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April 13, 2018

Ms. Jessica Pao
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

**Subject: Soil Reuse Plan
Former Chemoil Refinery
2020 Walnut Avenue
Signal Hill, California**

Dear Ms. Pao:

This letter has been prepared by Apex Companies, LLC (Apex) to notify Los Angeles Regional Water Quality Control Board (LARWQCB) of the intent to treat and reuse soil during upcoming redevelopment activities at the Former Chemoil Refinery property located at 2020 Walnut Boulevard in Signal Hill (the Site, Figure 1). A Response Plan was submitted to Los Angeles Regional Water Quality Control Board (LARWQCB) on July 13, 2017, and approved by the LARWQCB in a letter dated September 15, 2017 (Response Plan Approval Letter). A Site Redevelopment Soil Management Plan (RSMP), which provides guidance for handling potentially contaminated soil during property redevelopment, is provided in Appendix G of the Response Plan. This letter is required pursuant to the RSMP and documents the intended reuse and treatment of potentially contaminated soil that is encountered during property grading and redevelopment.

1.0 Soil Screening and Contaminated Soil Planned for Reuse

Site grading is necessary during Site redevelopment activities. The grading plan requires that the existing near surface soils be removed, replaced, and compacted. As required as part of the RSMP, during any soil disturbance activities, the Environmental Consultant (EC) will be onsite to screen the soil and oversee proper handling and storage of any potentially impacted soils that are encountered. The EC will observe and document the following information:

- Presence of odorous soil;
- Presence of stained or discolored soil;
- Presence of free-phase petroleum product;
- Any encountered subsurface features; and

- Photoionization detector (PID) field screening readings measured in compliance with South Coast Air Quality Management District (SCAQMD) 1166 protocols.

Handing of the soil, as defined in the RSMP, is based on the following trigger levels:

Soil Management Trigger Levels During Site Redevelopment Activities as Defined in Existing RMSP (Appendix G of Response Plan)

PID Measurement or Visual Condition	Soil Management Measures
Less than 50 parts per million by volume (ppmv) with no visual or odor indicators	<ul style="list-style-type: none"> • Stockpiled as Site soils for reuse.
<p>Greater than 50 ppmv but less than 1,000 ppmv</p> <p>or</p> <p>less than 50 ppmv but with visual or odor indicators</p>	<ul style="list-style-type: none"> • Affected work area and soil load sprayed with water and/or vapor suppressant; • Placed in segregated stockpiles, bins or drums for additional laboratory analysis; • Stockpiles covered with plastic sheeting and are secured so that no portion of the potentially contaminated soil is exposed to the atmosphere. During handling the stockpile, only the working face of the stockpile may be uncovered; • May not be used as backfill for the Site without prior approval from SCAQMD and LARWQCB; and • Managed according to Section 6.2 of the Site Redevelopment Soil Management Plan.
Greater than 1,000 ppmv	<ul style="list-style-type: none"> • SCAQMD notification within one hour of detection; • Affected work area and soil load sprayed with water and/or vapor suppressant; and • Soil immediately loaded into SCAQMD approved sealed containers or loaded in trucks for immediate offsite disposal, unless prior written approval from SCAQMD.

Soil that falls into the second criterion above as highlighted in red font (i.e., greater than 50 ppmv but less than 1,000 ppmv, or with visual or odor indicators) may not be used as backfill for the Site without prior approval from the SCAQMD and LARWQCB. The purpose of this letter is to request LARWQCB approval to treat and reuse soil that falls into this criterion as described in this letter.

Apex also will request similar pre-approval from SCAQMD to treat and reuse soil that falls into the second criterion prior to mobilization to the Site.

2.0 Treatment of Reused Contaminated Soil

Signal Hill XC intends to redeposit contaminated soil planned for reuse in predesignated area(s) of the site that require fill for redevelopment purposes. Once redeposited, this soil would be treated in place using the soil vapor extraction (SVE) system that is being utilized to treat deeper vadose zone soil. Figure 2 is a cross section showing the general, conceptual approach. As required under SCAQMD regulations, treatment of the redeposited soil would begin within 30 days of excavation/disturbance.

Placement and treatment of the soil would occur as follows:

- Soil with PID readings that exceed 1,000 ppmv will not be reused at the Site.
- Contaminated soil will be reused in the West Parcels only. Soil from the West Parcels will not be moved to the East Parcel.
- All soils found to exceed 50 ppmv and less than 1,000 ppmv will only be placed in areas that will be covered with some form of hardscape (e.g., asphalt pavement or structural slabs) during Site redevelopment.
- As specified in the Response Plan, all buildings constructed on the property will include permanent, underlying vapor barriers (Stego Wrap™, Liquid Boot™, or similar engineered system) to prevent migration of VOCs into indoor air spaces. A sub-slab vapor mitigation system engineering design plan will be submitted to LARWQCB within 60 days prior to construction of the new buildings.
- Horizontal PVC well screens will be installed in areas where contaminated soil is placed. The well screens will be connected to vapor conveyance piping installed within the fill section as shown on Figure 2. The PVC conveyance piping will then be connected to the SVE treatment system that is being used to treat deeper vadose zone soil at the Site as described in the approved Response Plan.
- The SVE system used to treat the soil will be permitted by the SCAQMD under Rule 1147.
- Soil investigation-derived waste (IDW), including soil generated during installation of monitoring wells, soil vapor extraction wells, and air sparge wells; and soil spoils generated as a result of trenching for remedial system piping, will be stockpiled and handled in a manner similar to that described in this letter.

3.0 Closing

As described in the RSMP, a report will be prepared by Apex that summarizes the findings of the field observations, laboratory results, and final disposition of any excavated soil that is treated and reused on site, or transported off-site for disposal. A map will be provided that will document the locations of soil that is reused on the site, and the report will include an as-built showing the horizontal PVC well screen and conveyance piping installed within these soils.

We look forward to receiving your approval to proceed with this soil reuse plan. If you have any questions, please contact Kirsten Duey by phone at (925) 951-6376 or by e-mail at (kirsten.duey@apexcos.com).

Sincerely,

Apex Companies, LLC.



Steve Hickey, P.E.
Senior Engineer



Kirsten Duey.
Project Manager

Attachments:

Figure 1 – Site Plan

Figure 2 - Treatment of Reused, Contaminated Soil, Conceptual Design

Figure 2 – Vapor Collection System Schematic Design

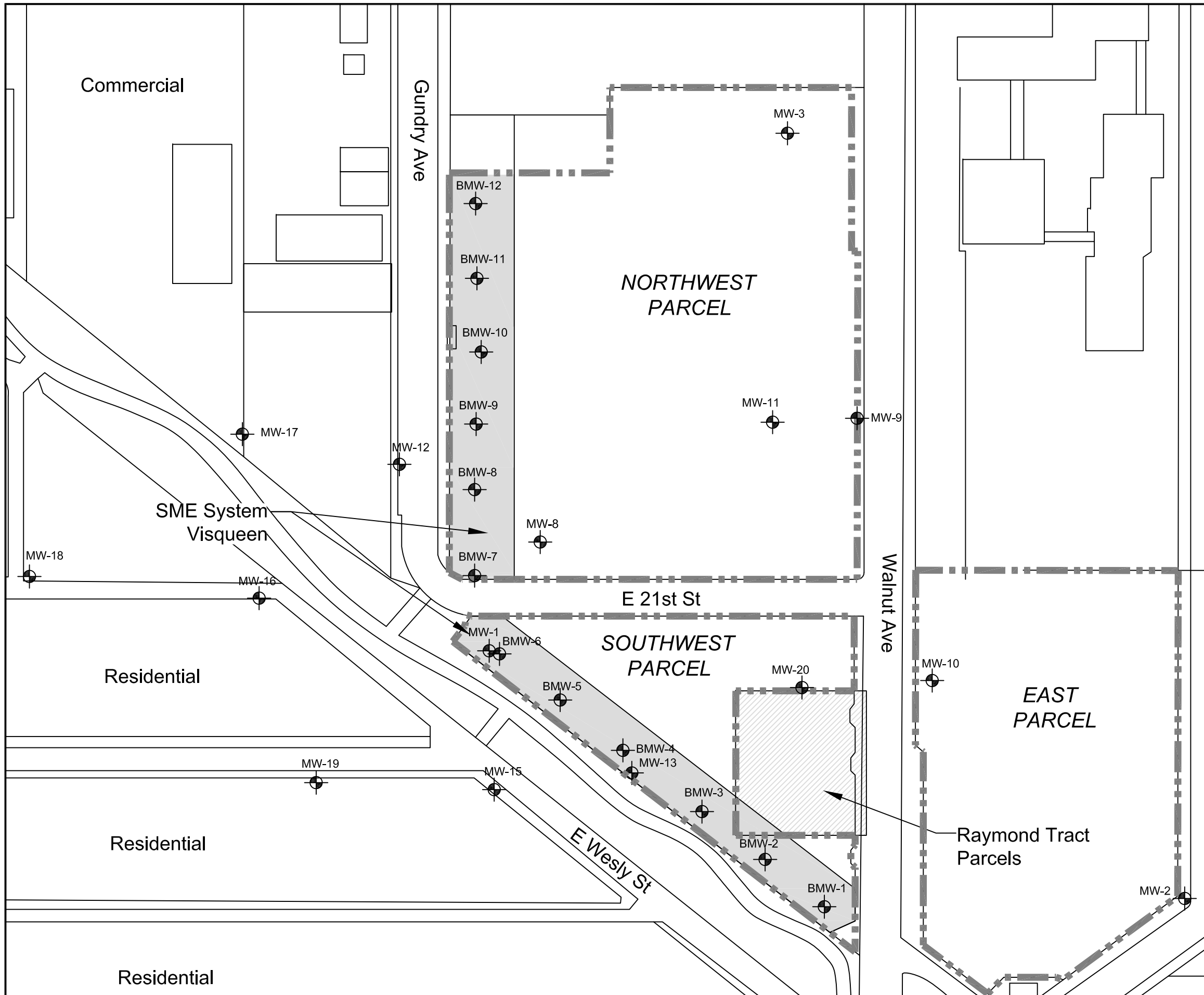
References:

Apex Companies, LLC, 2017. *Response Plan and Remedial Technology Remediation*. July 13.

Los Angeles Regional Water Quality Control Board (LARWQCB), 2017. *Review of Response Plan and Remedial Technology Evaluation – Pursuant to California Land Reuse and Revitalization Act, and Health and Safety Code Section 25395.94*. September 15.

ATTACHMENTS

S:\Clients A - F\ChemOil Refinery\Reports\Response Plan\Figures\Fig.2-1-Site Map.dwg, 6/12/2017 5:33:58 PM



LEGEND

- Site Boundary
- MW-16 Groundwater Monitoring Well Locations
- SME Subsurface Metabolic Enhancement

SITE MAP

FORMER CHEMOIL REFINERY
2020 WALNUT AVENUE
SIGNAL HILL, CA

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
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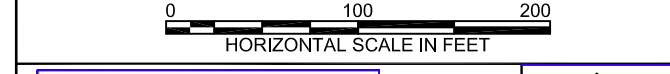
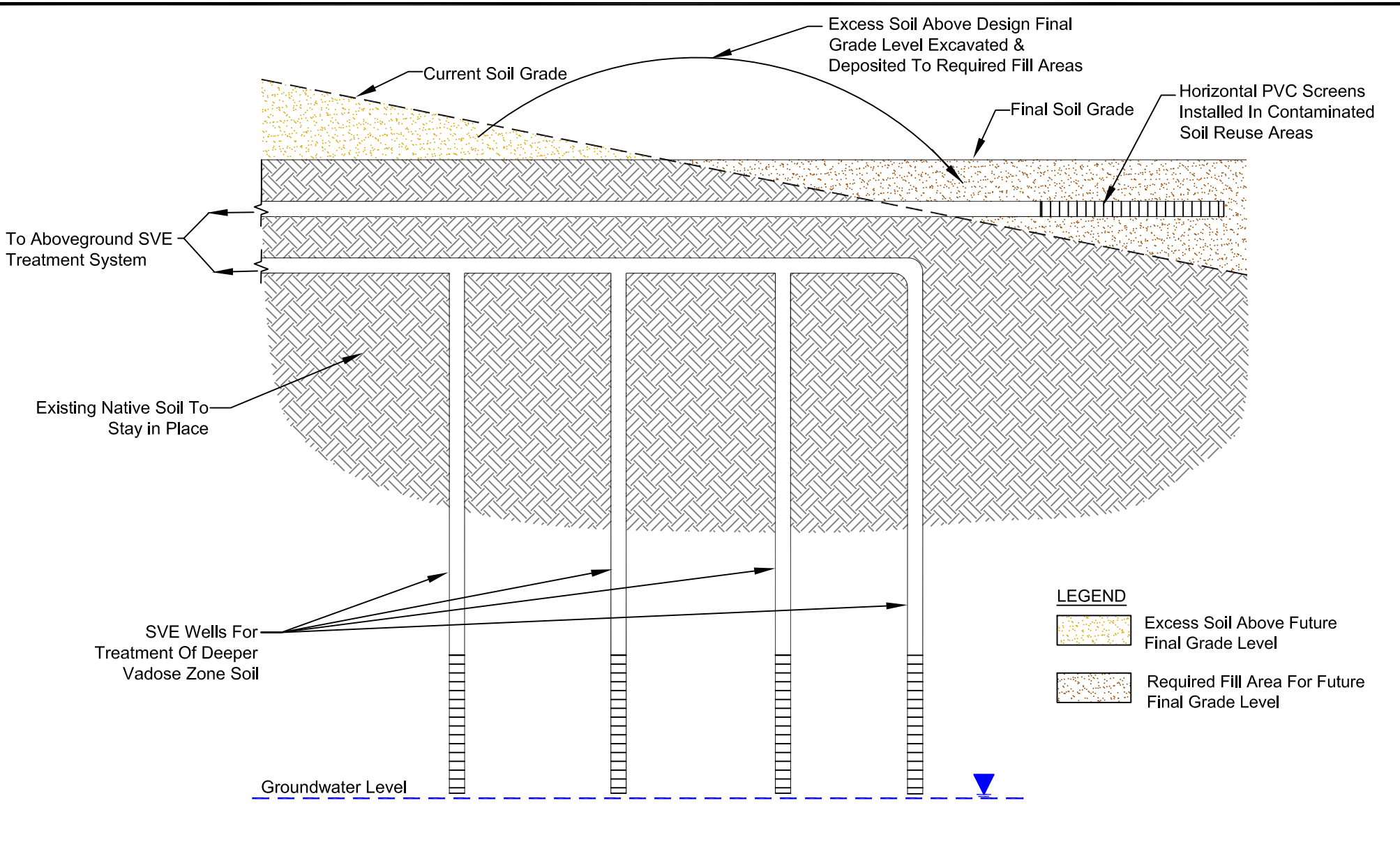
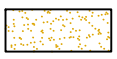
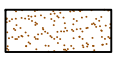


FIGURE 1

299 WEST HILLCREST DR., SUITE 220
THOUSAND OAKS, CA 91360

S:\Clients A - F\ChemOil Refinery\Correspondence\Outgoing\Waterboard\Soil Reuse\Fig.4-Conceptual Design Treatment of Contaminated Soil Planned for Site Reuse.dwg, 12/19/2017



- LEGEND**
-  Excess Soil Above Future Final Grade Level
 -  Required Fill Area For Future Final Grade Level

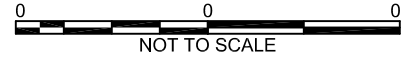


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2020 WALNUT AVENUE
SIGNAL HILL, CA

PROJECT NO. 093-CHEMOIL-003	DATE 12/18/17	DR. BY: ZA	APP. BY: SH
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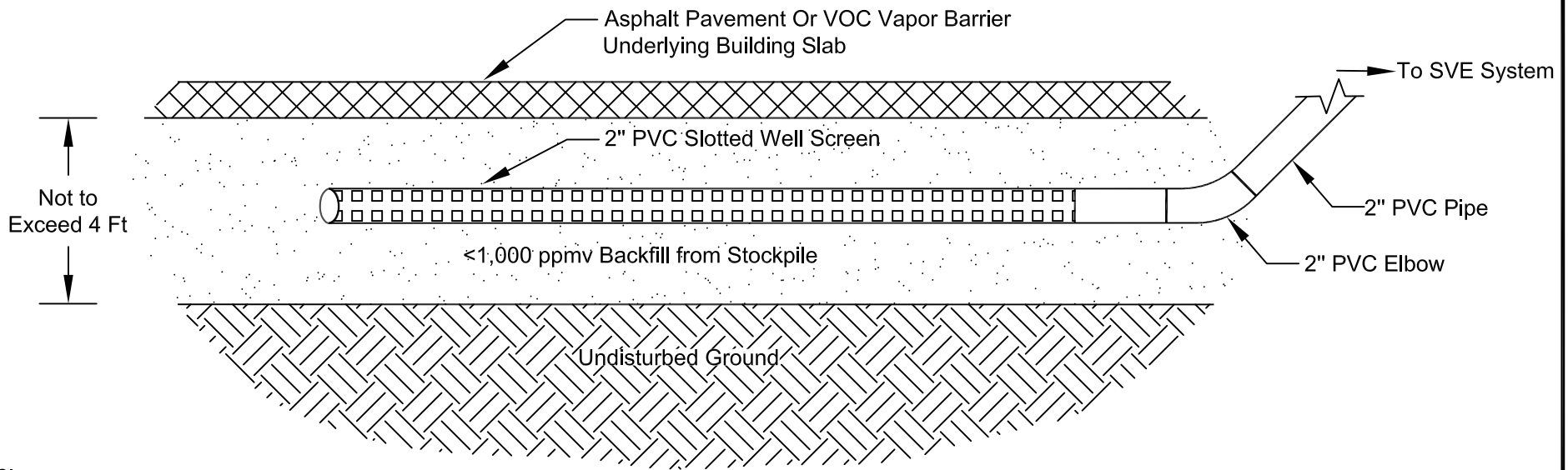
**TREATMENT OF REUSED
CONTAMINATED SOIL
CONCEPTUAL DESIGN**



**FIGURE
2**

S:\Clients A - F\ChemOil Refinery\Correspondence\Outgoing\Waterboard\Soil Reuse\Fig.3-Vapr Collection System Schematic Design.dwg, 12/19/2017 12:16:40 PM

CROSS SECTION VIEW



Notes:

1. Backfill from impacted soil stockpile to be placed less than 4-Ft thick (vertical section).
2. PVC well screen to be placed horizontally in approximate middle of fill section.
3. VOC impacted fill to be only placed in areas topped with hardscape (asphalt pavement or building slab with vapor barrier).
4. PVC well screens to be layed no more than 40-Ft spacing within fill.
5. All PVC well screen to be connected via closed PVC piping to SVE manifold.



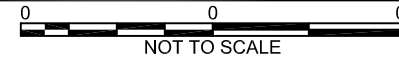
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FORMER CHEMOIL REFINERY
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**VAPOR COLLECTION SYSTEM
SCHEMATIC DESIGN**



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**FIGURE
3**