

June 30, 2017

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

BY E-MAIL ONLY

**RE: PROGRESS REPORT, APRIL THROUGH JUNE 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 second quarter of 2017, April through June, as part of the ongoing Remedial Investigation (RI) monitoring and Feasibility Study (FS) being conducted at the Capital Site at 5801 3rd 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 4th Group. The West of 4th 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 4th Avenue South and at the Olympic Medical Facility at 5900 First Avenue South in Seattle, Washington. This work included periodic inspection of system operations.
- Processing data from the semiannual groundwater monitoring and sampling event conducted 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.

- Negotiating implementing an interim action at the Capital Plant 4 Building that will result in cleanup of soil contamination that is a current source of impacts to the groundwater and vapor intrusion pathways. The interim action will consist of application of in-situ chemical oxidation and was 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 has been between 6 and 7 inches of water (IOW) with corresponding flow rates ranging from 17 to 24 standard cubic feet per minute.

During the winter months of the first quarter of 2017, water accumulated in the system piping, reducing efficiency. The water accumulation has decreased in the second quarter of 2017, suggesting that maximizing the applied vacuum resulted in the system pulling water from subsurface soil pore spaces during wetter seasonal conditions. Decreasing the applied vacuum during wetter seasonal conditions to maintain subslab depressurization, and/or addition of a small knockout tank to drain water from the system are being considered as potential remedies. The SSDS continues to operate continuously and is being checked monthly to evaluate operating conditions and optimize performance. Indoor air sampling will be conducted in July 2017 to evaluate system performance. The results will be reported to Ecology in August 2017. If the results continue to indicate that PCE and TCE are persistent in indoor air, a third-party evaluation of the SSDS will occur.

The SSDS at the Olympic Medical Facility operated continuously during the second quarter of 2017. Farallon conducted an inspection of the SSDS in April 2017. The SSDS was operating in accordance with standard operating conditions. The SSDS at Olympic Medical Facility operation will continue and be monitored quarterly.

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 summarized to evaluate plume stability and potential for natural attenuation within each of the three groundwater zones. The groundwater data are included on summary figures provided in Attachment B.



Groundwater data on the summary figures herein (Attachment B, Figures 1 through 3 and 1A through 3A) are compared to the most current preliminary cleanup levels. The preliminary cleanup levels for the shallowest groundwater in the Water Table Zone are based on protection of air quality. The preliminary cleanup levels for the Shallow and Intermediate Zones are based on the most recent and conservative values for protection of human health and the environment as established in the letter regarding EPA's Partial Approval/Partial Disapproval of Washington's Human Health Water Quality Criteria and Implementation Tools dated November 15, 2016, from Mr. Daniel D. Opalski of the U.S. Environmental Protection Agency to Ms. Maia Bellon of Ecology. This letter includes the most recent standards for protection of water quality approved by the U.S. Environmental Protection Agency. The West of 4th Group continues to work with Ecology to establish appropriate cleanup levels for all media of concern presented in the Feasibility Study Reports for SU1 and SU2. The cleanup standards and cleanup levels will be finalized during preparation of the Cleanup Action Plan.

The groundwater data continue to fluctuate slightly, with an overall stable to decreasing trend across SU2 (Attachment B, Figures 1 through 3). The groundwater flow direction continues to be to the southwest toward the Slip 2 area on the Cal Portland Property at 5975 East Marginal Way South. Evaluation of groundwater geochemistry and the potential for natural attenuation of the chlorinated solvents in groundwater continues to indicate that biodegradation of PCE and TCE is occurring in all three groundwater zones as is evident by the full suite of degradation compounds through vinyl chloride. Biodegradation rates are slowest in the Water Table Zone but appear to increase in the lower zones, which are more anaerobic. Elevated concentrations of ethene, a final degradation product of the biodegradation of PCE and TCE, are present at various monitoring wells on the northwestern portion of the plume(s), coinciding with areas of elevated TCE and vinyl chloride (Attachment B, Figures 2A and 3A).

FEASIBILITY STUDY REPORT

Ecology and the West of 4th 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. In June, the West of 4th Group concurred that changes to the SU2 pilot study location, the reduced scope of work, and the 1-year time frame to complete the pilot study would not achieve the objectives for reducing the contaminant mass in groundwater and providing data to improve the FS cleanup alternative evaluation. The West of 4th Group proposed conducting pilot studies at SU1 and eliminating the SU2 pilot study. In the letter regarding West of 4th Site – Feasibility Study dated June 27, 2017, from Mr. Jones of Ecology to Messrs. Mike Merryfield, Ronald S. Taylor, Kevin Callan, and Andy Maloy of the West of 4th Group, Ecology summarizes its position regarding the elimination of the SU2 pilot study and provides an alternative proposal to conduct an interim action at the Capital Plant 4 Building while the SU1 pilot studies are being conducted.

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



INTERIM MEASURES

No interim measures were implemented during this reporting period. However, Capital is considering Ecology's proposition to conduct the cleanup work proposed in the FS for the Capital Plant 4 Building as an interim action. If the proposal is accepted and a scope of work agreed upon with Ecology in July 2017, Capital will proceed with the interim action concurrently with the SU1 pilot study work. The cleanup action proposed in the FS consists of treatment of soil and groundwater at the Capital Plant 4 Building using in-situ chemical oxidation. Capital will provide Ecology with a draft Interim Action Work Plan for review and comment by July 25, 2017.

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 third quarter of 2017, July through September, 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. Periodic monitoring of the SSDS at the Olympic Medical Facility will be performed.

MONITORING AND SAMPLING ACTIVITIES

A groundwater monitoring and sampling event will be scheduled for September 2017. The purpose of the ongoing groundwater monitoring is to evaluate the stability of the plumes, monitor the ongoing natural attenuation processes to refine the time frame for achieving cleanup levels, evaluate existing and potential vapor intrusion risk, and provide data to refine evaluation of the cleanup alternatives presented in FS.

FEASIBILITY STUDY WORK

The revised versions of the SU1 and SU2 Feasibility Study Reports comprising the West of 4th 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 4th Group and Ecology regarding the selected remedial alternative.

An amendment to the Agreed Order that includes the SU1 pilot study work and interim action at the Capital Plant 4 Building will be prepared by Ecology.



INTERIM MEASURES

Capital will prepare a draft Interim Action Work Plan for Ecology's review and comment by July 25, 2017. If both parties agree on a scope of work for the interim action, Capital will proceed with implementing the interim action in the third or fourth quarter of 2017.

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 July through September 2017 and will be submitted on or before September 8, 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

Attachments: Attachment A, Site Diagram
Attachment B, Groundwater Analytical Results

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:/mm

**ATTACHMENT A
SITE DIAGRAM**

PROGRESS REPORT, APRIL THROUGH JUNE 2017
Capital Industries, Inc.
Seattle, Washington

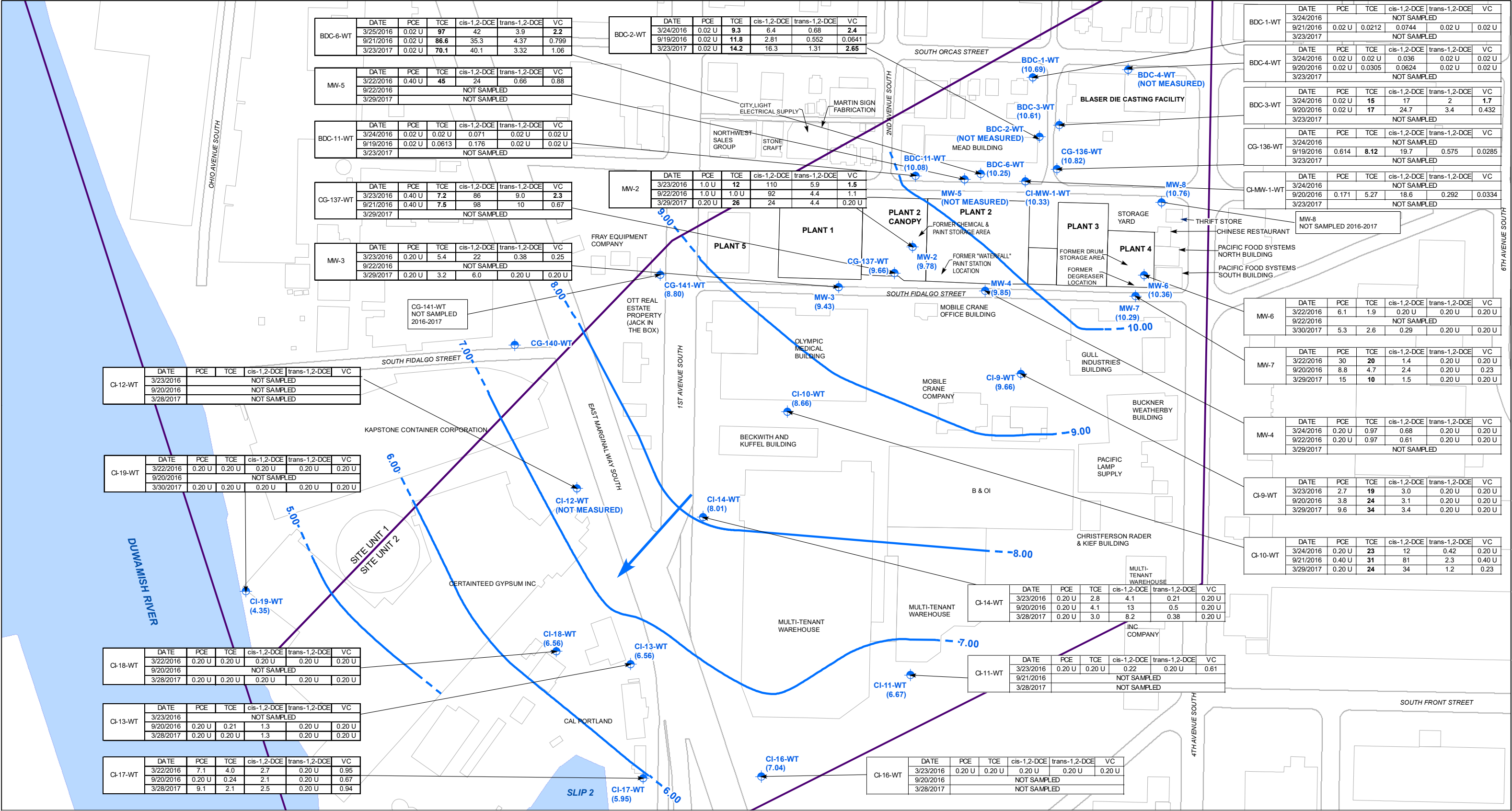
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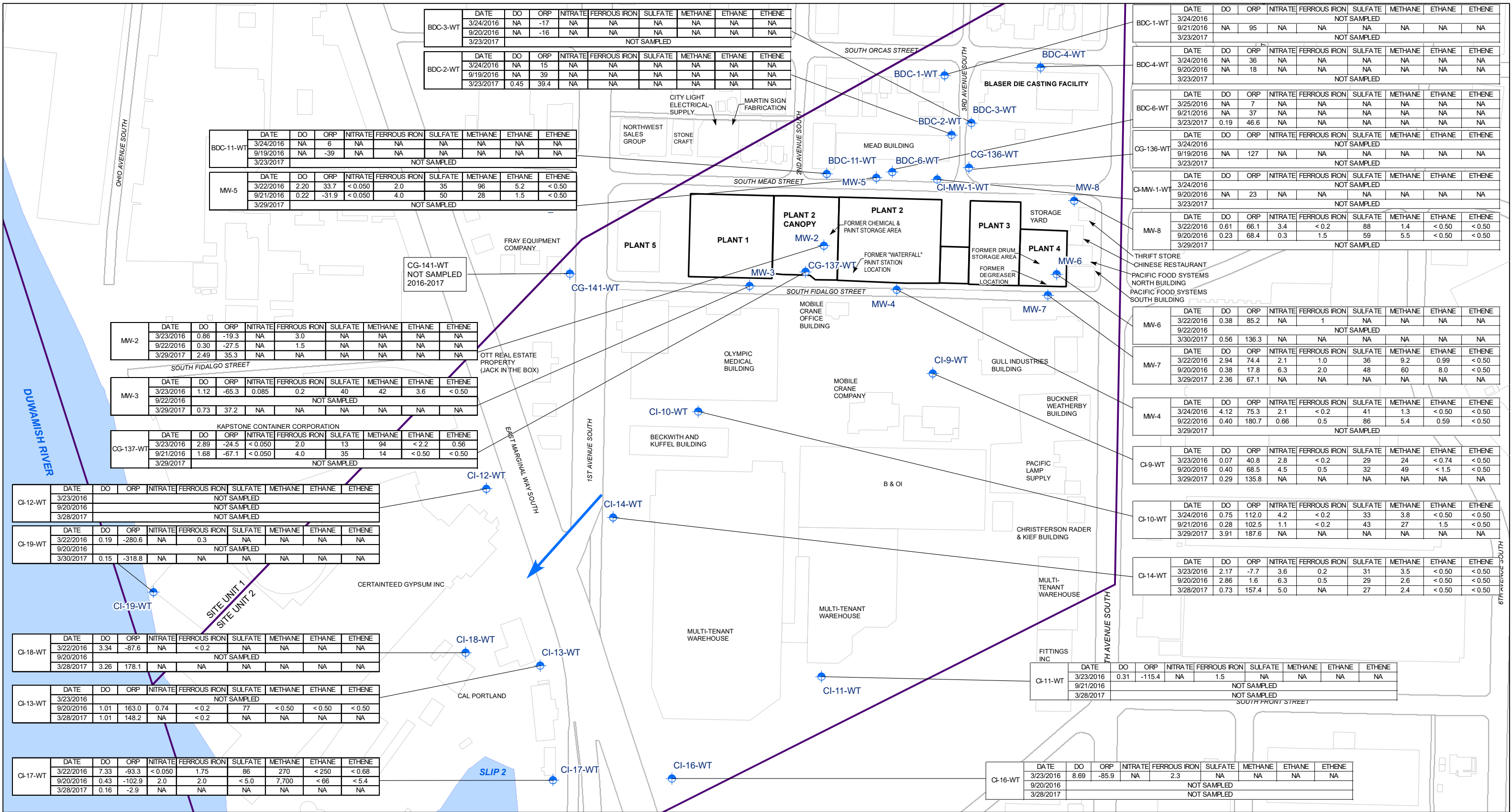
ATTACHMENT B
GROUNDWATER ANALYTICAL RESULTS

PROGRESS REPORT, APRIL THROUGH JUNE 2017

Capital Industries, Inc.
Seattle, Washington

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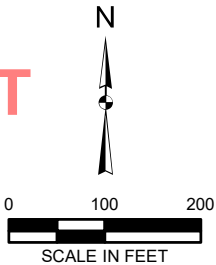
LEGEND

- WATER TABLE ZONE MONITORING WELL
- SITE UNIT BOUNDARY
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

FERROUS IRON, NITRATE AND SULFATE IN MILLIGRAMS PER LITER UNITS
METHANE, ETHANE, AND ETHENE IN MICROGRAMS PER LITER UNITS

DO = DISSOLVED OXYGEN (MILLIGRAMS PER LITER)
ORP = OXIDATION REDUCTION POTENTIAL (MILLIVOLTS)
IE = INSTRUMENT ERROR
NA = NOT ANALYZED
< = ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED

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FIGURE 1A
NATURAL ATTENUATION PARAMETER RESULTS FOR
WATER TABLE ZONE: 2016 - 2017
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CAPITAL INDUSTRIES, INC.
SEATTLE, WASHINGTON

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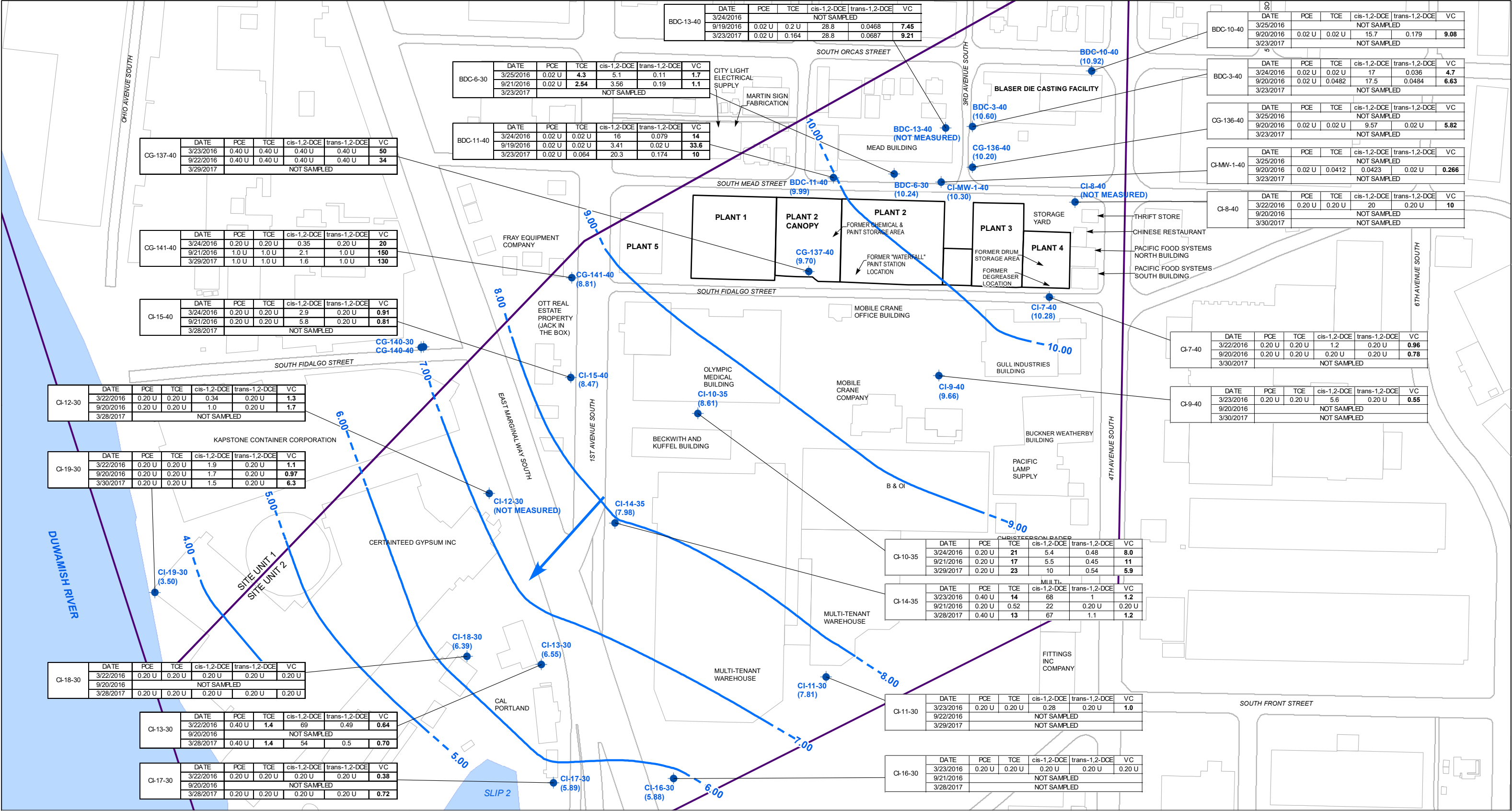
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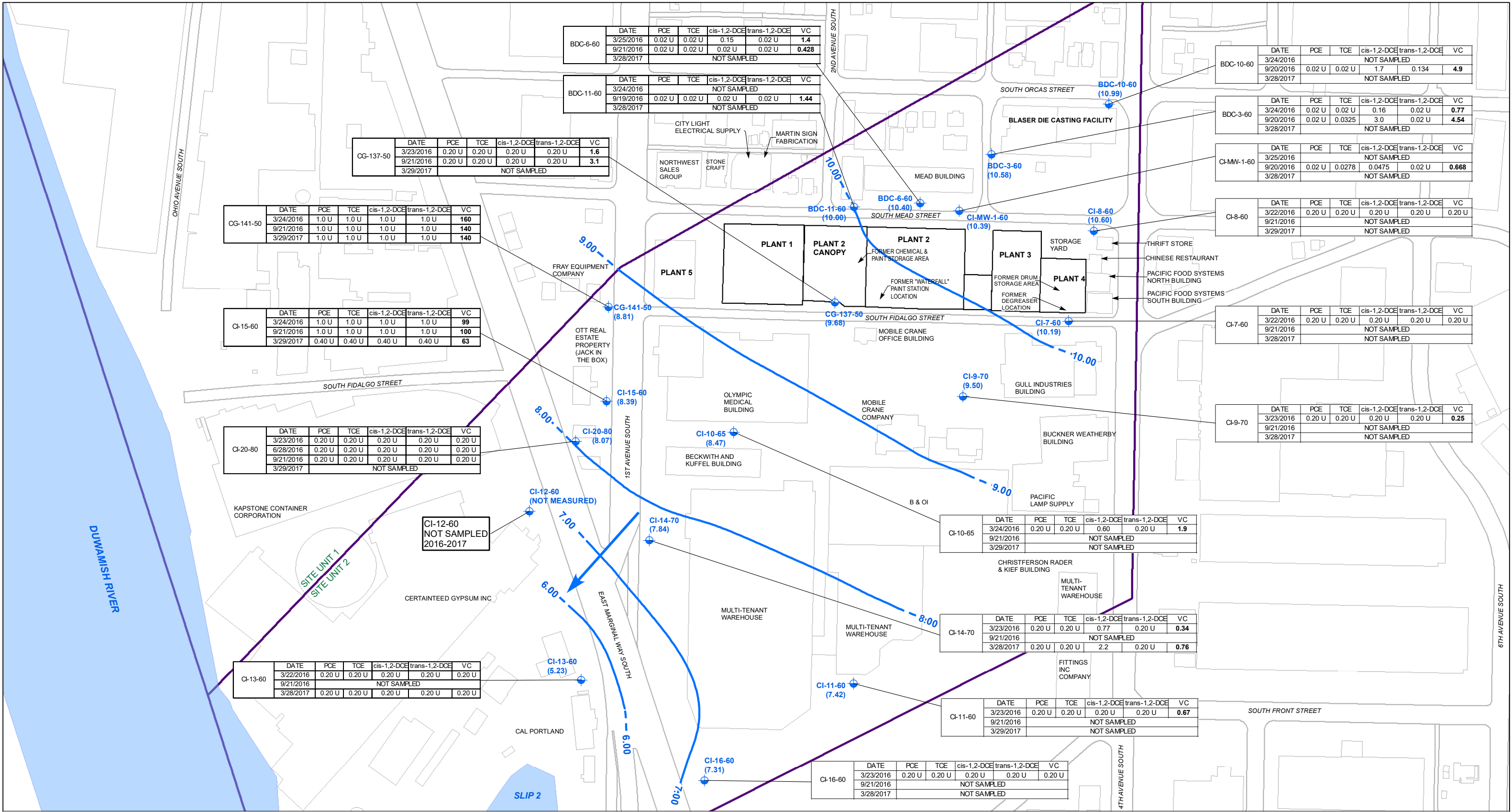
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Date: 6/30/2017

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CAPITAL INDUSTRIES INTERMEDIATE WATER-BEARING ZONE WELL

SITE UNIT BOUNDARY

GROUNDWATER SURFACE ELEVATION CONTOUR (DASHED WHERE INFERRED)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

GROUNDWATER LEVEL ELEVATION NAVD88

DCE = DICHLOROETHENE

PCE = TETRACHLOROETHENE

TCE = TRICHLOROETHENE

VC = VINYL CHLORIDE

BOLD = INDICATES CONCENTRATIONS EXCEED WEST OF FOURTH GROUNDWATER PRELIMINARY CLEANUP LEVELS FOR PROTECTION OF SURFACE WATER

U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER, SAMPLE DATES LISTED

DATE

PCE

TCE

cis-1,2-DCE

trans-1,2-DCE

VC

0

110

220

SCALE IN FEET

N

0

110

220

SCALE IN FEET

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FIGURE 3

GROUNDWATER ANALYTICAL RESULTS FOR INTERMEDIATE ZONE: 2016 - 2017

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CAPITAL INDUSTRIES, INC.

SEATTLE, WASHINGTON

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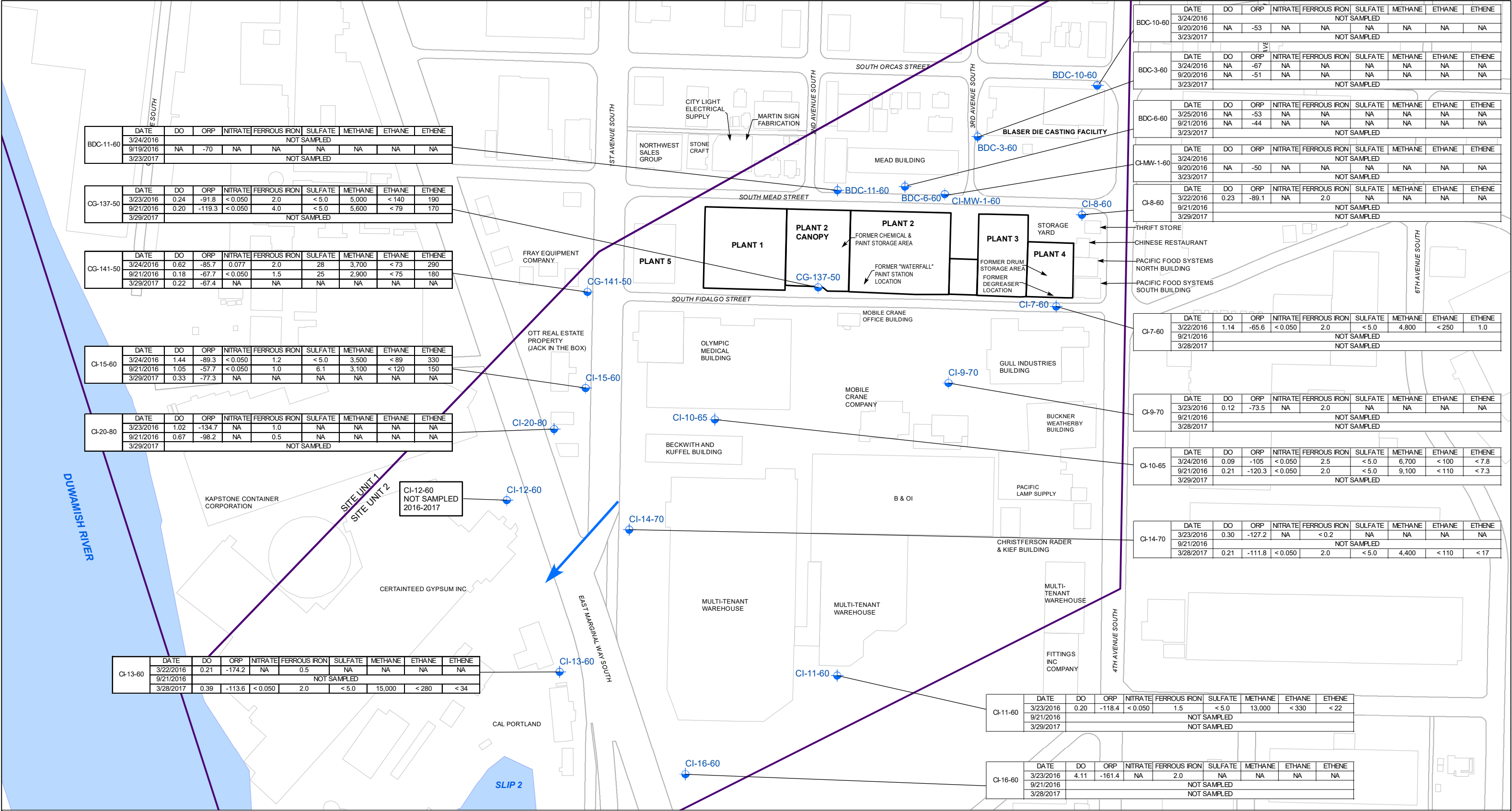
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INTERMEDIATE WATER-BEARING ZONE WELL

SITE UNIT BOUNDARY

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

LEGEND

FERROUS IRON, NITRATE AND SULFATE IN MILLIGRAMS PER LITER UNITS

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FIGURE 3A

NATURAL ATTENUATION PARAMETER RESULTS FOR INTERMEDIATE ZONE: 2016 - 2017

REMEDIAL INVESTIGATION

CAPITAL INDUSTRIES, INC.

SEATTLE, WASHINGTON

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