

## Detterman, Mark, Env. Health

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**From:** Detterman, Mark, Env. Health  
**Sent:** Tuesday, August 16, 2016 9:47 AM  
**To:** 'Peter Langtry'  
**Subject:** RE: RO3226; VRAP Meeting Follow-up No. 2

Hi Peter,

Thanks for the scope of work. My only input is to additionally request TPHmo due to the detects in the old ASE report, and then to request that extractable ranged hydrocarbons (TPHd and mo) be additionally run with and without SGC to stay within current RWQCB guidance to run both. Once we get an idea of relative ratios we can consider changing that in the future. I don't recall the last time the wells were sampled, but you might consider redeveloping the wells to ensure we're analyzing concentrations in groundwater rather than on sediment in the groundwater.

Should we establish a submittal date to help move the project forward? Say September 19<sup>th</sup>, since I know your client wants this to keep moving???

Let me know what you think.

Thanks,

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: mark.detterman@acgov.org*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** Peter Langtry [mailto:plangtry@cornerstoneearth.com]  
**Sent:** Monday, August 15, 2016 4:17 PM  
**To:** Detterman, Mark, Env. Health  
**Subject:** RE: RO3226; VRAP Meeting Follow-up No. 2

Hello Mark, during our last meeting you asked for a brief work scope for the sampling of the three existing ground water monitoring wells. The summary is attached. I'm assuming you need this uploaded to the county ftp site and Geotracker. We are planning to sample the wells later this week.

Thanks!

Sincerely,

Peter Langtry, P.G., C.E.G.  
Principal Geologist



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**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Monday, August 8, 2016 12:30 PM  
**To:** Peter Langtry <[plangtry@cornerstoneearth.com](mailto:plangtry@cornerstoneearth.com)>  
**Subject:** RE: RO3226; VRAP Meeting Follow-up No. 2

Hi Peter,  
Site is up on Geotracker. You are free to upload documents and etc. to the website.

*Mark Detterman*  
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**From:** Peter Langtry [<mailto:plangtry@cornerstoneearth.com>]  
**Sent:** Friday, August 05, 2016 3:10 PM  
**To:** Detterman, Mark, Env. Health  
**Subject:** RE: RO3226; VRAP Meeting Follow-up No. 2

Hello Mark, I believe Brad dropped off the signed oversight agreement. Have you had a chance to open the case in Geotracker?

Sincerely,

Peter Langtry, P.G., C.E.G.  
Principal Geologist



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**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]

**Sent:** Tuesday, August 2, 2016 1:45 PM

**To:** 'brad@cefrealty.com' <[brad@cefrealty.com](mailto:brad@cefrealty.com)>; 'RTdevelops@comcast.net' <[RTdevelops@comcast.net](mailto:RTdevelops@comcast.net)>; Peter Langtry <[plangtry@cornerstoneearth.com](mailto:plangtry@cornerstoneearth.com)>

**Subject:** RO3226; VRAP Meeting Follow-up No. 2

Gents,

As promised, here is a brief list of submittals that ACDEH typically requests with VRAP cases. Many were mentioned in the meeting. At some point ACDEH will have a standard letter requesting variations to the attached figures and tables from project proponents and their consultants to communicate the scope of a redevelopment, including depth of foundation / elevator excavations, remaining proposed residual contamination after development or excavation, if any, extent of removal of contamination, data collected to evaluate sensitive pathways (elevator pits, etc), or potential sources areas. These tables and figures are intended to quickly and efficiently document site conditions. These are requested to include:

- Plan view of historic borings, current bores, and any proposed bores relative to historic infrastructure related to contamination, and any groundwater or vapor contamination.
- Plan view of proposed redevelopment related to historic, current, and proposed bore locations. This may require several figures at complex data sites; fewer is better, but at the risk of too complex a figure that decreases the communication effort.
- Multiple cross sections across a site that depict proposed excavation base elevation, foundation depth elevation, proposed cut / fill lines, old soil bore locations along that cross section, and depth-correct residual analytical proposed to remain below the foundation. Below the future proposed foundation elevation, lithology can be depicted if it plays an important role; however, one intent is to depict the location of residual contamination relative to the proposed building foundation and the proposed lowest building level (or higher if appropriate), proposed uses (commercial / residential / day care / senior care / etc.). Groundwater depth and analytical should also be depicted as well. Lithology or data above the proposed excavation depth can be removed if it decreases the clutter of the figure; it won't be of consequence to the future development once removed, but the analytical data will remain in the tables (see below).
- An appropriate number of detailed cross section through areas of interest, such as former sources (former UST, dry cleaner, unexplored areas of potential contamination, elevator sumps or stairways [potential for VI], or other areas identified as potential areas of concern needing clearer illumination). The intent is to quickly illustrate residual contamination, or the lack of data, and once investigated, why it is protective of future occupants. These cross sections must include offsite (sidewalk or other) improvements where contamination is documented, such as café chairs and permeable pavers over residual contamination, infrastructure improvements such as utilities through residual contamination (such as a storm drain drop box, etc.), or other items that can / will affect users, construction workers, or the public.
- A table by parcel with historic infrastructure, proposed uses (comm. / res), historic / current borings, proposed bores, rational for future bores in the area, etc.
- Electronic Phase 1 for all parcels.
- Full electronic plan set; most recent. This will need updating as planning progresses, as closure will be evaluated against the most recent plan set.
- A table with all historic and current analytical data, with removed / excavated soil (historic and future) indicated by shading or strike out (but still legible). If you want to distinguish between historic removed and proposed, you might use different shadings.
- Addition of a "Depth Below Future Foundation" column in soil tables, so that the affect of the future redevelopment excavations will have on the depth of the residual contamination is communicated quickly.
- All ND tabulated analytical listed by individual chemical detection limit (<x), and highlighting / bolding of detects, or of concentrations over ESLs (or other goals); including "NDs" over ESLs. This can partly be combined with a professional signed statement that the professional engineer or geologist has reviewed all analytical data and has found it is below ESLs or other goals for the site.

- Project schedule – where is project in entitlement project planning, CEQA, building and planning department approvals, when construction is hoped to realistically begin, a realistic time frame for regulatory review (30 days as touched on; we'll try for better if we can, but standard is 60 days), when and what project proponents will need something in writing from ACEH for financing, and recognition that if mitigation measures are involved closure cannot be provided until a final confirmation sampling report is submitted and reviewed (60 days). The submittal of a Gantt chart is appropriate so that we can all set realistic time frames, and incorporate changes as events happen.
- An understanding that the Porter-Cologne Water Quality Act requires that any regulatory agency in California use a deed restriction / land use covenant (LUC) if contamination above goals (ESLs or other) is proposed to remain at a site. LUCs take time to word, sign, and record at the County. Potential planning to remove any such contamination prior to site development, or provided that the extent is well characterized, potentially with the use of a Site Management Plan (SMP) to manage the removal of the contamination at the time of redevelopment, may be appropriate. Please be aware that a large removal is essentially a Corrective Action, and a 30 day public notification may be required per state requirements (affecting the Gantt chart inputs). Minor cleanup of inappropriate contamination is not a CA.
- Appropriate use of ESLs relative to the future proposed foundation depth (groundwater or a vapor sample at a site may have been 10 feet bgs, may now be 2 ft below the foundation, and would not meet the 10 foot separation distance groundwater ESLs assume or 5 ft separation that VI ESLs assume / require).
- If mitigation measures are required, then the site will need a RAP and / or a HHRA to evaluate risk with and without mitigation measures (assuming no removal of residual contamination below the future foundation). The RAP must be approved by ACDEH and then incorporated into the building plans, which requires coordination with ACDEH, building department, and the consultant throughout the final plan approval to ensure changes made during building department or planning review do not conflict with ACDEH approved plans. This is a continuing problem ACDEH has. All plan changes will also require a professional signed statement from the consultant that the changes do not affect the proposed mitigation measures.
- Generation of a robust SMP to deal with known (volumes, destinations, etc.) or unexpected contamination found during redevelopment, dust management / monitoring for onsite and offsite residential receptors, stormwater, step-out contingency, potential USTs? - perhaps a contingency for contact info with ACDEH CUAP group, etc.

I still need to set up the site on Geotracker. I'll keep you posted.  
Let me know if you have questions, but hope this helps.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
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## **914 West Grand Avenue Existing Ground Water Monitoring Well Scope of Work**

The purpose of this brief work scope is to sample the three existing ground water monitoring wells located at 914 West Grand Avenue. The three monitoring wells, MW-1, MW-2 and MW-3 are shown on the attached site map.

### **GROUND WATER MONITORING WELL SAMPLING**

#### **Ground Water Elevation Measurement and Gradient Evaluation**

The depth to ground water will be measured in each well to the nearest 0.01 foot using an electronic depth sounder. The measured ground water elevations will be used to calculate the ground water flow direction in the monitoring well area. The presence and thickness of free product will also be noted if observed.

#### **Well Development**

Because the wells have not been sampled since 2012, the three existing wells will be developed prior to sampling. The well development is intended to help provide more representative ground water analytical results.

Well development will first be conducted by surge and bail methods to remove sediment. After surging and bailing, a pump system will be used to further develop the wells. During development activities, water conditions will be monitored using field equipment. These measurements will include ground water levels, volume of development water removed, and field parameters, including pH, specific conductivity, temperature, and turbidity. The goal for development is to achieve turbidity readings of less than 5 Nephelometric Turbidity Units (NTU). The well will be considered properly developed if turbidity is less than or equal to 5 NTU and the other field parameters are stable (+/- 10% for specific conductivity and temperature, and +/- 1 pH unit between three consecutive samples). If the turbidity cannot be lowered to 5 NTU or less after reasonable development time, but other field parameters are stable and the well is producing water, the well will be considered developed.

#### **Monitoring Well Sampling**

Ground water monitoring wells MW-1, MW-2 and MW-3 will be sampled in general accordance with EPA guidelines, ASTM D 4448-01, 'Standard Guide for Sampling Ground Water Monitoring Wells' and ASTM D 6771-02, 'Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground Water Quality Investigations'. Water that stands within a monitoring well for a long period of time may become unrepresentative of formation water because chemical or biochemical change may alter water quality. Well purging will be performed prior to sampling using a withdrawal rate that minimizes drawdown while attempting to satisfy time constraints. According to Barcelona, Wehrmann and Varlien (1994) and Puls and Powell (1992), purging less than 1 L/min (approximately 0.25 gallons per minute) provides more reproducible VOCs and metal analytical results than purging at high rates. This method, commonly termed low-flow sampling, is based on the premise that at low pumping rates, there is little mixing of the water column and laminar ground water flow through the screen provides a more consistent sample. Note that a monitoring well with a low yield may not be applicable to this technique since it may be difficult to reduce the pumping rate sufficiently to prevent mixing of the water column in the well casing in such a well.



The water level in the well being sampled will be continuously monitored using an electronic water-level indicator during low-flow sampling. The water-level indicator will be set below the water surface after sufficient water has been withdrawn to fill the pump and tubing. When the well is purged, if the water level falls below the water-level indicator probe, the signal indicates that the water level has fallen below the maximum allowable drawdown, and the pumping rate will be decreased. Pumping will be started at approximately 100mL/min and gradually adjusted to attempt to match the well's recharge rate.

During purging, pH, temperature, dissolved oxygen and conductivity measurements will be recorded. Once these parameters stabilize (pH within approximately 0.2 pH units, conductivity within approximately 3% of reading, dissolved oxygen within 10% of reading or 0.2 mg/L, and Eh or oxygen reduction potential with 20 mV), the ground water samples will be collected. Allowable drawdown during sampling will not exceed the distance between the top of the well screen and the pump intake, which will be positioned near the mid-point of the screen. If the yield is low and the well is pumped dry, the well will be allowed to recharge to approximately 80 percent of the original level before sampling.

Ground water samples will be collected in appropriate laboratory-supplied containers, labeled, and placed into an ice-chilled cooler for transportation to a state-certified laboratory. Chain of custody documentation will be maintained for the samples.

Ground water samples will not be collected from wells where free product is observed.

### **Laboratory Analyses**

The following laboratory analyses will be performed on ground water samples from the three wells.

- Volatile organic compounds (VOCs) and gasoline-range petroleum hydrocarbons (TPHg) (EPA Test Method 8260).
- Total petroleum hydrocarbons in the diesel range (TPHd) (EPA Test Method 8015).

A silica gel cleanup will be performed for the TPHd analysis to help remove naturally occurring organic compounds that can be picked up in the diesel scan, providing false positive results.

### **Equipment Decontamination**

Sampling and ground water elevation measurement equipment either will be cleaned in a solution of laboratory grade detergent and rinsed with distilled water or steam cleaned prior to use.

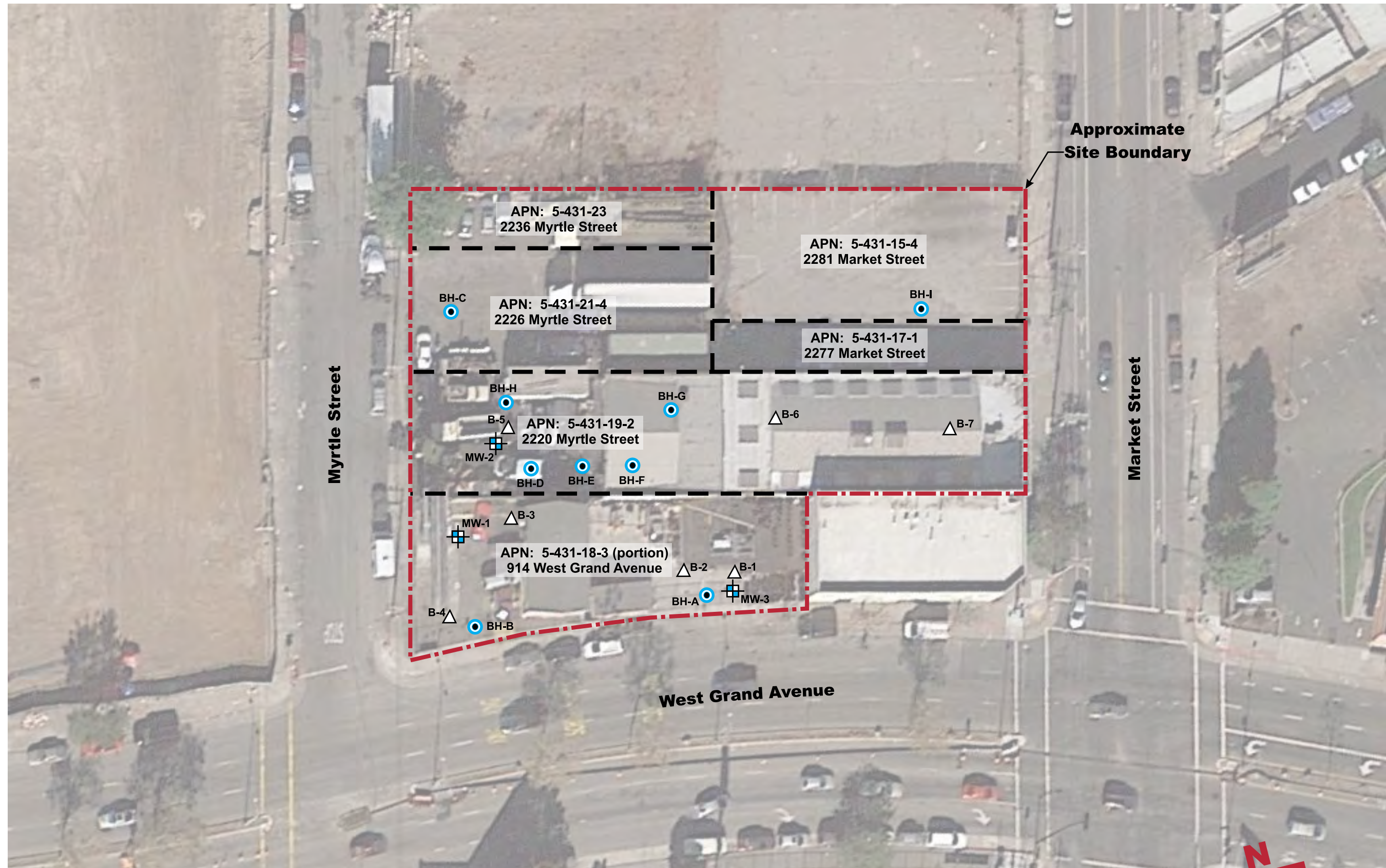
### **Purged Ground Water and Cleaning Rinse Solution**

Purged ground water and cleaning rinse solution will be removed from the Site for appropriate off-Site disposal.

### **Report Preparation**

We will prepare a letter presenting the analytical results and our conclusions and recommendations. The letter will include a site plan showing the well locations, well sampling logs and copies of the analytical reports. Our conclusions and recommendations will be based on our interpretation of the analytical data and measured ground water flow direction.





Project Number  
914-1-1

Figure Number  
Figure 2




Date  
July 2016

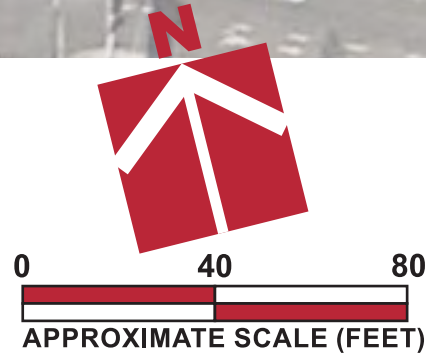
Drawn By  
RRN

**Site Plan**  
**914 West Grand Avenue**  
**Residential Development**  
**Oakland, CA**



**Legend**

-  Approximate location of ground water monitoring well (Salem, June 2012)
-  Approximate location of soil boring and soil vapor probe (Salem, February 2012)
-  Approximate location of soil boring and ground water grab sample (ASE, April 2005)



Base by Google Earth, dated 10/30/2015