



Data Gaps Investigation Work Plan

Former Eastside Disposal Property 969 118th Avenue SE Bellevue, Washington 98005

Voluntary Cleanup Program No. NW3267
Facility Site Identification No. 92711227
Cleanup Site Identification No. 7835

Prepared For:

Pioneer Development Corporation, Inc. 11010 NE 8th Street, Suite 465 Bellevue, Washington 98004

February 1, 2021

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TRC Project Number: 424088

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ATTACHMENTS

Attachment A Health and Safety Plan

ABBREVIATIONS AND ACRONYMS

| Abbreviation/ Acronym | Definition |
|----------------------------------|----------------------------------------------------------------|
| BTEX | Benzene, toluene, ethylbenzene, and total xylenes |
| DOT | United States Department of Transportation |
| DPT | Direct-push technology |
| DRO | Diesel-range organics |
| Ecology | Washington State Department of Ecology |
| EPA | U.S. Environmental Protection Agency |
| FBI | Friedman & Bruya, Inc. |
| HASP | Health and Safety Plan |
| HSA | Hollow-stem auger |
| IDW | Investigation-derived waste |
| MTCA | Model Toxics Control Act |
| NFA | No Further Action |
| NWTPH-Dx | Northwest Total Petroleum Hydrocarbons – Diesel Range Extended |
| NWTPH-Gx | Northwest Total Petroleum Hydrocarbons – Gasoline Range |
| ORO | Oil-range organics |
| PID | Photoionization detector |
| PVC | Polyvinyl chloride |
| SGC | Silica gel cleanup |
| TRC | TRC Environmental Corporation |
| USCS | Unified Soil Classification System |
| VCP | Voluntary Cleanup Program |
| WAC | Washington Administrative Code |

1.0 BACKGROUND

TRC Environmental Corporation (TRC)¹ is pleased to submit the following Data Gaps Investigation Work Plan to document the purpose, methods, and procedures used to perform a Data Gaps Investigation, prepare a Data Gaps Investigation Summary Report, and request a No Further Action (NFA) determination from the Washington State Department of Ecology (Ecology) for the former Eastside Disposal Property located at 969 118th Avenue SE in Bellevue, Washington (subject property). The location of the subject property is depicted on Figure 1.

The subject property is enrolled in Ecology's Voluntary Cleanup Program (VCP) as number NW3267, Facility/Site ID 92711227, and Cleanup Site ID 7835. TRC understands that a historical release of petroleum hydrocarbon compounds occurred at the subject property. The subject property is currently being redeveloped as a hotel facility with on-site underground parking and that property development work has likely removed residual soil contamination that had been located under a former building that was demolished during redevelopment activities.

2.0 PURPOSE

The Cleanup Action Report (CAR) submitted to Ecology in March 2020 identified two separate Model Toxics Control Act (MTCA) Sites within the subject property. The two MTCA Sites are identified as the Former Main Building Site and the Former Storage Building Site as depicted on Figure 2. Ecology noted that they will agree to manage the Former Storage Building Site and the Former Main Building Site as two separate MTCA Sites if it can be demonstrated that impacts to soil or groundwater do not commingle, which would require that the two MTCA Sites be combined into a larger single MTCA Site. The purpose of this Data Gaps Investigation Work Plan is to provide the procedures and methods that will be used to obtain and evaluate additional soil and groundwater data from the area of the subject property between the Former Main Building Site and the Former Storage Building Site to address the specific data gaps identified by Ecology.

3.0 PRE-FIELD TASKS

Pre-field activities that must be completed prior to mobilization for the Data Gaps Investigation activities are presented in the following sections.

3.1 Health and Safety Plan

Prior to commencing any field activities, TRC field staff will review the existing Site-specific Health and Safety Plan (HASP) for investigation activities as required by the Code of Federal Regulations (CFR) Title 29 1910.120 and by the Washington State Department of Labor and Industries. The HASP is a

¹ Environmental Partners, Inc. (EPI) performed prior work on this project. EPI was acquired by TRC on December 27, 2019. For the purposes of this document and project, EPI and TRC may be used interchangeably.

document that establishes site objectives, anticipates job hazards, provides implementation of a hazard communication and injuries/illness prevention program, and establishes policies and procedures to be followed in both routine and emergency situations. A copy of the Site-specific HASP is included in Attachment A.

3.2 Utility Locating

Prior to performing subsurface (i.e., drilling, probing) work at the Site TRC will notify Washington One Call Service to identify publicly owned subsurface utilities at the subject property. The notification will be initiated a minimum of 3 business days prior to scheduled field activities. In addition, TRC will have a private utility locator clear each sampling location prior to advancing borings. TRC is not responsible for damage to utilities that cannot be located and are not identified.

4.0 FIELD METHODS

Soil and groundwater samples will be obtained from the area between the two MTCA Sites using a full-size, truck-mounted direct-push technology (DPT) probe rig. In addition, three permanent groundwater monitoring wells will be installed using a full-size, truck-mounted hollow-stem auger (HSA) drilling and will be sampled following well development. Field methods for DPT soil and groundwater sampling, HSA soil sampling, well installation, development, and sampling, and surveying are described in the following sections.

4.1 Direct-Push Soil Sampling

Soil samples will be collected at 5-foot intervals at each of the six DPT boring locations. Soils encountered will be classified using the Unified Soil Classification System (USCS) per the American Standards and Testing Method: Standard Practice Description and Identification of Soils (ASTM 2488D-00). Physical properties to be documented on the soil boring logs generally include: USCS name, color, moisture content, density or stiffness, dilatancy and plasticity for fine-grained soils, and odor or other field screening indications of potential contamination such as photoionization detector (PID) measurements. A portion of soil from each sample interval will be placed in a new resealable plastic bag, disaggregated, and allowed to degas for approximately 10 minutes after which time the headspace within the bag will be measured for the presence and relative concentration of volatile organic compounds (VOCs) using a calibrated PID. PID measurements will be recorded on the soil boring logs. At borings completed as soil vapor probes or monitoring wells the construction details of those completions will also be recorded on the logs. The completed logs will be provided in the project reports.

Soil intervals that, based on field screening, are potentially impacted will be sampled for laboratory analysis. Samples will be submitted for the following laboratory analyses:

- Diesel-range organics (DRO) and oil-range organics (ORO) by Northwest Total Petroleum Hydrocarbon – Diesel Range Extended (NWTPH-Dx) with silica gel cleanup (SGC).

Samples from the two sample locations near AOPC-1 (i.e., borings SB-1 and MW-6) will also be analyzed for the following constituents based on historical detections of gasoline range organics (GRO) and benzene in samples from AOPC-1. These samples will be collected using U.S. Environmental Protection Agency (EPA) Method 5035 for volatiles in soil.

- Gasoline range organics (GRO) by Northwest Total Petroleum Hydrocarbon – Gasoline Range (NWTPH-Gx); and
- Benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8021B.

If there are no field screening indications of contaminated soil, one soil sample will be collected from the interval above the top of the water table and will be submitted for the constituents listed above.

Soil samples will be placed into new, laboratory-supplied sample jars using new, single use, decontaminated stainless-steel spoons. Samples will be placed into iced coolers with an internal temperature of 6 degrees Celsius or lower and transported to Friedman & Bruya, Inc. (FBI) in Seattle, Washington, a State of Washington-accredited laboratory, following standard chain-of-custody procedures. Sample analyses, container types, preservatives, and holding times for soil samples from DPT probes are summarized in Table 1.

4.2 Direct-Push Groundwater Sampling

Reconnaissance groundwater samples will be collected at six DPT boring locations using temporary well screens and a peristaltic pump equipped with new single use tubing that will be changed between sample locations. Each boring will be sampled using low flow-purging and sampling techniques at the time of drilling.

All sampling devices will ideally be dedicated to a specific well or use new, single use tubing to prevent the need for decontamination between well locations. Low-flow purging will be conducted in general accordance with procedures described in Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA 1996). Field parameters will be measured and recorded during purging, but stabilization is not required for temporary DPT wells.

To the extent possible, DPT temporary wells will not be purged to dryness. However, if a well exhibits very slow water level recovery and is purged to dryness, groundwater samples at that well will be collected upon sufficient recovery. Sufficient recovery is defined as recovery to at least 80 percent of original static water level prior to purging.

The DPT groundwater samples will be submitted for the following laboratory analyses:

- DRO and ORO by NWTPH-Dx.

Samples from the two DPT sample locations near AOPC-1 (i.e., borings SB-01 and MW-6) will also be analyzed for the following constituents based on historical detections of GRO and benzene in samples from AOPC-1.

- GRO by NWTPH-Gx; and
- BTEX by EPA Method 8021B.

Sample analyses, container types, preservatives, and holding times for groundwater samples from DPT probes are summarized in Table 1.

4.3 Monitoring Well Drilling, Soil Sampling, Installation, and Development

Three sampling locations will be completed as 2-inch diameter groundwater monitoring wells (i.e., wells MW-6, MW-7, and MW-8). The wells will be installed in borings drilled using a full-size, truck-mounted HSA drilling rig. All wells will be drilled and constructed consistent with Ecology resource protection well construction requirements in Washington Administrative Code (WAC) 173-160.

Soil samples will be collected at 5-foot intervals at each of the three HSA boring locations. The soil samples will be field screened for the potential presence of contaminants using visual and olfactory indicators, sheen testing, and field screened using a PID.

Soil intervals that, based on field screening, are potentially impacted will be sampled for laboratory analysis. Samples from all three well locations will be submitted for the following laboratory analyses:

- DRO and ORO by NWTPH-Dx with SGC.

Soil samples from the well location near AOPC-1 will also be analyzed for the following constituents based on historical detections of GRO and benzene in samples from AOPC-1. These samples will be collected using EPA Method 5035 for volatiles in soil.

- GRO by NWTPH-Gx; and
- BTEX by EPA Method 8021B.

Sample analyses, container types, preservatives, and holding times for soil samples collected from monitoring well boreholes are summarized in Table 1.

Monitoring wells will be screened with 10-foot sections of 0.010-inch machine-slotted Schedule 40 polyvinyl chloride (PVC) well screen and the screen interval will be selected so that the screens straddle the water table with 2 to 3 feet of screen above the top of the water table and the remainder of the screen set below the water table at the time of drilling. The bottom of the screen will be sealed with a flush-threaded end cap. A silica sand filter pack consisting of 10-20 silica sand, or equivalent, will be installed around the well screen from the bottom of the boring to approximately 1 foot above the top of the well screen. The remainder of the wells will be constructed using blank, flush-threaded Schedule 40 PVC casing and a watertight locking well cap. The remaining well annulus above the sand filter pack will be

sealed with hydrated bentonite chips and completed with flush-completion traffic-rated steel monuments set in concrete.

New wells will be developed using dedicated single use polyethylene bailers to surge and bail groundwater and solids from each well. Development water will be retained in Department of Transportation (DOT)-approved, steel 55-gallon drums, which will be properly labeled and temporarily stored on-site pending results of laboratory analysis for waste characterization.

4.4 Monitoring Well Surveying

The three new monitoring wells and existing monitoring wells MW-1, MW-2, and MW-3, which were confirmed to be present at the Site, will be surveyed for horizontal and vertical control by Pace Engineers, a State of Washington-licensed land surveyor, under the oversight of TRC field staff. Vertical control will establish measuring point elevations for each well and will be tied to the North American Vertical Datum of 1988 (NAVD88) so all wells have a common elevation datum, which will facilitate preparation of groundwater elevation contour maps and evaluation of groundwater flow directions.

4.5 Monitoring Well Groundwater Sampling

Prior to sampling, depth to static water will be measured in monitoring wells MW-1, MW-2, MW-3, MW-6, MW-7, and MW-8. The three new monitoring wells (MW-6, MW-7, and MW-8) will be sampled using a peristaltic pump equipped with new, single use polyethylene and silicon tubing that will be changed between each well location. Groundwater sampling will be performed using low-flow purging and sampling techniques. Purging will be performed until groundwater stabilization criteria are achieved for three successive measurements taken at approximately 3- to 5-minute intervals.

Purging will be accomplished by starting the pump system at a low flow rate, (approximately 0.2 to 0.5 liters per minute) and slowly increasing the pumping rate. The water level in the well will be checked to maintain a drawdown of less than or equal to 0.33 feet (EPA 1996). If drawdown is greater than 0.33 feet, the flow rate will be decreased. The goal of 0.33 feet or less of drawdown may be difficult to achieve at some locations due to low-permeability formations and may require adjustment based on site-specific conditions and the professional experience of the field personnel. Purge water will be discharged through a flow cell for field parameter measurements and into 5-gallon buckets (or equivalent) before temporary storage in labelled on-site DOT-approved, steel 55-gallon drums, pending analytical results for waste characterization.

At a minimum, temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity will be measured and recorded during purging. DO and ORP measurements will be obtained but these parameters will not be used to determine stabilization. In addition, notes will be taken describing the appearance and/or odor of the water. Purging will be performed until field parameters stabilize to within the following ranges:

- pH \pm 0.1 pH units

- Specific conductance \pm 3 percent
- Turbidity \pm 10 percent (when turbidity is greater than 10 nephelometric turbidity units (NTUs))
- Temperature \pm 0.1°C

Upon stabilization groundwater samples from the three new wells will be collected for the following laboratory analyses:

- DRO and ORO by NWTPH-Dx.

The groundwater sample from well MW-6, located near AOPC-1 will also be analyzed for the following constituents based on historical detections of GRO and benzene in samples from AOPC-1.

- GRO by NWTPH-Gx; and
- BTEX by EPA Method 8021B.

Sample analyses, container types, preservatives, and holding times for groundwater samples collected from the new monitoring wells are summarized in Table 1.

4.6 Sample Identification

Soil and groundwater samples collected as part of this data gaps investigation will be assigned a unique identification code based on a consistent sample designation scheme. A sample tracking record will be kept as each sample is collected.

4.6.1 Direct-Push Sample Identification

Soil and groundwater samples from DPT temporary wells will be designated with unique alphanumeric sample identifiers (sample numbers) as follows:

ED-DP-01-M:(Depth)

Where:

| | |
|---------|-------------------------------------------------|
| ED | Eastside Disposal |
| DP | Direct-Push |
| 01 | DP sequential number (e.g., DP-01, DP-02, etc.) |
| M | Media: S = soil and W = water |
| (Depth) | Depth in feet below ground surface (i.e. ":5") |

4.6.2 Hollow-Stem Auger Sample Identification

Soil and groundwater samples from HSA wells will be designated with unique alphanumeric sample identifiers (sample numbers) as follows:

ED-MW-06-M:(Depth)

Where:

| | |
|---------|-----------------------------------------------------|
| ED | Eastside Disposal |
| MW | Monitoring Well |
| 06 | Monitoring well number (e.g., MW-6, MW-7, and MW-8) |
| M | Media: S = soil and W = water |
| (Depth) | Depth in feet below ground surface (i.e. “:5”) |

Sample numbers will be recorded in the field notebook, on sample container labels, and chain-of-custody forms. Other information recorded on the sample container label includes:

- Time and date of sample collection
- Initials of sampler(s)
- Laboratory analyses to be performed
- Preservatives used

4.7 Sample Handling

After collection, all samples will be placed in coolers with enough bagged ice to maintain an internal temperature of 4°C for the duration of the sampling and transportation to the laboratory. Samples will be delivered to FBI for analysis after each day of sampling following the procedures outlined in the previous section. FBI's address is:

Friedman & Bruya, Inc.
3012 16th Ave. West
Seattle, WA 9119-2029
Contact: Mr. Michael Erdahl, (206) 285-8282 (office)

4.8 Equipment Decontamination

Purging and sampling equipment that comes into direct contact with sample media, sample containers, or the inside of a probe or monitoring well will ideally be single-use, disposable equipment that is replaced between each sampling event, or will be dedicated equipment, assigned to and used at only one well or probe location. If non-dedicated, multiple-use sampling equipment is used for soil or groundwater sampling it will be decontaminated prior to use and between each sample location following the steps noted below:

1. Wash in a solution of Liquinox™ (or equivalent) and potable tap water.
1. Rinse with potable tap water.
2. Spray-rinse with distilled or de-ionized water.

4.9 Investigation-Derived Waste

DPT and HSA soil cuttings, decontamination fluids, development water, purge water and other investigation-derived waste (IDW) will be retained on-site in properly labeled 55-gallon DOT-approved steel drums, pending characterization for disposal. TRC personnel will coordinate characterization of drum contents and disposal according to established procedures. Disposal of soil cuttings, well development water, and purge water will be coordinated with client representatives. Hazardous wastes will be managed per the requirements in *Dangerous Wastes Regulations*, Chapter 173-303 WAC. IDW will be manifested to a treatment, storage, and disposal (TSD) facility permitted to accept the material by a waste disposal subcontractor.

5.0 REPORTING AND DATA UPLOAD TO ENVIRONMENTAL INFORMATION MANAGEMENT SYSTEM

Upon receipt of all analytical data, field data, and survey coordinates TRC will prepare a brief Data Gap Investigation Letter Report (DGI Report) describing the work performed, sampling methods, data evaluations, recommendations, and conclusions. The report will contain data summary tables, boring logs and as-built well diagrams, figures showing sampling locations, data, groundwater elevations, elevation contours, and groundwater flow directions. The letter report will be submitted to the Ecology VCP Site Manager with a request for an unconditional NFA determination.

Ecology also requires that all Site data must be uploaded to their Electronic Information Management (EIM) database as a condition of receiving the final NFA. TRC will upload historical and current analytical data from the subject property to Ecology's EIM database and will work with Ecology to correct any deficiencies during their review process.

Table

Table 1
Analyses for Soil Boring and Monitoring Well Samples
Data Gaps Investigation Work Plan
Former Eastside Disposal Property
969 118th Avenue SE, Bellevue, Washington

| Boring ID | Probe or Well | Soil and Groundwater Analyses | Analytical Methods | Sample Container | | Preservation | Holding Time | |
|-----------|---------------|-------------------------------|-----------------------------------|--------------------|--------------------|----------------------------|--------------|--------|
| | | | | Soil | Water | | Soil | Water |
| DP-1 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| | | GRO/BTEX | EPA 5035 NWTPH-Gx EPA 8021B | (2) 40 mL AG vials | (2) 40 mL AG vials | HCl to pH <2, cool <6°C | 14 days | 7 days |
| DP-2 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| DP-3 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| DP-4 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| DP-5 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| DP-6 | Probe | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| MW-6 | Well | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| | | GRO/BTEX | EPA 5035 NWTPH-Gx EPA 8021B | (2) 40 mL AG vials | (2) 40 mL AG vials | HCL to pH <2, cool <6°C | 14 days | 7 days |
| MW-7 | Well | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |
| MW-8 | Well | DRO/ORO | NWTPH-Dx (SGC) | 8 oz WMG | (2) 500 mL AG | Cool <6°C | 14 days | 7 days |

Notes:

- °C Degrees Celsius.
- AG Amber glass.
- BTEX Benzene, toluene, ethylbenzene, and xylenes.
- DRO Diesel range organics.
- EPA U.S. Environmental Protection Agency.
- GRO Gasoline range organics.
- HCl Hydrochloric acid.
- mL Milliliter.
- NWTPH-Dx Northwest Total Petroleum Hydrocarbons as Diesel.
- NWTPH-Gx Northwest Total Petroleum Hydrocarbons as Gasoline.
- ORO Oil range organics.
- SGC Silica Gel Cleanup used for NWTPH-DX analysis (soils only).
- WMG Wide mouth glass.

Figures



SUBJECT PROPERTY



SITE
KING COUNTY

SOURCE: USGS, THE NATIONAL MAP



APPROXIMATE SCALE IN MILES



1180 NW MAPLE ST, SUITE 310
ISSAQUAH, WA 98027
425.395.0010
WWW.TRCCOMPANIES.COM

FIGURE 1
SITE LOCATION MAP

REPORT
DATA GAP INVESTIGATION
WORK PLAN

PREPARED FOR
PIONEER DEVELOPMENT CORP. INC.

PROJECT NUMBER
384144

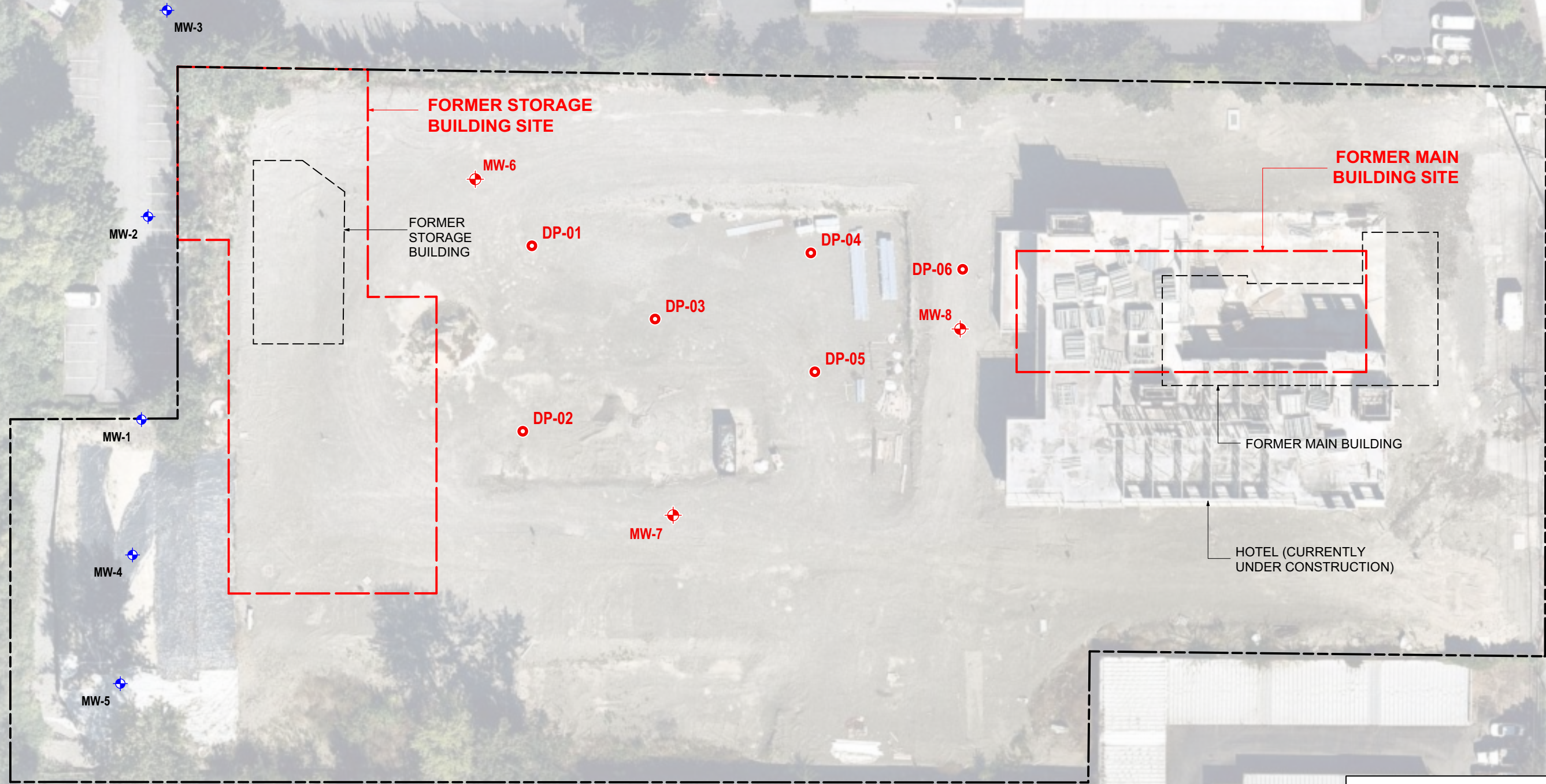
LOCATION
969 118TH AVENUE SE BELLEVUE,
WASHINGTON

DATE 1/28/21
DRAWN BY VPB
REVIEWED BY DCK

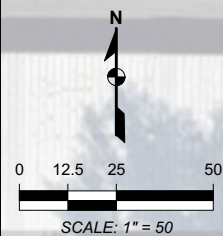
DRAFT
FOR REVIEW

GREENBAUM'S
FURNITURE

118TH AVENUE SE



- NOTES:**
- DP-01 PROPOSED DIRECT-PUSH PROBE SOIL BORING LOCATION
 - ⊕ MW-6 PROPOSED MONITORING WELL LOCATION
 - ⊕ MW-1 EXISTING MONITORING WELL LOCATION
 - APPROXIMATE PROPERTY BOUNDARY
 - MTCA SITE BOUNDARY



AERIAL UNDERLAY: NEARMAP, 8/28/20



1180 NW MAPLE ST, SUITE 310
ISSAQUAH, WA 98027
WWW.TRCCOMPANIES.COM
425.395.0010

FIGURE 2
PROPOSED SAMPLE LOCATIONS

REPORT
DATA GAP INVESTIGATION
WORK PLAN

PREPARED FOR
PIONEER DEVELOPMENT CORP. INC.

LOCATION
969 118TH AVENUE SE
BELLEVUE, WASHINGTON

PROJECT NUMBER
384144

DATE 1/28/21

DRAWN BY VPB

REVIEWED BY DCK

Attachment A
Health and Safety Plan