



Water Meter and Valve Boxes Soil Assessment and Removal Report

Factory Street Site Oahu, Hawaii

Prepared for

City and County of Honolulu
Board of Water Supply
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<u>Number</u>	<u>Title</u>
1	Site Location
2	Total Lead Exceedances for Construction/Trench Worker Action Level

TABLE

<u>Number</u>	<u>Title</u>
1	Analytical Results for Water Meter and Valve Box Sample Locations

LIST OF ATTACHMENTS

<u>Letter</u>	<u>Title</u>
A	Water Meter and Valve Box Soil Removal Photo Log
B	Solidification Profile/Request for Clearance Number
C	Waste Disposal Manifest

LIST OF ACRONYMS AND ABBREVIATIONS

BWS	Board of Water Supply
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
HDOH	State of Hawaii Department of Health
mg/kg	milligram(s) per kilogram
mg/L	milligram(s) per liter
QA	quality assessment
QC	quality control
PCS	Pacific Commercial Services, LLC
RCRA	Resource Conservation and Recovery Act
SW-846	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods
TCLP	Toxicity Characteristic Leaching Procedure
TestAmerica	TestAmerica Laboratories, Inc.

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1. INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

The City and County of Honolulu Board of Water Supply (BWS) retained EA Engineering, Science, and Technology, Inc., PBC (EA) to assess lead concentrations in soil at BWS water meter and valve boxes in Kalihi, Honolulu, Hawaii. The study area (the “site”) is centered on 2003 North King Street and 922 Factory Street (Figure 1), a location where the State of Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response Office previously identified lead contamination in surface and subsurface soil (HDOH 2017a). Based on the HDOH notification, BWS requested an assessment of soil located in water meter and valve boxes within the site boundaries to evaluate potential worker safety hazards due to lead exposure.

This report documents the approach used to assess the soil located in the water meter and valve boxes at the site. Soil samples were collected from the meter and valve boxes between April and October 2017, and analyzed by an offsite laboratory for lead. Of the 99 sample sites, 19 had lead concentrations that equaled or exceeded the HDOH Direct Exposure Action Level for Construction/Trench Worker Exposure Scenario (Construction/Trench Worker Action Level) of 800 milligrams per kilogram (mg/kg) (Figure 2). To reduce potential hazards to BWS workers accessing water meter and valve boxes, soil was removed from the 19 water meter and valve box locations where lead concentrations equaled or exceeded the Construction/Trench Worker Action Level.

1.2 PURPOSE

The purpose of site characterization was to assess the concentrations of lead in soil within the water meter and valve box locations at the site to identify potential worker hazards. The results of the site characterization were used to plan mitigation measures to reduce exposure to lead impacted soil in meter and valve boxes during routine utility access and maintenance. Mitigation measures included the removal of approximately 4 to 8 inches of soil from the interior of each of the 19 water meter and valve box locations. The soil was removed from the 19 water meter and valve boxes, disposed of off-site at an approved waste facility, and the water meter and valve boxes were backfilled with clean material to identify locations where soil removal had been completed and to provide a barrier to potentially lead impacted soil below the backfill.

1.3 BACKGROUND

Additional correspondence, documentation, and reports relating to the history, background, and previous remediation activities are available in the Environmental Hazard Evaluation and Environmental Hazard Management Plan (EA 2017a).

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2. SITE CHARACTERIZATION FIELD ACTIVITIES

Field activities occurred between 13 April and 4 October 2017. Discrete soil samples for lead analysis were collected from 99 water meter and valve box locations along Factory Street, Industrial Road, Kopke Street, North King Street, Pulaa Lane, Puuhale Road, Stanley Street, and Waterhouse Street (Figure 2).

The investigation activities were conducted in accordance with the guidelines presented in the HDOH Technical Guidance Manual (HDOH 2016), the Screening for Environmental Hazards at Sites with Contaminated Soil and Groundwater (HDOH 2017b), and additional applicable HDOH guidance documents.

2.1 SAMPLE COLLECTION

During field activities, each sample location was identified, marked on a map, and photographed. The water meter or valve box cover was removed and a new single-use sterile sampling scoop was used to collect approximately 8 ounces of accumulated soil from the individual water meter or valve box. The soil sample consisted of both surface and subsurface soil to a depth of approximately 2 to 3 inches from within the water meter or valve box. The soil was placed in a clean 8-ounce laboratory-provided glass jar with Teflon™-lined lid. Nitrile gloves and sample scoops were dedicated to an individual sample and disposed of after a single use.

The sample identification (ID) and collection time were written on the sample label, which was then affixed to the sample jar. The first three samples collected were identified as FACTORY ST-041317A, FACTORY ST-041317B and FACTORY ST-041317C. Subsequent samples were identified by the first three to four letters of the street name and the sequential sample number based on the date and time of sampling. For example, the first sample collected on Puuhale Road is identified as PUU-1. Initial sample location requests were based on pending work orders. Therefore, sample IDs are not sequential for some water meter and valve box locations.

2.2 SAMPLE HANDLING AND SHIPPING

The soil samples were packaged into plastic bags and placed in coolers with ice and chilled to maintain a temperature of less than 6 degrees Celsius. Chain-of-custody records were completed and included the sample identification, collection time, number of containers, and requested analyses. Sample coolers were transported to TestAmerica Laboratories, Inc. (TestAmerica) in Honolulu, Hawaii. The samples were accompanied by their chain-of-custody record. The original chain-of-custody records and samples were then forwarded via expedited shipping to the TestAmerica laboratory in Tacoma, Washington for analysis. Once received by the laboratory, sample receipt and storage records were generated by the laboratory.

2.3 FIELD OBSERVATIONS

The following sections presents observations recording during field activities.

As seen in Figure 2, three samples (PUU-5, PUU-6, and NKIN-2) were collected from locations outside the site boundary. PUU-5 and PUU-6 were selected due to a resident's comment that rainwater frequently travels down Stanley Street and pools along the western portion of Puuhale Road.

Flooded/Sampled: Seven water meter and valve box locations were flooded at the time of sampling. During return visits, water was no longer present at the water meter boxes at 920 Kopke Street (KOP-2) and 922 Kopke Street (Sample ID KOP-18).

- Water meter box locations at 2047 North King Street, and 922, 922A, 926, and 931 Kopke Street were flooded. The corresponding sample IDs are KOP-4, KOP-18, KOP-19, KOP-20, and KOP-17, respectively. These water meter boxes contained foul smelling murky gray water to a depth of 2 to 8 inches. At these locations, soil samples were scooped from the water meter boxes with a long-handled single use sample scoop and water was decanted.
- The water meter box location at 906 Industrial Street was flooded; the corresponding sample ID is IND-3. The water was clear and had no odor. At this location, the soil sample was scooped from the water meter box with long-handled shovel and water was decanted from the original scoop.
- The water meter box location at 828 Puuhale Road was flooded; the corresponding sample ID is PUU-14. The water was relatively clear; however, an odor was present. The soil sample was scooped from the water meter box with a long-handled shovel and water was decanted from the original scoop.

Geospatial Inaccuracy: The map database from the BWS Information Technology Division was accurate to the field locations of the water meter and valve boxes, with the exception of the locations identified below. These changes/comments were forwarded to the BWS Information Technology Division for their review.

- The water meter boxes and lateral water lines for addresses 1933 to 1943 North King Street appeared to be located on the intersection of Factory and North King Street in the geospatial data. They are instead located further east along North King Street. Figure 2 shows the corrected water meter sample locations associated with these addresses.
- The water meter boxes and lateral water lines for 1947 North King Street and 922, 922A, and 926 Kopke Street were slightly misaligned in the geospatial data. The actual locations found during field activities are further south along Kopke Street. Figure 2 shows the corrected water meter locations associated with these addresses.
- Sample ID FAC-6 was collected at the water meter box at 808A Factory Street. The water box associated with the structure at 806 Factory St. is represented by sample ID STA-4A. The water meter box locations for FAC-6 and STA-4A on Figure 2 are accurate.

- BWS confirmed that the water meter box at 919 Factory Street is located on Industrial Street (IND-2). A water meter box at the Factory Street side of the building was removed from the geospatial data.
- The water meter box associated with 2037 North King Street is no longer present, and was removed from the figures.
- The water meter box for 821A Kopke Street was not located. BWS confirmed that no water meter box is present. The water meter box for 821 Kopke Street was sampled (KOP-3A).
- The address of 1020 Pulaa Lane is a parking lot; BWS confirmed that no water meter box is accessible or present. The water meter icon was removed from the geospatial data for this report.
- The sample collected at 902 Industrial Street (sample ID WAT-4) may represent a former water meter box for the parking lot, or the valve box located at the intersection of Waterhouse and Industrial Streets.
- Three valve boxes (represented by samples NKIN-17A, NKIN-18, and NKIN-19) are located in the eastbound lane of North King St. Figure 2 has been updated to reflect these changes.

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3. ANALYTICAL RESULTS

This section presents the analytical methods used to measure lead and the results from the laboratory analysis. A comparison of the analytical results to applicable action levels is also presented.

3.1 ANALYTICAL METHODS

TestAmerica analyzed the soil samples for the following:

- Total lead by U.S Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods (SW-846) 6010B
- Toxicity Characteristic Leaching Procedure (TCLP) lead by SW-846 1311 and 6010B.

Total lead results are reported on a dry weight basis. Results from the TCLP analysis are used to assess leaching characteristics of the soil when disposed of at a landfill and to determine potential disposal options.

3.2 APPLICABLE ACTION LEVELS

The site is located above the HDOH Safe Drinking Water Branch, Underground Injection Control line (HDOH 2017c) that indicates a potential drinking water aquifer. Surface water bodies are not located within 150 meters from the site boundaries. Analytical results were compared to the Construction/Trench Worker Action Level (HDOH 2017b; Table I-3), of 800 mg/kg.

The analysis of TCLP lead is designed to determine the mobility of target lead in solid waste. This test is used to determine if a waste should be assigned a hazardous waste code under Resource Conservation and Recovery Act (RCRA), 40 Code of Federal Regulations Part 261. For lead, if the TCLP concentration exceeds 5.0 milligrams per liter (mg/L), the soil will be classified as a hazardous waste with the EPA Hazardous Waste Number D0008.

Soil sample analytical results and comparisons to applicable action levels are presented in Table 1.

3.3 TOTAL LEAD RESULTS

Concentrations of lead in the soil samples ranged from 13 to 4,000 mg/kg; 19 samples had lead concentrations that equaled or exceeded the Construction/Trench Worker Action Level of 800 mg/kg (Table 1). The majority of the soil sample locations that exceeded the Construction/Trench Worker Action Level were centered in the vicinity of the intersection of Factory Street and North King Street. Previous site investigations by the HDOH identified high lead concentrations at 922 Factory Street, and the sample collected from this site (sample ID FAC-3) had the highest detected concentration of 4,000 mg/kg.

Water meter and valve boxes with lead concentrations exceeding the Construction/Trench Worker Action Level are shown in red on Figure 2.

The following lists the addresses/locations and sample IDs (in parentheses) for the 19 locations that previously exceeded the Construction/Trench Worker Action Level of 800 mg/kg:

- 819 Factory Street (WAT-3)
- 901 Factory Street (FAC-7)
- 902 Factory Street (FAC-13)
- 904 Factory Street (FAC-12)
- 909 Factory Street (FAC-11)
- 915A Factory Street (FAC-10)
- 922 Factory Street (FAC-3)
- Corner of Factory Street and North King Street (Factory St-041317A)
- Sidewalk in front of Kalihi Pawn (Factory St-041317B)
- 1935 North King Street #A (NKIN-15)
- 1943 North King Street #1 (NKIN-12)
- 1950 North King Street (NKIN-7)
- 1955 North King Street (Factory St-041317C)
- 2007 North King Street (NKIN-9)
- 2011 North King Street (NKIN-4)
- 2013 North King Street (NKIN-10)
- 2015 North King Street (NKIN-11)
- 2010 Waterhouse Street (WAT-1)
- Mauka corner of Waterhouse Street and Puuhale Road (PUU-3)

3.4 TCLP EXTRACTS FOR LEAD

With the exception of one sample discussed further below, TCLP lead concentrations ranged from 0.0032 to 1.4 mg/L. These detected TCLP lead concentrations in the soil samples were below the TCLP regulatory level of 5.0 mg/L and the soil will not be considered a hazardous waste when removed from the locations assessed.

A soil sample collected at the water meter box at 2003 Waterhouse Street (sample ID WAT-2) on 24 April 2017 has a total lead concentration of 240 mg/kg (below the Construction/Trench Worker Action Level) and a TCLP lead concentration of 40 mg/L. Review of this TCLP lead concentration indicated that it was elevated in comparison with other soil samples with similar total lead concentrations. Based on the apparent discrepancy, the laboratory was instructed to inspect the remaining contents within the sample container and reanalyze the sample. The laboratory reported that several small pieces of apparent lead slag material were present in the soil sample. The reanalysis of the original sample reported a total lead concentration of 410 mg/kg and a TCLP lead concentration of 0.13 mg/L, both below their respective action levels. In addition, an additional soil sample was collected on 22 May 2017 from the meter box at 2003 Waterhouse Street for lead analysis. The second sample collected from the location had

a total lead concentration of 350 mg/kg and a TCLP lead concentration of 0.0091 mg/L, both below their respective action levels. The analytical results from the original sample are shown on Table 1, but the values are considered outliers due to the presence of lead pieces in the soil sample.

Two samples, PUU-6 from Puuhale Road and STA-1 from Stanley Street, were not analyzed for TCLP lead because of high moisture content in the samples.

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4. DATA QUALITY ASSESSMENT

TestAmerica performed analyses of the soil samples at the Tacoma, Washington laboratory. Overall, the results of the quality assurance (QA)/quality check (QC) checks indicate that the data collected as part of this investigation are adequate for decision-making purposes. The following summarizes the laboratory QA/QC.

TestAmerica followed the QA/QC procedures outlined in the EPA's publication entitled: "Test Methods for Evaluating Solid Waste, SW-846" (EPA 1996), and laboratory standard operating procedures. QA/QC requirements followed the referenced analytical method for each chemical of concern. Common laboratory QA/QC checks include the use of method blanks, matrix spikes, laboratory duplicates, and laboratory control samples.

Laboratory QC samples were prepared and analyzed according to the analytical method requirements and the laboratory's QA Plan. Laboratory technical systems audits were conducted by the Contract Laboratory QA Manager prior to the start of the field sampling program. The Project Chemist reviewed the data when submitted to ensure that the laboratory reports in conformance with industry standards and QC nonconformance issues are tracked and resolved as soon as possible.

The laboratory reports presenting the complete set of analytical results will be included in a separate transmission due to the number of analytical batches submitted to the laboratory. The laboratory indicated that the reported results were obtained in compliance with the National Environmental Laboratory Accreditation Program standards, unless otherwise noted in the analytical report.

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5. SOIL REMOVAL FIELD ACTIVITIES

5.1 MOBILIZATION

BWS reviewed the Final Water Meter and Valve Boxes Soil Assessment Report (EA 2017b) and approved EA's recommendation to remove approximately 4 to 8 inches of lead impacted soil from within the 19 water meter and valve boxes at the site.

EA contracted Pacific Commercial Services, LLC (PCS) to mobilize equipment, personnel, and supplies to the site. PCS equipment included a vacuum truck equipped with a high-pressure water sprayer, which allowed for pressure spraying and vacuuming within individual water meter and valve boxes. BWS provided No Parking notices to Factory Street and North King Street 24 hours prior to site work. In addition, BWS personnel were on-site during field activities in the event that a water utility required repair due to leaks resulting from soil removal activities. On February 13 and 14, 2018, PCS, EA, and BWS personnel mobilized to the site for field activities.

5.2 SITE ACTIVITIES

Prior to initiating field activities each day, a tailgate safety meeting was conducted with BWS, PCS, and EA personnel. The tailgate safety meeting included a review of the physical, chemical, and biological hazards present or potentially present at the site.

EA personnel identified the targeted water meter or valve box for soil removal. BWS provided traffic control at each location, and PCS maneuvered the vacuum truck to the site. PCS workers then donned Tyvek® suits and masks, as necessary, to limit exposure to potential overspray.

At each site, the meter/valve box lids were vacuumed and removed, and a photograph of the water meter or valve box was taken prior to soil removal (Attachment A). The high pressure hose and hand tools were used to break up the soil to a depth of 4 to 8 inches. Good housekeeping was maintained by working within the boxes and limiting overspray. The soil and water was then removed from the water meter and valves boxes via vacuum. If a water meter or valve box was found to be co-located (WAT-3 and FAC-4), soil from both boxes was removed.

After soil and water removal approximately 0.5 cubic feet of marble or coral chips were used to backfill the water meter and valve boxes to within one to two inches below the pipes, allowing access for future repairs. The color was chosen to provide a highly visible contrast to existing soil and sediments. The meters and valves were rinsed or wiped to improve visibility. BWS workers then repaired the meters and/or valves as-needed. A final photograph of the water meter or valve box was taken (Attachment A). The water meter and valve box lids were replaced, and the surrounding pavement was rinsed and vacuumed of sediment.

Gloves and other single-use personal protective equipment were double-bagged and disposed of as investigation derived waste with municipal waste. During site work, hand tools were rinsed

within the water meter and valve boxes and the rinsate was removed along with the soil via vacuum.

5.3 FIELD OBSERVATIONS

The site does not have a subsurface stormwater drainage system. There are no gutters or curbs on the streets at the site with the exception of North King Street. Stormwater runoff sheetflows irregularly and ponds within the water meter and valve boxes during heavy rainfall. The sheetflow passes over the crumbling asphalt, potholes, and exposed soil on the street. As a result, there is significant sediment deposition within the water meter and valve boxes. The majority of the meter and valve boxes were infilled with saturated soil prior to soil removal.

During heavy rains, the stormwater runoff was observed to flow from North King Street down Factory Street before pooling and flowing eastward along Waterhouse Street. The intersection of North King Street and Factory Street is also the area with some of the highest lead sample results. As the asphalt at this location continues to degrade, this area could remain a source of potential lead contamination for water meter and valve boxes at the site.

5.4 WASTE MANAGEMENT

Waste management activities included (1) proper removal of lead-contaminated material, (2) completion of waste acceptance application for disposal at PVT Land Company Limited (87-2020 Farrington Highway, Waianae, Hawaii 96792), and (3) transportation and disposal following landfill approval.

A total of 11 drums of lead-impacted soil and water were removed by vacuum truck; based on the ratio of water to soil, the material was considered a sludge for disposal purposes. Analytical results from the previous sampling events (Section 3, Table 1) were used to prepare the disposal application, disposal profile, and request for clearance number at PVT Land Company Limited. PVT Land Company Ltd. provided approval and assigned the Clearance Number 113649 (Attachment B).

On 26 February 2018, 5,500 pounds of containerized sludge were transported to PVT Land Company Limited for disposal. Waste disposal documentation (Manifest 32195) for the sludge disposal is included in Attachment C.

6. CONCLUSIONS AND RECOMMENDATIONS

Soil samples collected from 99 BWS water meter and valve box locations at the site were analyzed for total and TCLP lead. The analytical results were compared to the Construction/Trench Worker Action Level of 800 mg/kg (HDOH, 2017b) and the TCLP limit of 5.0 mg/L to identify locations posing potential health hazards and to determine potential future disposal options for soil. There were 19 sample locations where lead concentrations equaled or exceeded the Construction/Trench Worker Action Level of 800 mg/kg. Soil was removed from these locations in February 2018 to reduce potential hazards to BWS workers during routine site maintenance.

6.1 SITE CHARACTERIZATION CONCLUSIONS

The concentrations of the 19 soil samples that exceeded the Construction/Trench Worker Action Level ranged from 800 to 4,000 mg/kg. The highest concentration of lead in soil was collected from the water meter box at 922 Factory Street (sample ID FAC-3), and a majority of the exceedances were centered in the vicinity of Factory Street and North King Street. Figure 2 identifies each sample location and the 19 water meter or valve boxes where sample results were at or above the Construction/Trench Worker Action Level.

Soil samples were additionally analyzed using the TCLP preparation method to determine if the soil may meet the toxicity characteristic threshold to define a hazardous waste. With the exception of one sample containing fragments of lead, the detected TCLP lead concentrations were below the TCLP regulatory level of 5.0 mg/L, indicating the soil when removed from the site will not be considered a RCRA hazardous waste.

6.2 SOIL REMOVAL CONCLUSIONS

Soil was removed from the 19 water meter and valve boxes where lead concentrations in soil equaled or exceeded the Construction/Trench Worker Action Level of 800 mg/kg for lead. The water meter and valve boxes were backfilled with white marble/coral chips to provide easy identification and to prevent potential worker exposure to lead impacted soil below the backfill. The 19 water meter and valve boxes may now be accessed for reading or maintenance activities following BWS standard operating procedures.

6.3 RECOMMENDATIONS

The 19 water meter and valve box locations with soil sample results at or above the Construction/Trench Worker Action Level of 800 mg/kg for lead were mitigated by soil removal and backfilling with gravel. However, the lids of the water meter and valve boxes are not watertight and allow water to pool within after heavy rains. Stormwater runoff in the area may result in ongoing sediment infiltration within the water meter and valve boxes. Water meter and valve box lids that maintain a tighter waterproof seal could reduce the volume of water and sediment that collects within the boxes.

EA recommends periodic inspections to assess the rate of sediment redistribution within the water meter and valve boxes and identify locations which would benefit the most from watertight lids.

7. REFERENCES

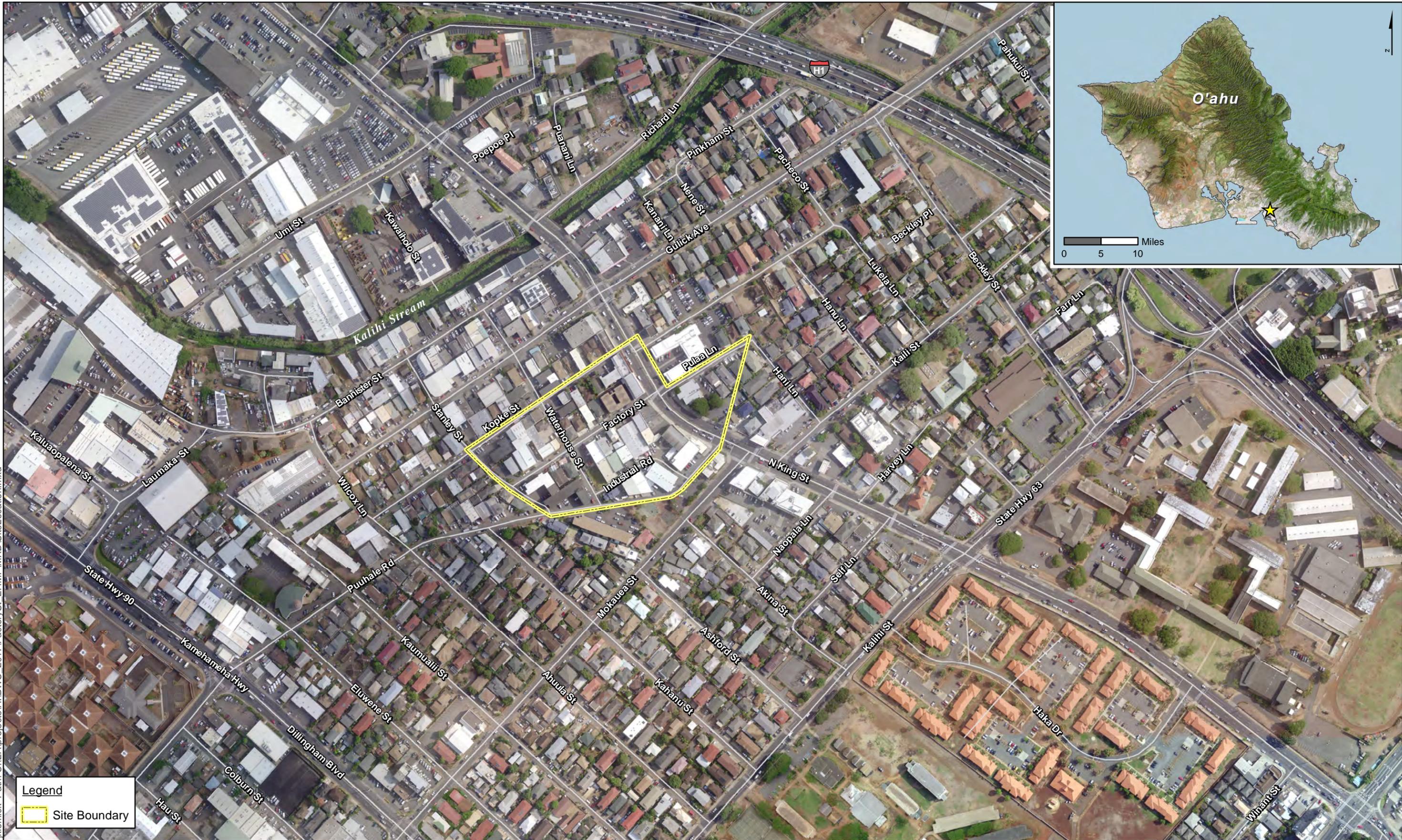
- EA Engineering, Science, and Technology, Inc., PBC (EA). 2017a. *Environmental Hazard Evaluation and Environmental Hazard Management Plan. Factory Street Site, Kalihi, Oahu Hawaii*. Prepared for the City and County of Honolulu Board of Water Supply. May.
- . 2017b. *Water Meter and Valve Boxes Soil Assessment. Factory Street Site, Kalihi, Oahu Hawaii*. Prepared for the City and County of Honolulu Board of Water Supply. November.
- Hawaii Department of Health (HDOH). 2016. *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan*. Updated August 2016, Revised December 2016.
- . 2017a. Letter from HDOH Mr. Roy K. Amemiya, Managing Director of City and County of Honolulu, with the subject, Safety Concerns Regarding Historic Lead Soil Contamination and Needed Paving and Maintenance of Factory Street, dated 13 January 2017.
- . 2017b. *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater. Environmental Management Division*. Updated Fall 2017.
- . 2017c. *Underground Injection Control Program. Safe Drinking Water Branch, Environmental Management Division*. Updated August 2017.
- United States Environmental Protection Agency (EPA), 1996. SW-846 On-Line. Available online: <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. 1996.

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Figures

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Legend

 Site Boundary



Board of Water Supply
Environmental Hazard Management Plan

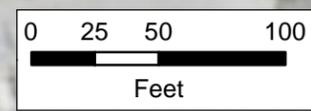
Figure 1
Site Location

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milligrams/kilogram (mg/kg)

Hawaii Department of Health (HDOH) Direct Exposure Action Level for Construction/Trench Worker Scenario Commercial/Industrial Land Use Table I-2 [Construction Trench/Worker Action Level] (HDOH Fall 2017)



- ! Water Meter Soil Removal Location: Soil Exceeds HDOH Construction/Trench Worker Action Level
- ! Water Meter: Soil Does Not Exceed HDOH Construction/Trench Worker Action Level
- (Water Meter: Not Sampled - Outside of Site Boundaries
- Water Line
- G Valve Box Soil Removal Location: Soil Exceeds HDOH Construction/Trench Worker Action Level
- G Valve Box: Soil Does Not Exceed HDOH Construction/Trench Worker Action Level
- G Valve Box: Not Sampled - Outside of Site Boundaries
- Site Boundary

Figure 2
Total Lead Exceedances for
Construction/Trench Worker Action Level
Factory Street Area - BWS

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Table

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TABLE 1: Analytical Results for Water Meter and Valve Box Sample Locations

Construction/Trench Worker Direct Exposure EAL ¹ TCLP Regulatory Levels ² Units			Total Lead 800 NS mg/kg	TCLP Lead NS 5.0 mg/L		
Field Sample ID	Location/Address	Date of Sample Collection	Result	Q	Result	Q
FAC-1	905 FACTORY ST	24-Apr-2017	670		1.4	
FAC-2	915B FACTORY ST	24-Apr-2017	560		0.030	
FAC-3	922 FACTORY ST	24-Apr-2017	4,000		0.82	
FAC-4	819 FACTORY ST	22-May-2017	600		0.017	J
FAC-5	915C FACTORY ST	24-May-2017	590		0.027	J
FAC-6	808A FACTORY ST	1-Jun-2017	93		0.082	
FAC-7	901 FACTORY ST	1-Jun-2017	1,000		0.39	
FAC-8	910 FACTORY ST	1-Jun-2017	31		0.12	
FAC-9	914 FACTORY ST	1-Jun-2017	580		0.25	
FAC-10	915A FACTORY ST	1-Jun-2017	1,000		0.071	
FAC-11	909 FACTORY ST	1-Jun-2017	1,500		0.15	
FAC-12	904 FACTORY ST	4-Oct-2017	1,500		0.50	
FAC-13	902 FACTORY ST	4-Oct-2017	2,700		0.38	
Factory St-041317A	FACTORY AND N. KING ROAD CORNER	13-Apr-2017	1,100		0.021	J
Factory St-041317B	SIDEWALK KALIHI PAWN	13-Apr-2017	1,900		0.75	
Factory St-041317C	1955 N KING ST	13-Apr-2017	800		0.68	
IND-1	910 INDUSTRIAL RD	24-Apr-2017	200		0.0054	J
IND-2	914 INDUSTRIAL RD	2-Jun-2017	360		0.25	
IND-3	906 INDUSTRIAL RD	2-Jun-2017	100		0.038	
IND-4	902 INDUSTRIAL RD	4-Oct-2017	430		0.015	J
KOP-2	920 KOPKE ST	24-Apr-2017	31		0.0041	J
KOP-3	806 KOPKE ST	24-Apr-2017	120		0.0058	J
KOP-3A	821 KOPKE ST #1	1-May-2017	36		0.082	
KOP-4	2047 N KING ST	1-May-2017	160		0.090	
KOP-5	818 KOPKE ST	22-May-2017	71		0.013	J
KOP-6	817/815 KOPKE ST	2-Jun-2017	13		0.010	J
KOP-7	2012 STANLEY ST	2-Jun-2017	200		0.027	J
KOP-8	814 KOPKE ST	2-Jun-2017	21		0.012	J
KOP-9	822 KOPKE ST	2-Jun-2017	47		0.0074	J
KOP-10	2015 WATERHOUSE ST	2-Jun-2017	43		0.013	J
KOP-11	2016 WATERHOUSE	2-Jun-2017	20		0.0090	J
KOP-12	910 KOPKE ST	2-Jun-2017	390		0.023	J
KOP-13	911 KOPKE ST	2-Jun-2017	19		0.013	J
KOP-14	915 KOPKE ST	2-Jun-2017	18		0.014	J
KOP-15	916 KOPKE ST	2-Jun-2017	70		0.035	
KOP-16	919 KOPKE ST	2-Jun-2017	210		0.012	J
KOP-17	931 KOPKE ST	2-Jun-2017	130		0.044	
KOP-18	922 KOPKE ST	2-Jun-2017	40		0.027	J
KOP-19	922a KOPKE ST	2-Jun-2017	67		0.014	J
KOP-20	926 KOPKE ST	2-Jun-2017	32		0.19	
KOP-21	2020 WATERHOUSE ST	8-Jun-2017	81		0.0081	J
KOP-22	2022 WATERHOUSE ST	8-Jun-2017	13		0.0085	J
NKIN-1	2032 N KING ST SIDEWALK	5-Jun-2017	580		0.039	
NKIN-2	1012 KOPKE ST	24-Apr-2017	37		0.0040	J
NKIN-4	2011 N KING ST	24-Apr-2017	2,100		0.14	
NKIN-5	1937 N KING ST	25-Apr-2017	310		0.0080	J
NKIN-6	1924 N KING ST	25-Apr-2017	140		0.0061	J
NKIN-7	1950 N KING ST	25-Apr-2017	960		0.010	J
NKIN-8	2003 N KING ST	1-Jun-2017	560		0.21	
NKIN-9	2007 N KING ST	1-Jun-2017	3,700		0.054	
NKIN-10	2013 N KING ST	1-Jun-2017	1,600		0.027	J
NKIN-11	2015 N KING ST	1-Jun-2017	1,000		0.093	
NKIN-12	1943 N KING ST #1	1-Jun-2017	870		0.057	
NKIN-13	1943 N KING ST	1-Jun-2017	320		0.026	J
NKIN-14	1939 N KING ST	1-Jun-2017	300		0.027	J
NKIN-15	1935 N KING ST #A	1-Jun-2017	1,500		0.038	
NKIN-16	HYDRANT AT 1924 N KING ST	5-Jun-2017	370		0.12	
NKIN-16A	VALVE AT N. KING ST AND PUUHALE RD	4-Oct-2017	310		0.078	
NKIN-17	VALVE AT PULAA LN AND N KING ST	5-Jun-2017	370		0.019	J
NKIN-17A	WESTERNMOST VALVE AT N. KING ST AND KOPKE	4-Oct-2017	150		0.0085	J
NKIN-18	MIDDLE VALVE AT N. KING ST AND KOPKE ST	4-Oct-2017	36		0.0046	J

TABLE 1: Analytical Results for Water Meter and Valve Box Sample Locations

Construction/Trench Worker Direct Exposure EAL ¹ TCLP Regulatory Levels ² Units			Total Lead 800 NS mg/kg	TCLP Lead NS 5.0 mg/L		
Field Sample ID	Location/Address	Date of Sample Collection	Result	Q	Result	Q
NKIN-19	EASTERN VALVE AT N. KING ST AND KOPKE ST	4-Oct-2017	330		0.0077	J
PUL-1	1036 PULAA LN	25-Apr-2017	250		0.0054	J
PUL-2	1011 PULAA LN	25-Apr-2017	300		0.0070	J
PUL-3	CORNER N. King and PULAA LN	25-Apr-2017	280	J	0.0079	J
PUL-4	1028 PULAA LN	24-May-2017	80		0.0053	J
PUL-5	1015 PULAA LN	1-Jun-2017	37		0.0068	J
PUL-6	1011B PULAA LN	1-Jun-2017	170		0.0085	J
PUL-7	1011C PULAA LN	1-Jun-2017	240		0.014	J
PUL-8	1011D PULAA LN	1-Jun-2017	170		0.042	
PUL-9	1032 PULAA LN	1-Jun-2017	230		0.0050	J
PUU-1	1931 N KING ST	25-Apr-2017	300		0.012	J
PUU-2	916 PUUHALE RD	25-Apr-2017	160		0.0053	J
PUU-3	MAUKA CORNER WATERHOUSE AND PUUHALE	25-Apr-2017	1,500		1.1	
PUU-4	MAKAI CORNER WATERHOUSE AND PUUHALE	25-Apr-2017	420		0.046	
PUU-5	807 PUUHALE RD	25-Apr-2017	46		0.0032	J
PUU-6	758 PUUHALE RD	25-Apr-2017	230		NA	
PUU-7	918 PUUHALE RD	2-Jun-2017	130		0.0036	J
PUU-8	940 MOKAUEA ST	5-Jun-2017	130		0.018	J
PUU-9	FIRE HYDRANT 1931 N KING ST	5-Jun-2017	160		0.027	J
PUU-10	912 PUUHALE	5-Jun-2017	81		0.0053	J
PUU-11	906 PUUHALE	5-Jun-2017	86		0.011	J
PUU-12	835 PUUHALE	5-Jun-2017	140		0.0072	J
PUU-13	828 PUHHALE (METER)	5-Jun-2017	740		0.30	
PUU-14	828 PUHHALE VALVE -MAKAI	5-Jun-2017	110		0.084	
PUU-15	828 PUHHALE VALVE -INBTWN PUU-13 and PUU-14	5-Jun-2017	130		0.10	
STA-1	1949 STANLEY ST	25-Apr-2017	130		NA	
STA-2	2003 STANLEY ST	1-Jun-2017	490		0.058	
STA-3	2003 STANLEY ST	1-Jun-2017	240		0.021	J
STA-4	774 PUUHALE RD	1-Jun-2017	250		0.037	
STA-4A	806 FACTORY ST	4-Oct-2017	550		0.046	J
WAT-1	2010 WATERHOUSE ST	24-Apr-2017	1,100		0.023	J
WAT-2	2003 WATERHOUSE ST	24-Apr-2017	240		40	
WAT-2 (reanalysis)	2003 WATERHOUSE ST	24-Apr-2017	410		0.13	
WAT-2 retake	2003 WATERHOUSE ST	22-May-2017	350		0.0091	J
WAT-3	819 FACTORY ST	24-Apr-2017	820		0.0037	J
WAT-4	VALVE AT WATERHOUSE AND INDUSTRIAL	24-Apr-2017	610		0.013	J
WAT-5	2011 WATERHOUSE	1-Jun-2017	310		0.030	
WAT-6	2008 WATERHOUSE	5-Jun-2017	180		0.027	J
WAT-6A	2016 WATERHOUSE**	2-Jun-2017	590		0.032	
WAT-7	2007 WATERHOUSE	4-Oct-2017	170		0.011	J

Results shown in bold and highlighted blue equal or exceed the Construction/Trench Worker Direct Exposure EAL or regulatory level for TCLP.

¹ HDOH Direct Exposure Environmental Action Level (EAL) for Commercial/Industrial Land Use Scenario (Table I-2) (Fall 2017).

² Regulatory level for the Toxicity Characteristic (40 Code of Federal Regulations Part 261.24).

** This is a meter box south of 2016 Waterhouse. Not present on the map and the connection is cut.

HDOH = State of Hawaii Department of Health

ID = identifier

mg/kg = milligram(s) per kilogram

mg/L = milligram(s) per liter

NA = not analyzed

NS = not specified

Data Qualifier (Q):

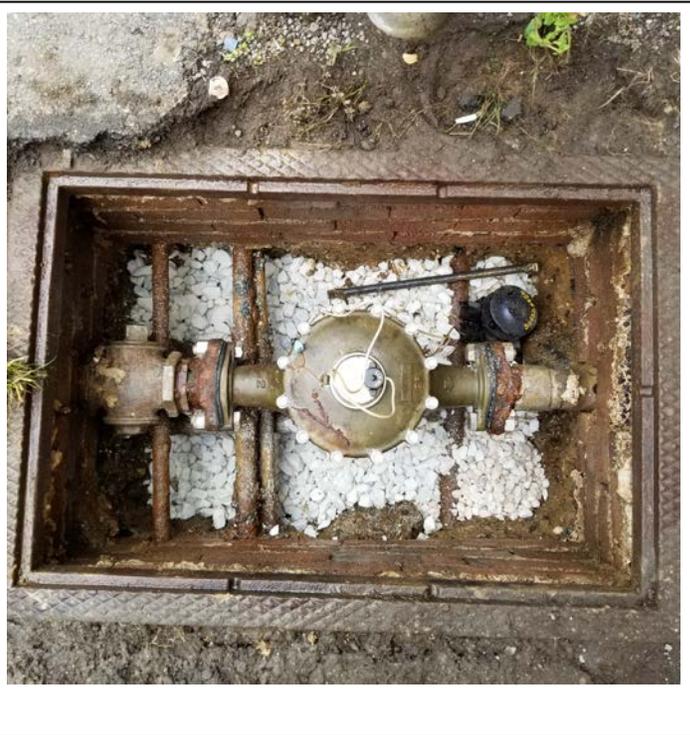
J = The analyte was positively identified; the quantitation is estimated.

**ATTACHMENT A
METER AND VALVE BOX SOIL REMOVAL
PHOTOGRAPH LOG**

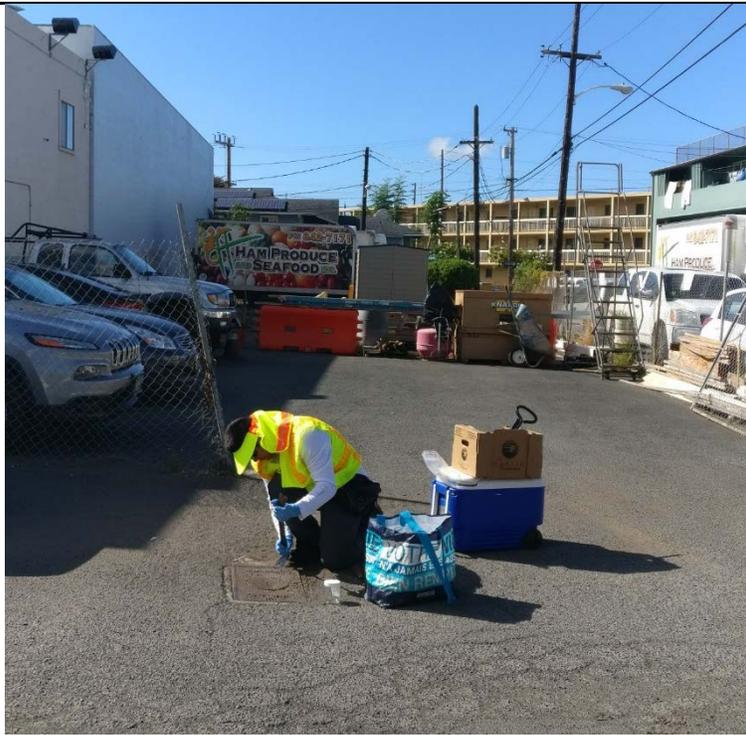
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Project No. 1552801	Description: FAC-3: 922 Factory St.	Photo 1A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	April 13, 2017



Project No. 1552801	Description: FAC-3: Before and After Soil Removal	Photo 1B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	Feb 13, 2018



Project No. 1552801	Description:	FAC-7: 901 Factory St.	Photo 2A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date June 1, 2017
	Client:	Board of Water Supply	



Project No. 1552801	Description:	FAC-7: Before and After Soil Removal	Photo 2B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date Feb 13, 2018
	Client:	Board of Water Supply	



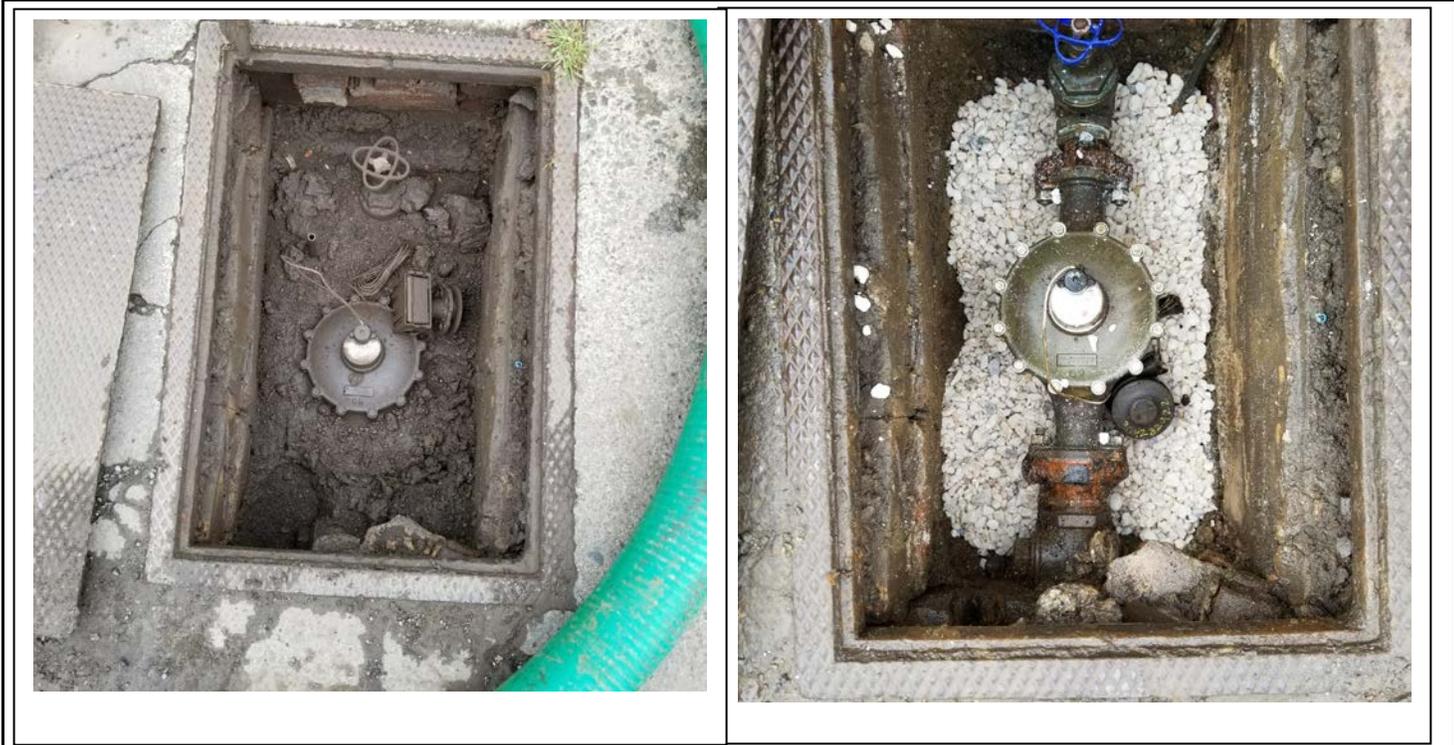
Project No. 1552801	Description:	FAC-10: 915A Factory St.	Photo 3A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	June 1, 2017



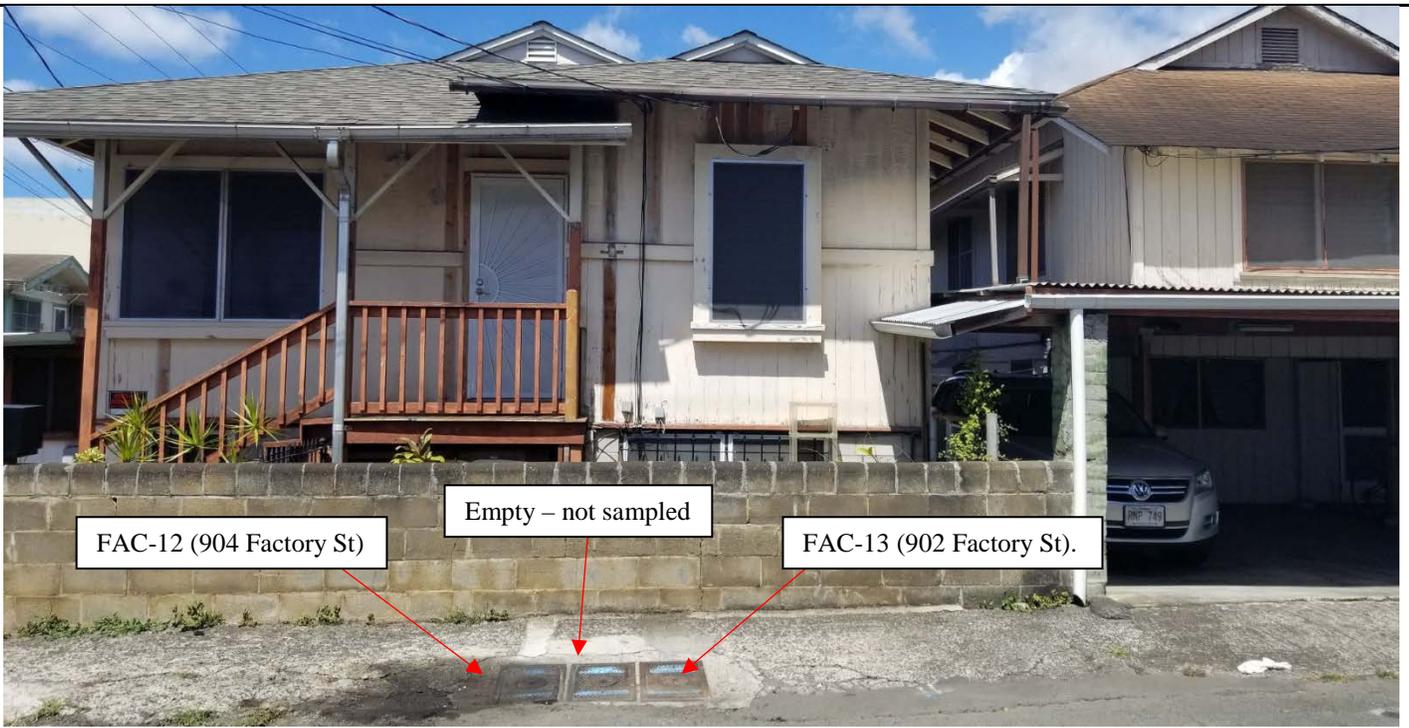
Project No. 1552801	Description:	FAC-10: Before and After Soil Removal	Photo 3B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 13, 2018



Project No. 1552801	Description:	FAC-11: 909 Factory St.	Photo 4A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date June 1, 2017
	Client:	Board of Water Supply	



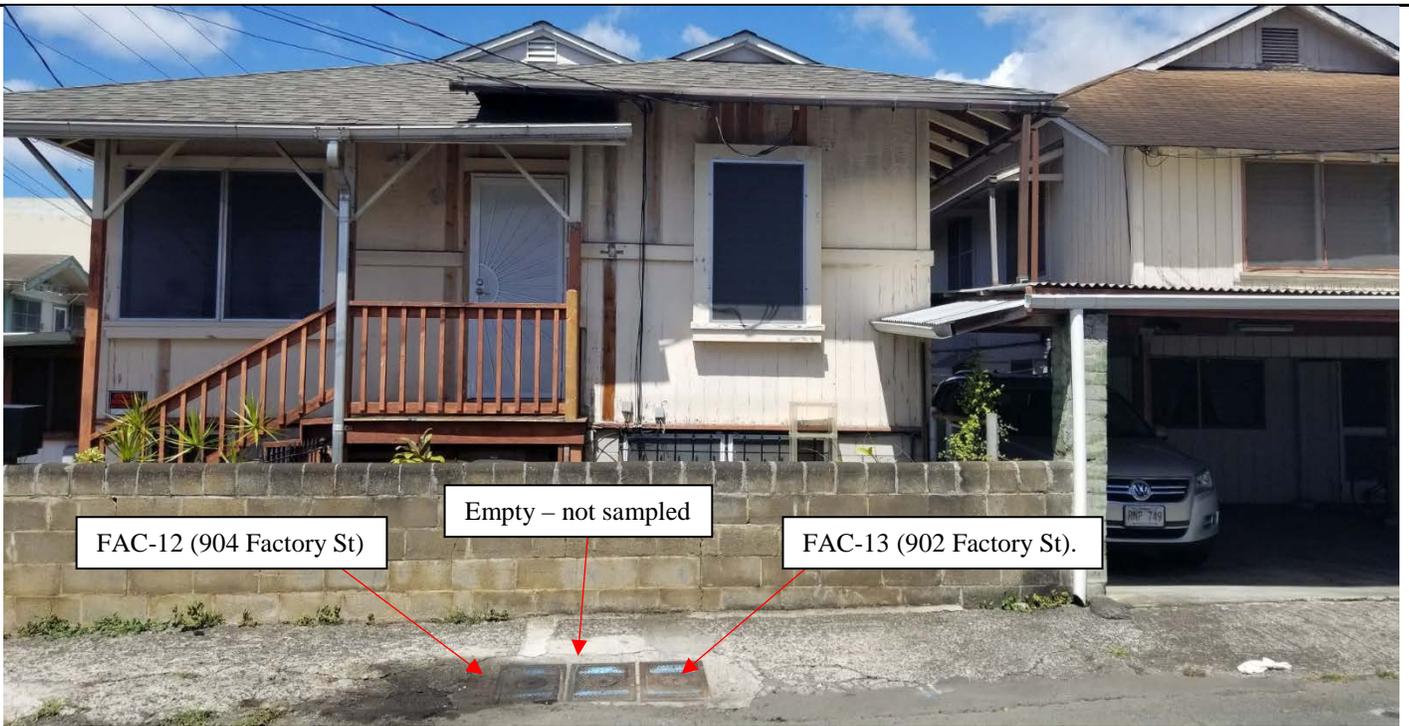
Project No. 1552801	Description:	FAC-11: Before and After Soil Removal	Photo 4B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date Feb 13, 2018
	Client:	Board of Water Supply	



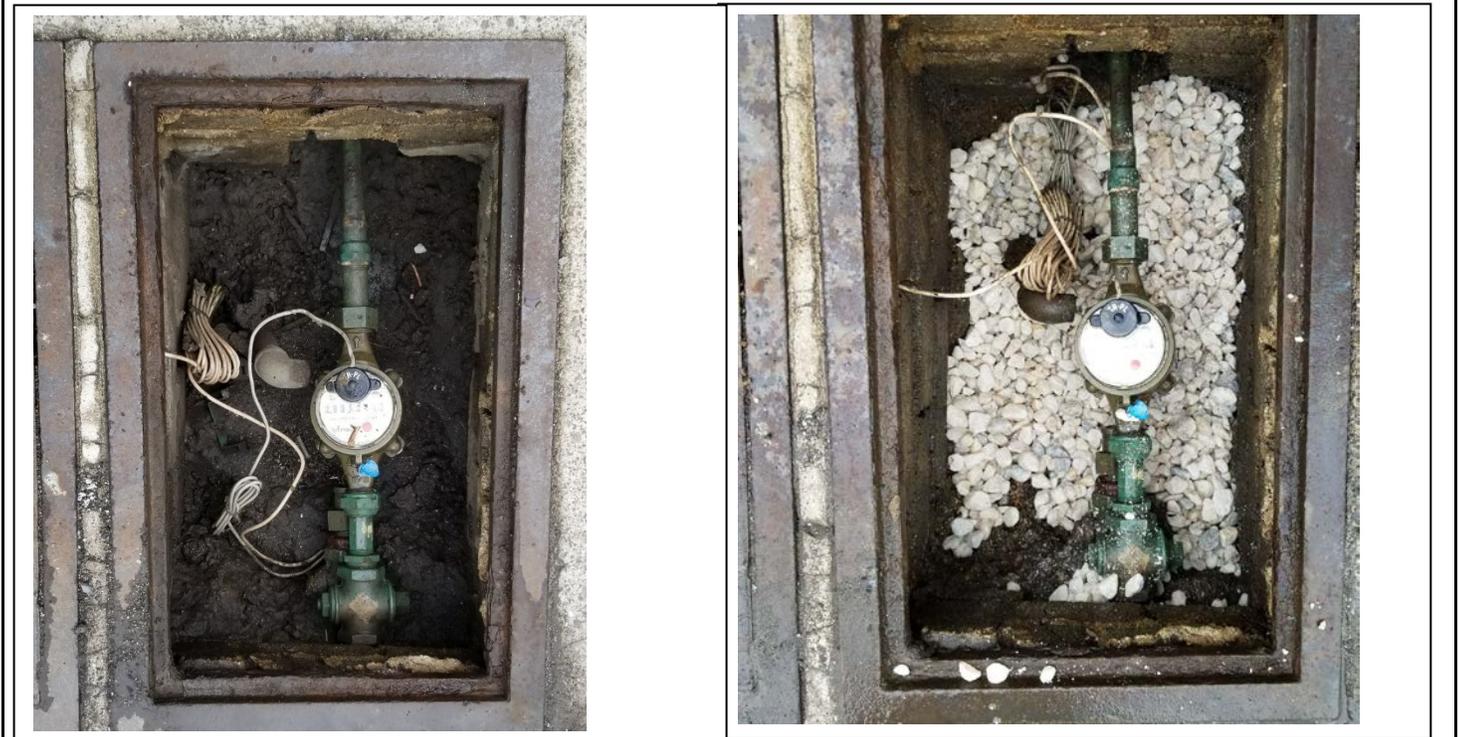
Project No. 1552801	Description: FAC-12 (904 Factory St.)	Photo 5A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



Project No. 1552801	Description: FAC-12: Before and After Soil Removal	Photo 5B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



Project No. 1552801	Description: FAC-13: 902 Factory St.	Photo 6A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



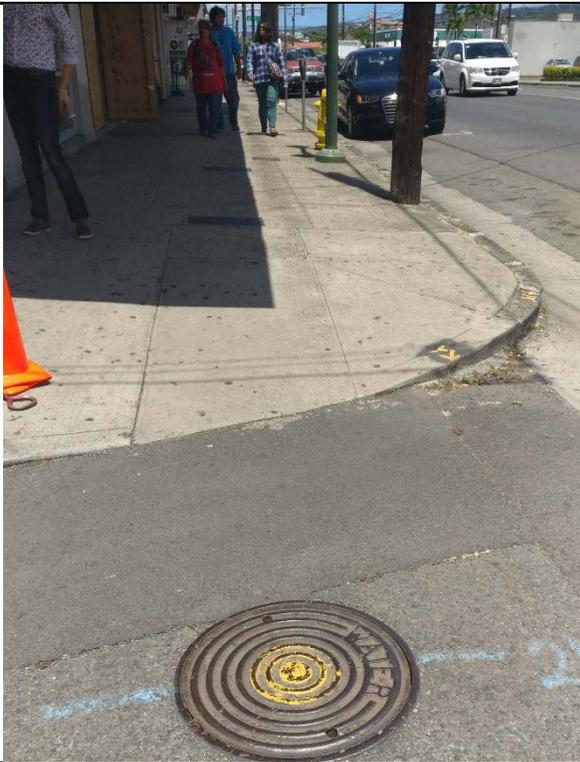
Project No. 1552801	Description: FAC-13: Before and After Soil Removal	Photo 6B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



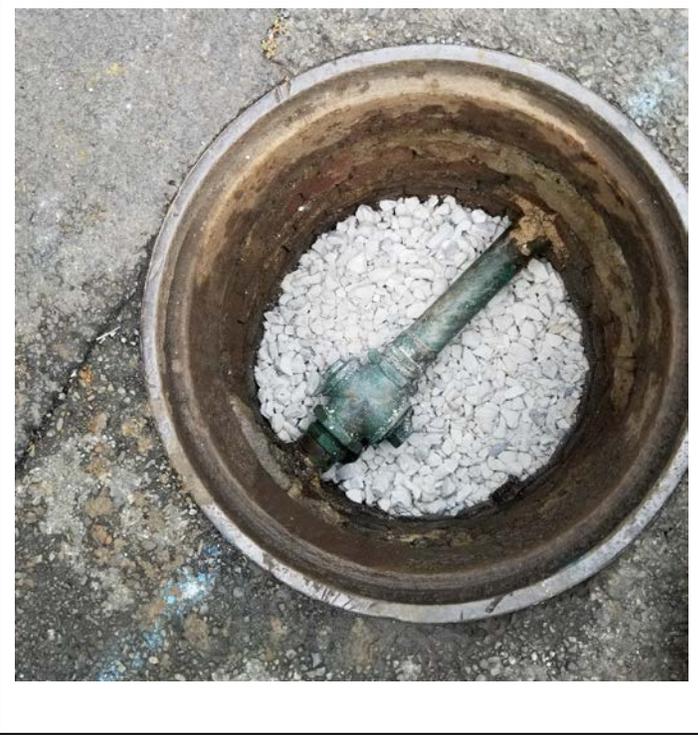
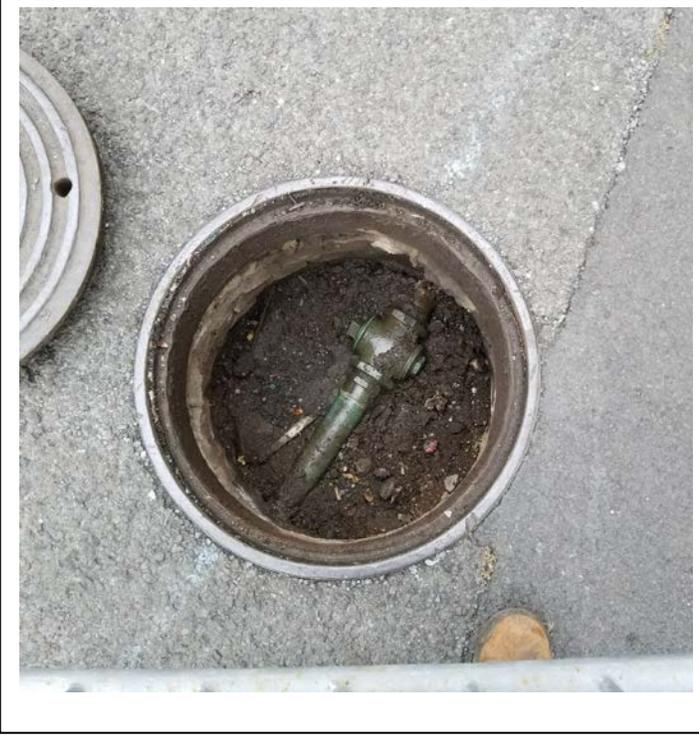
Project No. 1552801	Description:	Factory St-041317A: Corner of N. King and Factory St. (east corner)	Photo 7A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	April 13, 2017



Project No. 1552801	Description:	Factory St-041317A Before and After	Photo 7B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 13, 2017



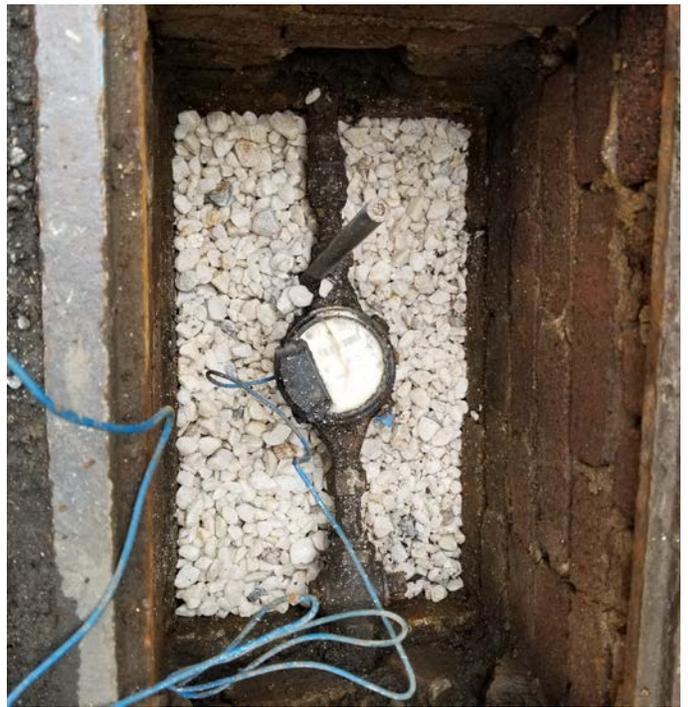
Project No. 1552801	Description:	Factory St-041317B: Corner of N. King and Factory St (west corner) Kalihi Pawn	Photo 8A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date April 13, 2017
	Client:	Board of Water Supply	



Project No. 1552801	Description:	Factory St-041317B: Before and After Soil Removal	Photo 8B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date Feb 13, 2017
	Client:	Board of Water Supply	



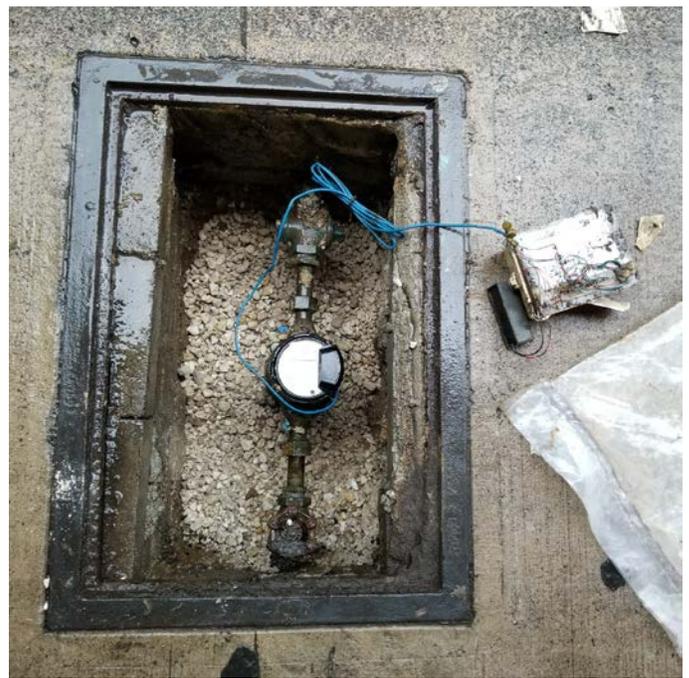
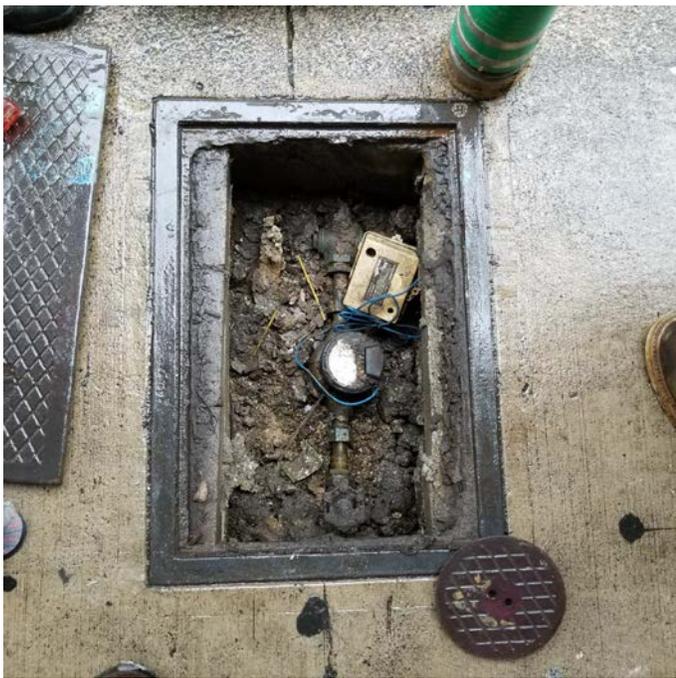
Project No. 1552801	Description:	Factory St-041317C: 1955 N. King St.	Photo 9A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	April 13, 2017



Project No. 1552801	Description:	Factory St-041317C: Before and After Soil Removal	Photo 9B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 13, 2018



Project No. 1552801	Description:	NKIN-4: 2011 N. King St.	Photo 10A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	April 24, 2017



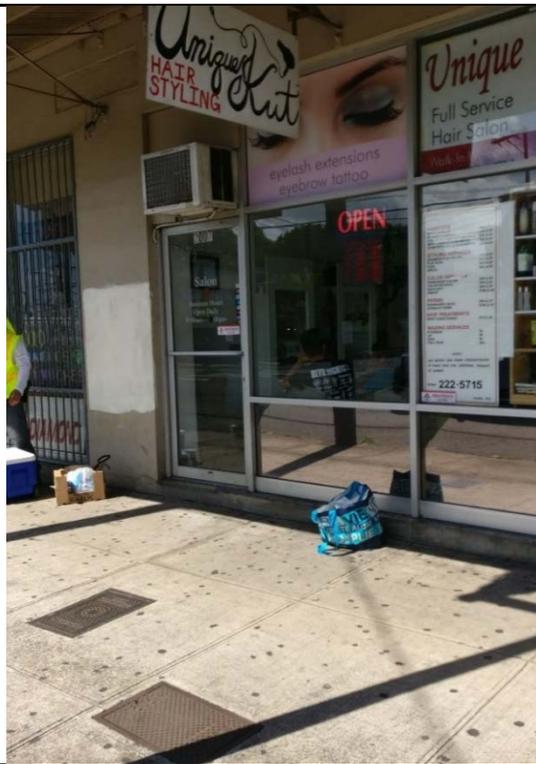
Project No. 1552801	Description:	NKIN-4: Before and After Soil Removal	Photo 10B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 13, 2018



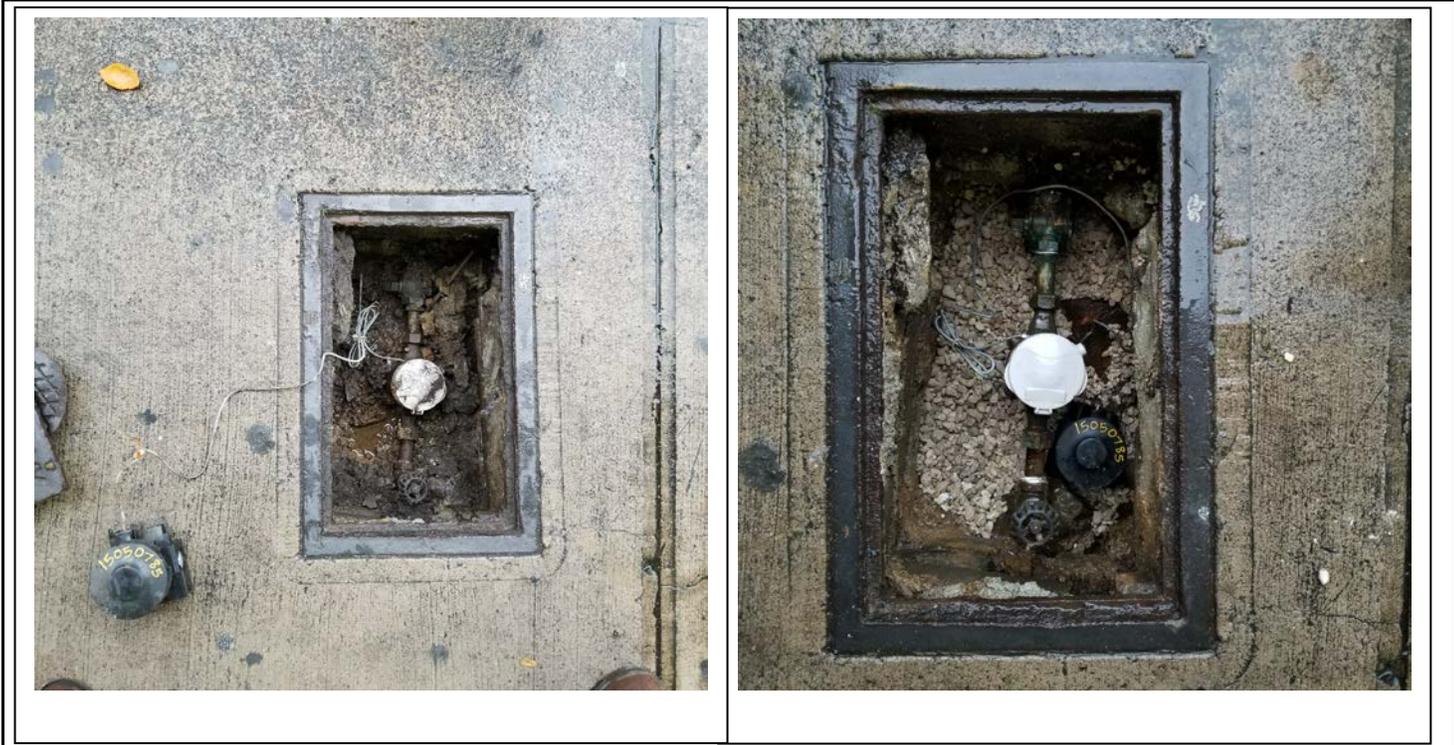
Project No. 1552801	Description: NKIN-7: 1950 N. King St.	Photo 11A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	April 25, 2017



Project No. 1552801	Description: NKIN-7: Before and After Soil Removal	Photo 11B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	Feb 14, 2018



Project No. 1552801	Description: NKIN-9: 2007 N. King St.	Photo 12A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	April 24, 2017



Project No. 1552801	Description: NKIN-9: Before and After Soil Removal	Photo 12B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	Feb 14, 2018



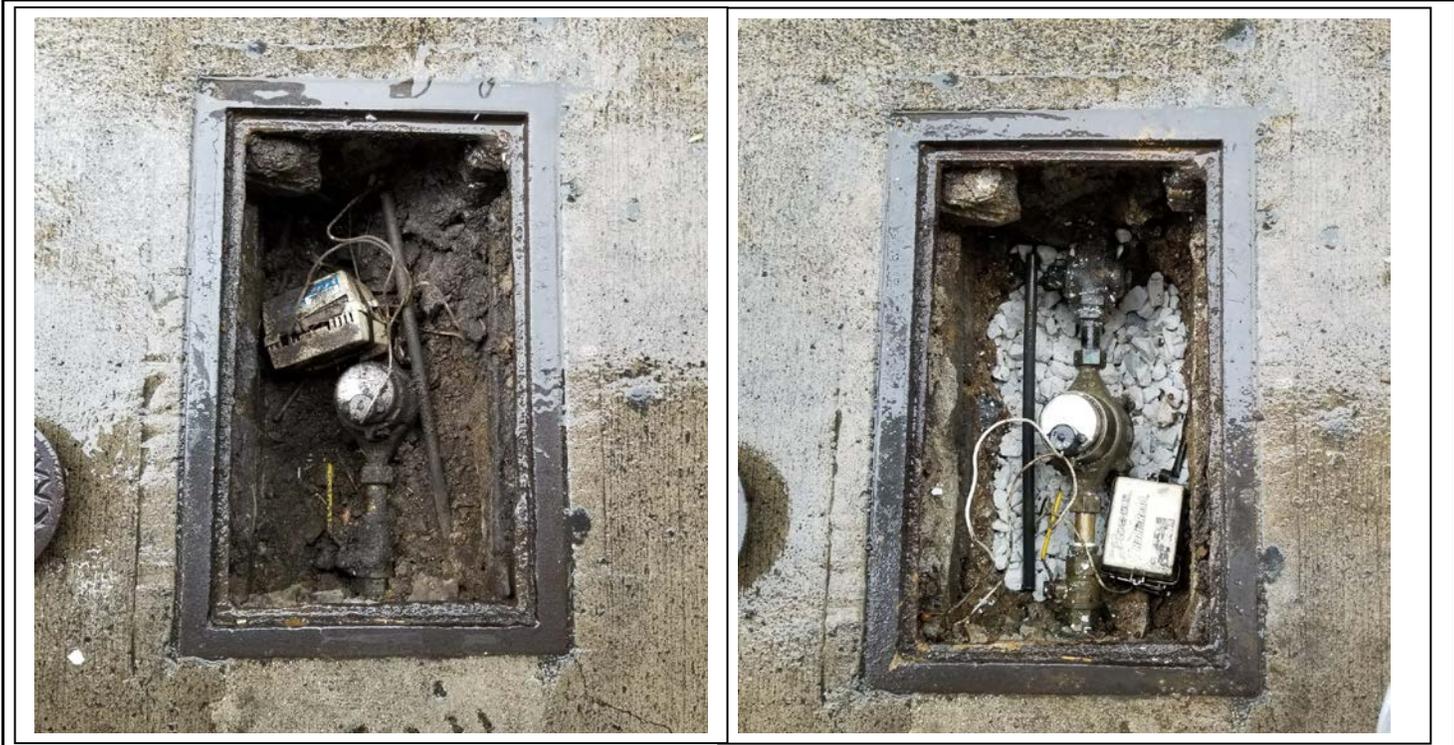
Project No. 1552801	Description: NKIN-10: 2013 N. King St.	Photo 13A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



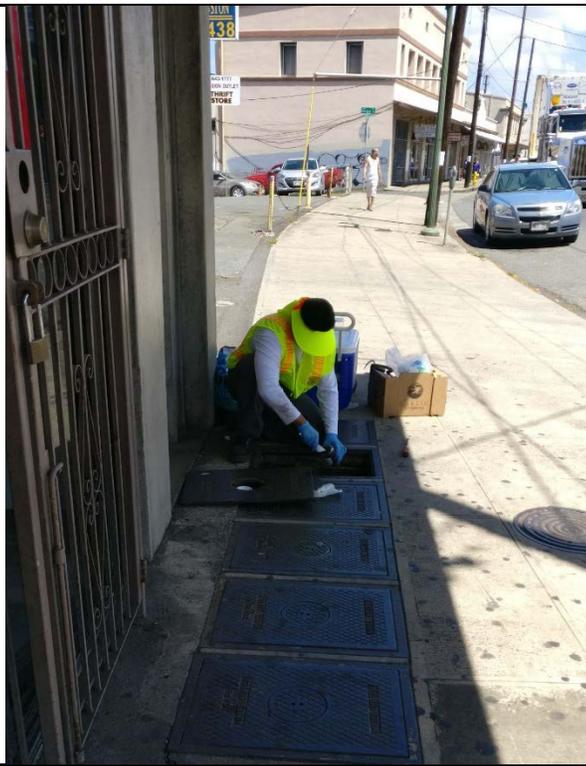
Project No. 1552801	Description: NKIN-10: Before and After Soil Removal	Photo 13B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



Project No. 1552801	Description: NKIN-11: 2015 N. King St.	Photo 14A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



Project No. 1552801	Description: NKIN-11: Before and After Soil Removal	Photo 14B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	



Project No. 1552801	Description:	NKIN-12: 1943 N. King St. #1	Photo 15A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	June 1, 2017



Project No. 1552801	Description:	NKIN-12: Before and After Soil Removal	Photo 15B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 14, 2018



Project No. 1552801	Description:	NKIN-15: 1935 N. King St. #A	Photo 16A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	June 1, 2017



Project No. 1552801	Description:	NKIN-15: Before and After Soil Removal	Photo 16B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 14, 2018



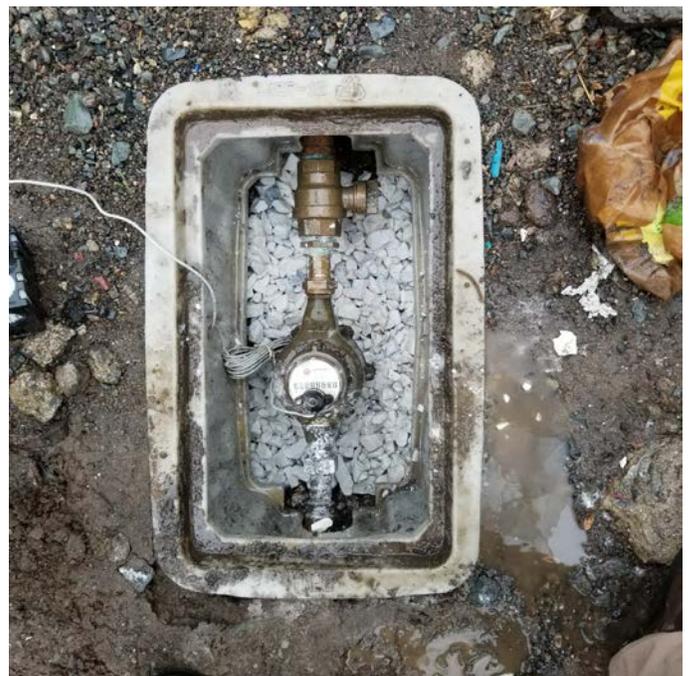
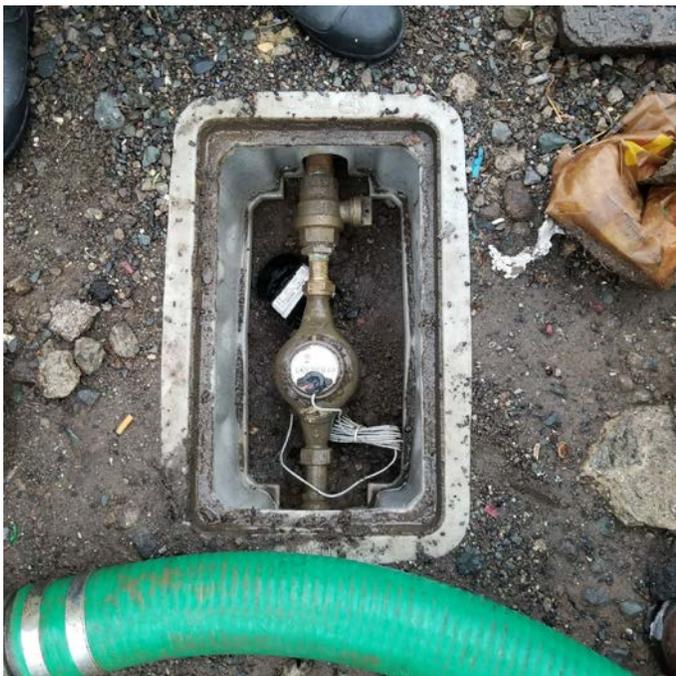
Project No. 1552801	Description:	PUU-3: Mauka Corner of Waterhouse and Puuhale	Photo 17A
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	April 25, 2017



Project No. 1552801	Description:	PUU-3: Before and After Soil Removal	Photo 17B
	Site Name:	Factory St. Area, Kalihi, Honolulu, HI	Photo Date
	Client:	Board of Water Supply	Feb 14, 2018



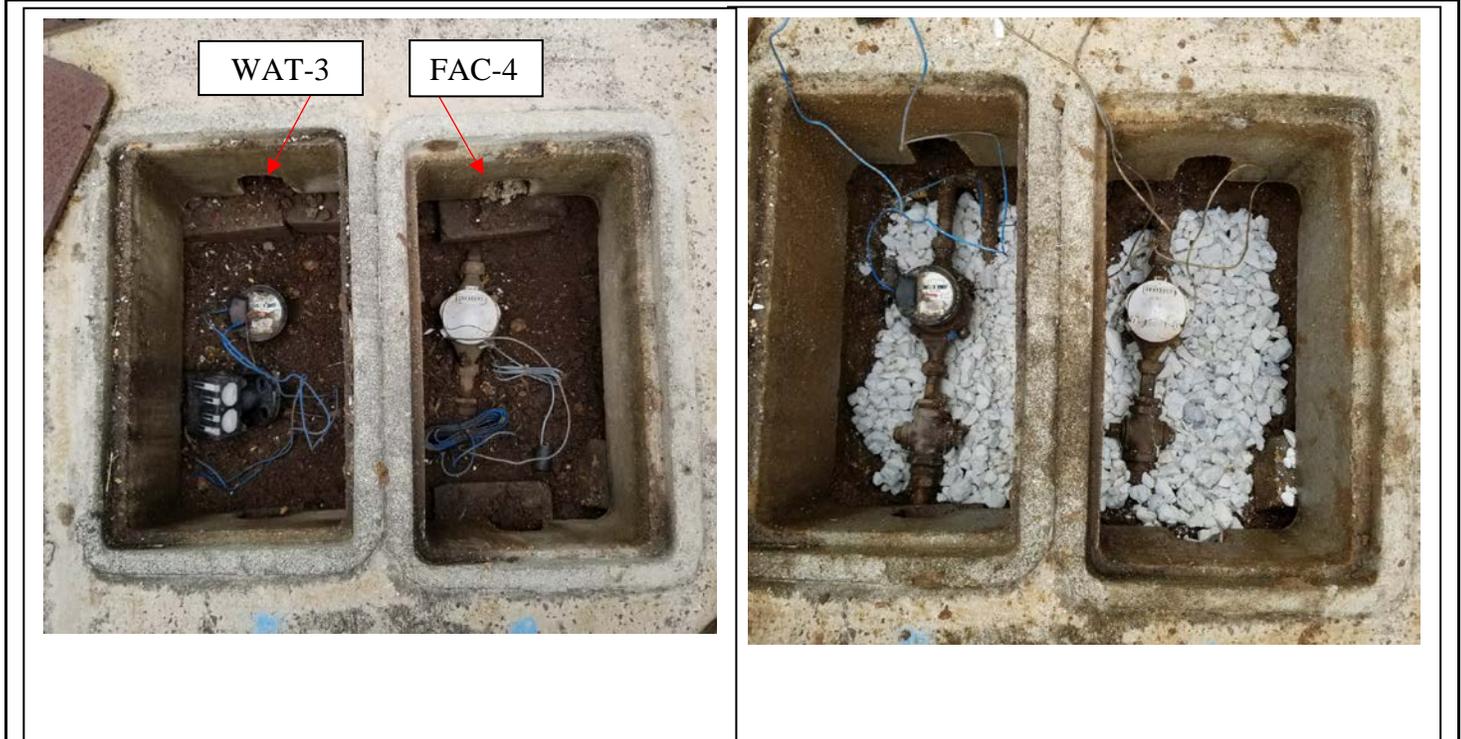
Project No. 1552801	Description: WAT-1: 2010 Waterhouse St. .	Photo 18A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	April 24, 2017



Project No. 1552801	Description: WAT-1: Before and After Soil Removal	Photo 18B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	Feb 13, 2018



Project No. 1552801	Description: WAT-3: 819 Factory St. (Shared with FAC-4: 817 Factory St.)	Photo 19A
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	April 24, 2017



Project No. 1552801	Description: WAT-3: Before and After Soil Removal	Photo 19B
	Site Name: Factory St. Area, Kalihi, Honolulu, HI	
	Client: Board of Water Supply	Feb 13, 2018

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ATTACHMENT B
SOLIDIFICATION PROFILE/REQUEST FOR
CLEARANCE

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REQUEST FOR CLEARANCE NUMBER

All Clearance Numbers expire 6 months from date of approval. Customers should renew their clearance number or request an extension prior to the expiration date. Clearance Numbers are issued during business hours, Monday through Friday only.

PART I. CUSTOMER INFORMATION (Please print legibly)

JOBSITE ADDRESS Factory St., Waterhouse St., N. King St. (Kalihi)		CITY Honolulu	ZIP CODE 96819
NAME OF PROPERTY OWNER Board of Water Supply			
NAME OF DEMOLITION CONTRACTOR Pacific Commercial Services LLC			
ADDRESS 91-254 Olai Street		CITY Kapolei	ZIP CODE 96707
PHONE (808) 545-4599	FAX # or EMAIL jingbo.chang@pcshi.com	P.O.# 302259-01	JOB # 302259-01
*NAME OF TRANSPORTER Pacific Commercial Services LLC		PHONE # (808) 545-4599	FAX # or EMAIL jingbo.chang@pcshi.com
BILL CHARGES TO: Pacific Commercial Services LLC			
 _____ Authorized Signature		General Manager _____ Title	2/15/2018 _____ Date

*For additional transporters, please complete the Transporter Authorization Form.

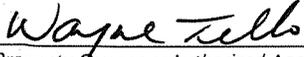
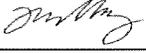
LEED TRACKING:	USE OF SITE:	JOB/PROJECT:	WASTE MATERIAL:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Vacant Land <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> City <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Demolition <input checked="" type="checkbox"/> Renovation <input type="checkbox"/> Roofing Only <input type="checkbox"/> Asbestos <input type="checkbox"/> Contaminated Soil <input checked="" type="checkbox"/> Liquid Waste <input checked="" type="checkbox"/> Other: <u>remediation</u>	<input type="checkbox"/> Canec <input type="checkbox"/> Concrete <input type="checkbox"/> Grub <input type="checkbox"/> Mixed Waste <input type="checkbox"/> Rock/Dirt Soil <input checked="" type="checkbox"/> Liquid Waste/Sludge <input type="checkbox"/> Other: _____

Profile Sheets Attached: Contaminated Soil Solidification Asbestos Notification of Demolition and Renovation

PART II. WASTE CERTIFICATION

1. This waste is not a "Hazardous Waste" as defined by EPA or the State of Hawaii.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls).
3. The statements and attachments contain true and accurate descriptions of the waste. All relevant information regarding known or suspected hazards in the possession of the undersigned has been disclosed.
4. The analytical data presented herein or attached hereto were derived from testing representative samples taken in accordance with the DOH HEER Technical Guidance Manual.
5. If any changes occur in the character of the waste, the undersigned shall notify a Landfill representative immediately.
6. The waste is not generated from a CERCLA site.

I have read and understand the WASTE CERTIFICATION guidelines and certify the information entered onto this form is accurate and true:

 _____ Property Owner or Authorized Agent Signature	WATER SERV. S4PT. _____ Title	2/15/18 _____ Date
 _____ Demolition Contractor or Authorized Agent Signature	General Manager _____ Title	2/15/2018 _____ Date
 _____ Transporter or Authorized Agent Signature	General Manager _____ Title	2/15/2018 _____ Date

FOR OFFICE USE ONLY

Clearance No.: 	<input type="checkbox"/> Approved <input type="checkbox"/> Declined Initials: _____ Date: _____ <input type="checkbox"/> Landfill and <input type="checkbox"/> Phase I or <input type="checkbox"/> Phase II
Issued by _____ Date: _____ Compuweigh entry by _____ Date: _____ Filed by _____	Comments: _____





PART I. LIQUID GENERATOR INFORMATION

- a. Generator Name: Board of Water Supply
- b. Generator Address: 2442 Kini Place, Honolulu, HI c. Zip Code 96819
- d. Address of Liquid Generation: Factory St., Waterhouse St., 1935-2011 N. King St. and 1950 N. King St. Honolulu, HI
- e. Address of Liquid Storage (if different from generator address): _____
- f. Type of Facility Liquid has been generated from: Street, BWS Meter and Valve Boxes
- g. State DOH Facility ID#: N/A
- h. Contact: Mike Fuke i. Phone No. (808) 748-5553

PART II. LIQUID INFORMATION

- a. Describe the circumstances by which the liquid has been generated.

Remediation

- b. Describe the method used to determine the presence or absence of contaminants in the liquid.

analytical testing

- c. Name of consultant performing sampling
EA Engineering
- d. Name of analytical laboratory
TestAmerica
- e. Was the sampling and analysis performed in accordance with the DOH Office of Hazard Evaluation and Emergency Response Technical Guidance Manual? Yes No (If no, explain)
- f. Sampling source (e.g. drum, pit, pond, etc.): Meter box
- g. Analytical results attached? Yes No (If No, explain)
- h. Amount of Liquid (tons and/or gallons): 3 tons
- i. Amount of Solids (tons and/or cubic yards): 1.5 ton
- j. Type of Liquid: Soil with water
- k. Free Liquid Range 40-50 %
- l. Liquid Color (Munsell Color Chart Code if available): various
- m. Strong incidental odor? Yes No (If yes, describe)
- n. pH 6-8
- o. Is the liquid ignitable? Yes No
- p. Is this a federal or state hazardous waste? Yes No
- q. Does this waste contain heavy metals? Yes No TCLP lead is less than 5.0 mg/L
- r. Does the waste contain PCBs? Yes No Concentration:
- s. Does the waste represented by this profile contain dioxins? Yes No
- t. Is the waste from a CERCLA or HRS Chapter 128D clean up? Yes No
- u. Is the waste the result of a UST removal or response action? Yes No
- v. Does the waste contain debris? Yes (If yes, list debris type)
 No

SOLIDIFICATION PROFILE

w. Does the waste represented by a "Waste Profile" contain radioactive material or disposal regulated by the NRC? Yes No

x. Personal Protective Equipment Requirements: gloves

y. Does the waste profile and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the contractor? Yes No

PART III. TRANSPORTATION INFORMATION

a. Method of Shipment Bulk Solid Drum/Box Other: _____

b. Name of Hauler: Pacific Commercial Services LLC c. Phone No. 808-545-4599

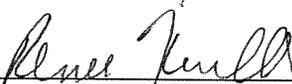
d. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? Yes No

PART IV. ENVIRONMENTAL REPRESENTATIVE'S CERTIFICATION

a. Name: Renee Kinchla b. Title: Environmental Scientist

c. Employer: EA Engineering, Science, and Technology, Inc., PBC

The environmental representative's signature certifies that sampling and analysis attached hereto was performed in accordance with the DOH HEER Technical Guidance Manual.



Environmental Representative's Signature

PART V. GENERATOR'S CERTIFICATION

- a. This liquid is not a "Hazardous Waste" as defined by EPA or the State of Hawaii.
- b. This waste does not contain regulated concentrations of PCB's (Polychlorinated Biphenyls).
- c. The statements and attachments contain true and accurate descriptions of the liquid. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
- d. The sampling and analysis attached hereto was performed in accordance with the DOH HEER Technical Guidance Manual.
- e. If any changes occur in the character of the liquid, the Generator shall notify a Landfill representative immediately.

I have read, understand, and certify the liquid being disposed meet the guidelines above and will notify a PVT Landfill representative immediately if any changes occur:

Wayne Tello 2/16/18

Signature Date
WAYNE TELLO WATER SERV. SUPT. City and County of Honolulu
Print Name & Title Company

WASTE DISPOSAL DECISION (For PVT Office use only)

Waste Disposal	<input type="checkbox"/> Accepted	<input type="checkbox"/> Rejected	
Disposal Method	<input type="checkbox"/> Solidification	<input type="checkbox"/> Landfill and	<input type="checkbox"/> Phase I or <input type="checkbox"/> Phase II
Precautions, Special Handling Procedures, or Limitations on Approval:			Date: _____

Clearance No.	Reviewed by:	Date:	
Forwarded to DOH	Approved by:	Date:	

PVT LAND COMPANY, LTD.
87-2020 Farrington Hwy.
Waianae, Hawaii 96792
Ph: (808)668-4561 Fax:(808)668-1368

Approval Date: 2/23/2018

Bill To: PACIFIC COMMERCIAL SERVICES LLC

Fax No.: (808) 845-9773

Clearance No: 113649 **Expiration Date:** 8/23/2018

The Clearance Number above has been assigned to you for the following Job Site:

FACTORY ST, WATERHOUSE ST N KING (

Material: SPECIAL WASTE-A LIQ

PO Number: 302259-01

Job Number: 302259-01

The following haulers are listed for this job site:

PACIFIC COMMERCIAL SERVICES LLC

Please submit a "Transporters Authorization" form to add any additional haulers not listed above.

**PLEASE HAVE YOUR DRIVERS OR HAULERS USE THIS CLEARANCE NUMBER TO ENTER THE LANDFILL.
THANK YOU FOR YOUR COOPERATION.**

ATTACHMENT C
WASTE DISPOSAL MANIFEST

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PACIC-V34

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number NOT APPLICABLE	2. Page 1 of	3. Emergency Response Phone 808-206-9989	4. Waste Tracking Number 000000032195	
5. Generator's Name and Mailing Address BOARD OF WATER SUPPLY 2442 KINI PLACE ATTN: MIKE FUKU HONOLULU, HI 96817			Generator's Site Address (if different than mailing address) 808 FACTORY STREET HONOLULU, HI 96817			302259-01
Generator's Phone: 808-748-5553			6. Transporter 1 Company Name PACIFIC COMMERCIAL SERVICES, LLC.		U.S. EPA ID Number HID 982 040 578	808-545-4599
7. Transporter 2 Company Name					U.S. EPA ID Number	
8. Designated Facility Name and Site Address PVT LAND COMPANY, LTD. 87-2020 FARRINGTON HIGHWAY WAIANAE, HI 96792			U.S. EPA ID Number NOT APPLICABLE			Facility's Phone: 808-668-4561
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No. Type		11. Total Quantity
	1.	MATERIAL NOT REGULATED BY DOT (SOIL CONTAMINATED WITH TRACE LEAD)		11 rck 002 DM		5500 rck 01000 P
	2.					
	3.					
	4.					
13. Special Handling Instructions and Additional Information 9b1: DNR 9b2: * 9b3: * 9b4: *						
113649			2016	9b1:	SEND COPY TO:	
			ERG#	9b2:	PCS LLC	
				9b3:	P.O. BOX 235117	
				9b4:	HONOLULU, HI 96823	
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Generator's/Officer's Printed/Typed Name WAYNE TELLO			Signature <i>Wayne Tello</i>		Month	Day Year
					2	21 18
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
16. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name <i>Brandon R. P...</i>			Signature <i>Brandon R. P...</i>		Month	Day Year
					2	26 18
Transporter 2 Printed/Typed Name			Signature		Month	Day Year
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
17b. Alternate Facility (or Generator) Manifest Reference Number: _____ U.S. EPA ID Number _____						
Facility's Phone: _____						
17c. Signature of Alternate Facility (or Generator) _____ Month Day Year						
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name Chris McClelland			Signature <i>Chris McClelland</i>		Month	Day Year
					2	26 18

GENERATOR

TRANSPORTER INTL

DESIGNATED FACILITY

NHM-C-C-11

WEIGHMASTER

1-DESIGNATED FACILITY TO DESTINATION

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