109.65	9/13/2006	540.00	WA Ins. Guaranty Association	1508
0006898	7,732.25	10/31/2006	7,408.50	Washington Ins. Guaranty Assoc.	1516
0007082	2,061.45	1/3/2007	1,561.45	WA Ins Guaranty Association	1529
0007663	7,965.11	10/23/2007	7,965.11	WA Insurance Guaranty Assoc	1604
	7,701.75		7,701.75	WA Insurance Guaranty Assoc	1603
0007839	.,	10/23/2007	.,,	·	
0007971	5,697.65	10/16/2007	5,697.65	WA Insurance Guaranty Assoc	1603
0008046	4,030.24	10/16/2007	4,030.24	WA Insurance Guaranty Assoc	1603
0008109	2,758.80	11/16/2007	2,758.80	WA Insurance Guaranty Assoc	1609
0008308	6,707.00	1/25/2008	6,707.00	Washington Insurance Guaranty	1619
0008406	54,477.05	2/22/2008	54,477.05	Washington Insurance Guaranty Assoc	1624
0008499	245,860.68	3/25/2008	136,614.21	WA Insurance Guaranty Assoc	1629
0008499	Balance Paid	3/25/2008	109,246.47	WA Insurance Guaranty Assoc	1629
0008570	4,280.16	3/25/2008	4,280.16	WA Insurance Guaranty Assoc	1629
0008662	2,516.49	7/8/2008	2,516.49	Washington Insurance Guaranty Assoc	1640
0008808	39,425.46	6/10/2008	38,907.14	WA Insurance Guaranty Assoc	1637
				Washington Insurance Guaranty Assoc	1643
0008948	102,699.70	7/18/2008	102,699.70	WA Insurance Guaranty Assoc	1648
0009041	32,395.45	8/26/2008	32,395.45	·	
0009115	26,393.48	8/26/2008	26,393.48	WA Insurance Guaranty Assoc	1648
0009217	6,454.50	9/30/2008	6,454.50	WA Insurance Guaranty Assoc	1652
0009345	4,724.26	11/4/2008	4,724.26	WA Insurance Guaranty Assoc	1655
0009432	4,066.20	12/9/2008	4,066.20	WA Insurance Guaranty Association	1657
0009543	4,070.63	2/24/2009	4,070.63	Washington Insurance Guaranty Assoc	1661
0009604	5,246.68	1/20/2009	5,246.68	WA Insurance Guaranty Assoc	1659
0009686	7,671.44	4/28/2009	3,708.38	WA Insurance Guaranty Assoc	1666
	Balance Paid	4/28/2009	3,763.06	WA Insurance Guaranty Assoc	1666
0009686			2,702.00	-,	
0009686 0009810	15,467.50	6/16/2009	15,467.50	WA Insurance Guaranty Assoc	1667

Table 2 Washington Insurance Guaranty Association Payment Summary Former City Hand Laundry Property Bremerton, Washington

Invoice	Invoice Amount	Payment Date	Payment Amount	Payor	Check #
0009975	6,371.66	9/15/2009	6,371.66	WA Insurance Guaranty Assoc	16703
0010088	7,215.71	9/15/2009	7,215.71	WA Insurance Guaranty Assoc	16702
0010088	2,403.53	9/15/2009	2,403.53	WA Insurance Guaranty Assoc	16701
0010176	6,895.62	9/15/2009	6,895.62	WA Insurance Guaranty Assoc	16699
0010257	3,894.82	10/19/2009	3,894.82	Washington Insurance Guaranty Assoc	16713
0010558	7,293.79	12/15/2009	7,293.79	Washington Insurance Guaranty Assoc	16720
0010558	5,167.34	1/4/2010	5,167.34	Washington Insurance Guaranty Assoc	16727
0010032	3,288.79	2/2/2010	3,288.79	WA Insurance Guaranty Assoc	16734
0010773	2,385.62	3/8/2010	2,385.62	WA Insurance Guaranty Assoc	16739
0010884	8,416.07	3/30/2010	8,416.07	WA Insurance Guaranty Assoc	16743
0010928	21,005.24	4/26/2010	21,005.24	WA Insurance Guaranty Assoc	16754
0011078	4,333.40	6/29/2010	4,333.40	Washington Insurance Guaranty Assoc	16771
0011138	4,645.43	7/20/2010	4,645.43	Washington Insurance Guaranty Assoc	16778
	•		•	Washington Insurance Guaranty Assoc	16782
0011418	5,761.59	8/2/2010	5,761.59	WA Insurance Guaranty Assoc	16810
0011486	1,707.92	11/29/2010	1,707.92	WA Insurance Guaranty Assoc	16804
0011715	3,377.37	10/27/2010	3,377.37	•	
0011792	2,547.36	11/29/2010	2,547.36	WA Insurance Guaranty Assoc WA Insruance Guaranty Assoc	16810
0011922	9,252.30	1/20/2011	9,252.30	<u> </u>	16817
0012077	3,736.21	6/6/2011	3,736.21	WA Insurance Guaranty Assoc	16851
0012173	6,077.94	6/6/2011	6,077.94	WA Insurance Guaranty Assoc	16852
0012401	1,576.13	6/13/2011	1,576.13	WA Insurance Guaranty Assoc	16854
0012502	1,423.91	6/13/2011	1,423.91	WA Insurance Guaranty Assoc	16855
0012861	1,129.70	8/23/2011	1,129.70	WA Insurance Guaranty Assoc	16875
0013061	656.78	10/21/2011	656.78	WA Insurance Guaranty Assoc	16905
0013130	946.97	2/21/2012	946.97	WA Insurance Guaranty Assoc	16941
0013232	31,306.98	6/14/2012	200.00	WA Guaranty Assoc	16967
0013232	Balance Paid	6/19/2012	180.86	WA Insurance Guaranty Assoc	16971
0013232	Balance Paid	6/19/2012	400.32	WA Insurance Guaranty Assoc	16972
0013232	Balance Paid	6/19/2012	30,525.80	WA Insurance Guaranty Assoc	16973
0013360	9,566.98	6/14/2012	4,686.50	WA Insurance Guaranty Assoc	16968
0013360	Balance Paid	8/7/2012	4,880.48	WA Insurance Guaranty Assoc	16990
0013440	4,688.50	2/21/2012	4,688.50	WA Insurance Guaranty Assoc	16943
0013551	6,894.09	2/21/2012	6,894.09	WA Insurance Guaranty Assoc	16940
0013697	2,313.83	6/14/2012	2,313.83	WA Insurance Guaranty Assoc	16969
0013787	1,047.60	8/7/2012	1,047.60	WA Insurance Guaranty Assoc	16992
0013898	1,062.38	8/7/2012	1,062.38	WA Insurance Guaranty Assoc	16991
0014126	601.62	7/23/2012	601.62	WA Insurance Guaranty Assoc	16984
0014250	3,305.21	8/27/2012	3,305.21	WA Insurance Guaranty Assoc	16995
0014382	10,085.45	9/20/2012	10,085.45	WA Insurance Guaranty Assoc	17008
0014482	3,554.19	10/29/2012	3,554.19	WA Insusrance Guaranty Assoc	17021
0014630	4,033.39	11/26/2012	4,033.39	WA Insurance Guaranty Assoc	17031
0014782	5,243.14	1/2/2013	5,243.14	WA Insurance Guaranty Assoc	17045
0014898	3,444.55	3/11/2013	3,444.55	WA Insurance Guaranty Assoc	17069
0015031	2,951.70	3/11/2013	2,951.70	WA Insurance Guaranty Assoc	17073
0015127	2,975.43	3/14/2013	2,975.43	WA Insurance Guaranty Assoc	17076
0015235	3,712.97	4/29/2013	3,712.97	WA Insurance Guaranty Assoc	17098
0015438	2,277.29	5/28/2013	2,277.29	WA Insurance Guaranty Assoc	17117
0015686	1,568.47	7/5/2013	1,568.47	WA Insurance Guaranty Assoc	17143
0015877	1,099.02	7/29/2013	1,099.02	WA Insurance Guaranty Assoc	17175
0016091	1,989.39	10/15/2013	1,989.39	WA Insurance Guaranty Assoc	17323
0016252	29,280.50	10/21/2013	29,280.50	WA Insurance Guaranty Assoc	17335
0016414	4,412.04	11/19/2013	4,412.04	WA Insurance Guaranty Assoc	17387
0016584	6,933.04	12/23/2013	6,933.04	WA Insurance Graranty Assoc	17465
0016727	2,786.56	5/12/2014	2,786.56	WA Insurance Guaranty Assoc	17731
0016966	1,960.84	3/24/2014	1,960.84	WA Insurance Guaranty Assoc	17632
0017139	4,340.95	4/10/2014	4,340.95	WA Insurance Guaranty Assoc	17667
0017285	2,341.25	4/17/2014	2,341.25	WA Insurance Guaranty Assoc	17688
0017506	2,567.24	7/14/2014	2,567.24	WA Insurance Guaranty Assoc	17587
0017725	3,510.14	7/14/2014	3,510.14	WA Insurance Guaranty Assoc	17851
0017822	2,777.15	7/30/2014	2,777.15	WA Insurance Guaranty Assoc	17897
			2 of 2		

Table 2 Washington Insurance Guaranty Association Payment Summary Former City Hand Laundry Property Bremerton, Washington Farallon PN: 603-001

<u>Invoice</u>	Invoice Amount	Payment Date	Payment Amount	<u>Payor</u>	Check #
0018012	7,024.62	8/25/2014	7,024.62	WA Insurance Guaranty Assoc	17949
0018320	3,779.74	4/10/2015	3,779.74	WA Insurance Guaranty Assoc	18357
0018483	9,886.59	10/27/2014	9,886.59	WA Insurance Guaranty Assoc	18045
0018607	2,616.66	12/15/2014	2,616.66	WA Insurance Guaranty Assoc	18130
0018784	3,664.19	1/2/2015	3,664.19	WA Insurance Guaranty Assoc	18169
0018980	2,349.72	1/30/2015	2,349.72	WA Insurance Guaranty Assoc	18210
0019208	3,621.85	3/6/2015	3,621.85	WA Insurance Guaranty Assoc	18285
0019388	2,809.08	3/23/2015	2,809.08	WA Insurance Guaranty Assoc	18326
0019521	3,059.89	7/29/2015	3,059.89	WA Insurance Guaranty Assoc	18555
0019777	1,791.79	6/15/2015	1,791.79	WA Insurance Guaranty Assoc	18477
0020092	7,110.79	7/29/2015	7,110.79	WA Insurance Guaranty Assoc	18556
0020207	2,969.95	7/23/2015	2,969.95	WA Insurance Guaranty Assoc	18548
0020429	5,421.01	9/14/2015	5,421.01	WA Insurance Guaranty Assoc	18634
0020755	18,160.62	10/9/2015	18,160.62	WA Insurance Guaranty Assoc	18673
0020889	8,958.74	10/27/2015	8,958.74	WA Insurance Guaranty Assoc	18708
0021163	7,940.10	11/24/2015	7,940.10	WA Insurance Guaranty Assoc	18764
0021460	3,459.47	4/1/2016	3,459.47	WA Insurance Guaranty Assoc	19007
0021753	2,855.20	1/28/2016	2,855.20	WA Insurance Guaranty Assoc	18869
0021733	4,231.47	2/29/2016	4,231.47	WA Insurance Guaranty Assoc	18957
0022023	602.50	8/29/2016	602.50	WA Insurance Guaranty Association	19292
0022131			7,640.20	WA Insurance Guaranty Association WA Insurance Guaranty Assoc	19036
0022833	7,640.20	4/13/2016	•	WA Insurance Guaranty Assoc WA Insurance Guaranty Assoc	19136
	3,863.87	6/3/2016	3,863.87 2,242.79	WA Insurance Guaranty Assoc WA Insurance Guaranty Assoc	19164
0022903 0023277	2,242.79 3,672.04	6/20/2016		WA Insurance Guaranty Assoc WA Insurance Guaranty Assoc	19226
		7/18/2016	3,672.04	WA Insurance Guaranty Assoc WA Insurance Guaranty Assoc	19293
0023523	3,305.67	8/29/2016	3,305.67	WA Insurance Guaranty Assoc WA Insurance Guaranty Assoc	19329
0023806	5,518.88	9/19/2016	5,518.88	· · · · · · · · · · · · · · · · · · ·	
0024065	4,831.65	10/28/2016	4,831.65	WA Insurance Guaranty Assoc	19387
0024292	2,640.96	11/22/2016	2,640.96	WA Insurance Guaranty Assoc	19429
0024448	9,708.40	12/20/2016	9,708.40	WA Insurance Guaranty Assoc	19466
0024902	4,097.21	1/30/2017	4,097.21	WA Insurance Guaranty Assoc	19512
0025022	3,526.53	2/21/2017	3,526.53	WA Insurance Guaranty Assoc	19545
0025210	3,692.86	3/14/2017	3,692.86	WA Insurance Guaranty Assoc	19586
0025659	3,804.99	5/1/2017	3,804.99	WA Insurance Guaranty Assoc	19651
0025782	1,232.04	5/25/2017	1,232.04	WA Insurance Guaranty Assoc	19679
0026074	2,015.80	6/19/2017	2,015.80	WA Insurance Guaranty Assoc	19707
0026468	2,835.86	8/8/2017	2,835.86	WA Insurance Guaranty Assoc	19779
0026645	5,004.74	8/21/2017	5,004.74	WA Insurance Guaranty Assoc	19798
0026859	2,357.96	9/29/2017	2,357.96	WA Insurance Guaranty Assoc	19842
0027292	2,568.91	11/14/2017	2,568.91	WA Ins Guaranty Assoc. Wes Guar Fund Ser	19897
0027672	5,006.47	1/12/2018	5,006.47	WA Insurance Guaranty Assoc	19981
0028004	2,611.16	2/5/2018	2,611.16	Washington Insurance Guaranty Assoc.	20013
0028683	397.55	3/22/2018	397.55	Washington Insurance Guaranty Associatio	20076
0028962	102.32	4/23/2018	102.32	Washington Insurance Guaranty Assoc.	20113
0029167	102.19	5/21/2018	102.19	Washington Insurance Guaranty Associatio	20158
0029586	103.57		Unpaid		20
0029831	123.20	7/27/2018	123.20	Washington Insurance Guaranty Assoc.	20235
0030130	579.12	8/20/2018	579.12	Washington Insurance Guaranty Associatio	20264
0030756	757.80	10/22/2018	757.80	WA Insurance Guaranty Association	20346
0031036	12,060.80		Unpaid		
Washington Insurance	ce Guaranty Association To	otal Payments	1,254,118.31		