

May 4, 2017

Mr. Ed Jones, Project Manager  
Washington State Department of Ecology  
3190 160<sup>th</sup> Avenue Southeast  
Bellevue, Washington 98008-5452

**BY E-MAIL ONLY**

**RE: PROGRESS REPORT, JANUARY THROUGH MARCH 2017  
REMEDIAL INVESTIGATION MONITORING AND FEASIBILITY STUDY  
CAPITAL INDUSTRIES, INC., SEATTLE, WASHINGTON  
AGREED ORDER NO. DE 10402  
FARALLON PN: 457-008**

Dear Mr. Jones:

Farallon Consulting, L.L.C. (Farallon) has prepared this progress report on behalf of Capital Industries, Inc. (Capital) to summarize the activities conducted during the first quarter of 2017, January through March, as part of the ongoing Remedial Investigation (RI) monitoring and Feasibility Study (FS) being conducted at the Capital Site at 5801 3<sup>rd</sup> Avenue South in Seattle, Washington. This progress report has been prepared in accordance with Agreed Order No. DE 10402 entered into by potential liable persons that include Capital; Art Brass Plating, Inc.; Blaser Die Casting Co.; and PSC Environmental Services, LLC (Burlington Environmental, LLC is a wholly owned subsidiary of PSC Environmental Services, LLC, which is a wholly owned subsidiary of Stericycle Environmental Solutions, Inc.); and also with the Washington State Department of Ecology (Ecology) dated April 23, 2014 (Agreed Order). Capital and the other potentially liable persons listed above are referred to collectively as the West of 4<sup>th</sup> Group. The West of 4<sup>th</sup> Group site under the Agreed Order consists of Site Unit 1 (SU1) and Site Unit 2 (SU2) as depicted on the site diagram provided as Attachment A. The Capital Site is located within SU2.

**ACTIVITIES DURING REPORTING PERIOD**

Activities completed during this progress reporting period included:

- Continuing operation of vapor intrusion mitigation subslab depressurization systems (SSDSs) at the Pacific Foods Systems North Building at 5815 4<sup>th</sup> Avenue South and at the Olympic Medical Facility at 5900 First Avenue South in Seattle, Washington. This work included periodic inspection of system operations and performance air sampling at the Pacific Foods Systems North Building.
- Conducting a semiannual groundwater monitoring and sampling event in March 2017 for select SU2 monitoring wells.
- Negotiating a scope of work and schedule for conducting a pilot study that uses an in-situ chemical reduction as a remedial technology to reduce or eliminate chlorinated volatile organic compounds in groundwater. The in-situ chemical reaction was groundwater



remediation technology proposed in the *West of Fourth Site Unit 2 Feasibility Study, Seattle Washington* dated August 11, 2016, prepared by Pacific Groundwater Group.

These activities are summarized in the sections that follow.

## VAPOR INTRUSION MITIGATION

The SSDS applied vacuum has been maximized at the Pacific Food Systems North Building since the third quarter of 2016 to assess whether concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) in indoor air can be further reduced. The average applied vacuum was between 6 and 7 inches of water (IOW) with corresponding flow rates ranging from 17 to 24 standard cubic feet per minute. On January 5, 2017, Farallon collected indoor and outdoor air samples to evaluate current conditions. At that time, the SSDS was operating at an applied vacuum less than 2 IOW and corresponding flow rate of 13 standard cubic feet per minute. The SSDS began accumulating water, reducing system efficiency. The origin of the water accumulation was uncertain because the vent stack direction and angle should prohibit water from entering the system. The volume of water drained from the system was approximately 2 gallons. Farallon restarted the system and maximized the applied vacuum again. On March 23, 2017, Farallon conducted another performance air sampling event and again found the applied vacuum reduced to less than 2 IOW. Approximately 5 gallons of water was drained from the system piping. The SSDS was restarted and air sampling was postponed. Farallon is currently evaluating the origin of the water accumulation, which is suspected to be from either the subsurface or the vent stack.

Performance air samples were collected on January 5, 2017 and on March 30, 2017. Air sample results conducted since startup of the SSDS in April 2015 indicated that:

- PCE concentrations range from less than 0.339 to 1.1 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).
- TCE concentrations range from 0.938 to 39.5  $\mu\text{g}/\text{m}^3$ .
- The SSDS effluent concentrations contain PCE concentrations that range from 138 to 497  $\mu\text{g}/\text{m}^3$ . TCE concentrations range from 169 to 482  $\mu\text{g}/\text{m}^3$ .

The results above have fluctuated with no overall decrease regardless of changes to the SSDS operations. The elevated concentrations in the SSDS effluent suggest a persistent source exists below the building slab, which is consistent with historical groundwater data. Building inspections conducted prior to each sampling event have not identified products containing PCE or TCE in the Pacific Food Systems North Building. The SSDS operation will continue at the maximum applied vacuum. Performance air sampling will be conducted quarterly to continue to evaluate PCE and TCE trends. The staff at Pacific Food Systems have been asked to monitor the applied vacuum more closely and notify Farallon if the vacuum falls to 2 IOW or below.

The SSDS at the Olympic Medical Facility operated continuously during the first quarter of 2017. Farallon conducted an inspection of the SSDS on January 5, 2017. The SSDS was operating in accordance with standard operating conditions. Performance air samples were not required based on historical analytical data that have indicated operation of the SSDS is mitigating vapor intrusion conditions. Although effluent samples historically have not been required by Ecology, Farallon



collected an SSDS effluent sample to evaluate extracted TCE concentrations and assess the presence of constituents of concern. The results of the effluent sampling were intended to aid in determining if continued operation of the system is required and provide data to support eventual discontinuation of the SSDS operation.

The results of effluent sampling indicated that:

- PCE is present at 1.49  $\mu\text{g}/\text{m}^3$ ;
- TCE is present at 9.47  $\mu\text{g}/\text{m}^3$ ; and
- Vinyl chloride was present at less than the laboratory reporting limit of 0.217  $\mu\text{g}/\text{m}^3$ .

The SSDS at Olympic Medical Facility operation will continue. Another effluent sample will be collected in January 2018.

### **GROUNDWATER MONITORING AND SAMPLING**

Groundwater monitoring and sampling was performed in March 2017 in accordance with the memorandum regarding FINAL West of 4th Groundwater Monitoring Program Plan 2017 through Draft Cleanup Action Plan, W4 Joint Deliverable Agreed Order No. DE 10402 dated March 21, 2017, from Ms. Janet Knox of Pacific Groundwater Group to Mr. Ed Jones of Ecology. Groundwater analytical results have been validated and are being summarized to evaluate plume stability and potential for natural attenuation within each of the three groundwater zones. The groundwater data will be included on summary figures that will be presented in the progress report for the second quarter of 2017. The groundwater data will be submitted via electronic data submittal to the Ecology Electronic Information Management system in the second quarter of 2017.

### **FEASIBILITY STUDY REPORT**

Ecology and the West of 4<sup>th</sup> Group agreed to evaluate the feasibility of select cleanup technologies via bench and/or field-scale pilot testing that reduce the time frame for cleanup and protect the Lower Duwamish Waterway. The West of 4<sup>th</sup> Group and Ecology have agreed upon conceptual approaches for pilot studies that will be conducted in SU1 and SU2. Separate work plans and deliverable schedules are being created to refine the parameters for establishing an amendment to the Agreed Order that will define criteria for pilot testing, for re-evaluation of the cleanup alternatives following completion of the pilot testing, and for document/work schedule revisions for tasks to be completed through preparation of the draft Cleanup Action Plan.

Copies of historical deliverables and comments received from Ecology are available on the West of 4<sup>th</sup> website (<http://aspectconsulting.com/clients/W4/>).

### **INTERIM MEASURES**

No interim measures were implemented during this reporting period.

### **PUBLIC COMMUNICATIONS**

No public communication activities were completed by Capital during this period.



## **ANTICIPATED WORK IN THE NEXT QUARTER**

Work anticipated to be performed during the second quarter of 2017, April through June, is summarized below.

### **VAPOR INTRUSION**

Indoor and outdoor ambient air samples will be collected at the Pacific Food Systems North Building for laboratory analysis to continue monitoring the performance of the SSDS. The source of the water accumulation reducing the efficiency of the SSDS will also be investigated and corrective actions taken as needed. Periodic monitoring of the SSDS at the Olympic Medical Facility will be performed.

### **MONITORING AND SAMPLING ACTIVITIES**

The groundwater data from the March 2017 sampling event within SU2 will be used to continue to evaluate plume stability and support the selection of potential cleanup alternatives presented in the Feasibility Study Report. Summary figures with historical data for 2016 and 2017 will be provided to Ecology and included in the second quarter progress report.

### **FEASIBILITY STUDY WORK**

The revised versions of the SU1 and SU2 Feasibility Study Reports comprising the West of 4<sup>th</sup> Group Feasibility Study will be considered final versions of these reports. Following completion of the pilot study, an addendum to the Feasibility Study Reports will be prepared and a final remedial alternative will be proposed for approval by Ecology. A Draft Cleanup Action Plan will be prepared for SU1 and SU2 upon concurrence of the West of 4<sup>th</sup> Group and Ecology regarding the selected remedial alternative.

A conceptual pilot study work plan will be prepared for the proposed SU2 pilot study and provided to Ecology for review and comment. Access to the proposed pilot study area will be negotiated with the public and private parties. Once access is confirmed, a detailed field implementation plan will be prepared and provided to Ecology for approval prior to scheduling field work for the pilot study.

### **INTERIM MEASURES**

No interim measures are anticipated during the next reporting period.

### **PUBLIC COMMUNICATIONS**

The project website (<http://www.farallonconsulting.com/client-portal/public/capital-industries-document-and-data-maintenance>) will be updated with an electronic copy of this progress report.

The next progress report will summarize activities completed from April through June 2017 and will be submitted on or before July 10, 2017.



## CLOSING

Farallon trusts that this quarterly progress report provides sufficient information for Ecology needs. If you have questions regarding this project, please contact the undersigned at (425) 295-0800.

Sincerely,

**Farallon Consulting, L.L.C.**

Jeffrey Kaspar, L.G., L.H.G.  
Principal Geologist

Attachment: Attachment A, Site Diagram

cc: Ron Taylor, Capital Industries, Inc. (by e-mail)  
Donald Verfurth, Gordon and Rees, L.L.P. (by e-mail)

E-mail with link to electronic copy on project website:

Janet Knox, Pacific Groundwater Group  
Dana Cannon, Aspect Consulting  
Bill Carroll, Arrow Environmental  
Bill Beck, PSC Environmental Services, LLC

JK/cm

**ATTACHMENT A  
SITE DIAGRAM**

PROGRESS REPORT, JANUARY THROUGH MARCH 2017  
Capital Industries, Inc.  
Seattle, Washington

Farallon PN: 457-008

