

March 22, 2019

Mr. Aaron Costa
Senior Hazardous Materials Specialist, Site Mitigation Program
Santa Clara County, Department of Environmental Health
1555 Berger Drive, Suite 300
San Jose, California 95112

**Subject: Remedial Investigation Work Plan
Former True Drive-In Cleaners
282 South Montgomery Street
San Jose, California**

Dear Mr. Costa:

On behalf of the Property Owner, RMD Environmental Solutions, Inc. (RMD) has prepared this *Remedial Investigation Work Plan* (Work Plan) for the Former True Drive-In Dry Cleaners property, located at 282 South Montgomery Street in San Jose, California (the Site, Figure 1). The Site background, objectives, scope of work, and schedule are provided in the sections that follow.

BACKGROUND

The Site is an approximate 0.5 acre property located in the City of San Jose with an approximate 4,600 square-foot building that is currently occupied by a car rental facility and a packaging business (Figure 2). According to published topographic maps, the relatively level property lies at an elevation of approximately 95 feet above mean sea level (amsl). The Site is bordered by South Montgomery Street on the west, West San Carlos Street on the south, Lorraine Avenue on the north, and the 580 Lorraine Avenue property on the east. Adjacent properties are largely commercially developed with residential parcels to the north beyond Lorraine Avenue and mixed use to the south of West San Carlos Street.

The Site was operated as a dry cleaner (True Drive-In Cleaners) from approximately 1960 to 1974. Previous Site investigations have been completed by multiple environmental consulting firms, (EnGeo, Innovative and Creative Environmental Solutions [ICES], and RMD) to characterize the

presence and distribution of chlorinated volatile organic compounds (CVOCs) at the Site. A detailed summary of previous site investigations is provided in RMD's *Remedial Action Plan*, dated March 22, 2019 (RAP). Historical soil, soil vapor, indoor air, grab groundwater, and monitoring well sample locations are shown on Figure 2. Previous investigation results associated with the Site indicate the following:

- Groundwater is observed at approximately 24 feet below ground surface (bgs) beneath the Site with a horizontal hydraulic gradient to the east-southeast at 0.007 feet per foot (ft/ft).
- Elevated concentrations of tetrachloroethene (PCE) in groundwater are generally limited to beneath the Site and the southern portion of the 580 Lorraine Avenue property.
- Soil vapor containing PCE that exceeds the commercial California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Level (ESL) of 67 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) is limited to the Site and the southern portion of the 580 Lorraine Avenue property.
- HVAC modifications have reduced PCE concentrations in indoor air at the Site building.
- The vertical extent of CVOCs in groundwater beneath the Site has not been characterized.

OBJECTIVES

The goal of the scope of work described herein is to install a shallow and deeper groundwater monitoring well pair (MW-4/MW-4B) at the southeast corner of the Site (Figure 2). Data collected during the remedial investigation will be used to characterize the vertical extent of CVOCs in soil and groundwater, establish a vertical hydraulic gradient at the Site, refine the proposed soil-vapor extraction (SVE) system and/or enhanced in-situ bioremediation (EISB) injection design presented in the RAP, and evaluate the performance of the proposed EISB remedial activities at the downgradient edge of the Site.

The proposed scope of work to meet these objectives is provided in the following section.

SCOPE OF WORK

The following scope of work is proposed:

PREFIELD ACTIVITIES

Prior to initiating field work, RMD will perform the following pre-field activities:

- Approval of this Work Plan will be obtained from the Santa Clara County Department of Environmental Health (SCCDEH);
- The Site-specific health and safety plan (HASP) will be updated as necessary in accordance with OSHA regulations 29 CFR 1910.120 and CalOSHA regulations 8 CCR 5192;
- Permits will be obtained from the Santa Clara Valley Water District (SCVWD);
- The proposed drilling locations will be marked with white paint and Underground Service Alert of Northern California (USA) will be notified at least 48 hours prior to drilling to mark underground utilities in the proposed drilling area;
- A private utility locator will be retained to clear the proposed drilling locations of underground utilities and other possible subsurface obstructions; and
- The SCCDEH, SCVWD, and other necessary parties will be notified of proposed field activities at least three days prior to initiating field work.

The proposed well installation and monitoring activities are presented below.

INSTALLATION OF GROUNDWATER MONITORING WELLS

RMD will supervise the drilling, soil sampling, and installation of two monitoring wells (MW-4 and MW-4B) at the location shown on Figure 2. Well installation will be completed using a drill rig equipped with 8-inch diameter hollow-stem augers and operated by a California-licensed drilling contractor. The boring for well MW-4 will be advanced to approximately 31 feet bgs and the boring for well MW-4B will be advanced to approximately 60 feet bgs. Continuously logged soil cores will be visually classified in accordance with the Unified Soil Classification System (USCS) and screened for volatile organics using a calibrated hand-held photoionization detector (PID). The results of the PID screening and field observations will be used to select soil samples for laboratory analysis (i.e., the sample locations with the highest PID readings and/or staining at each boring will be submitted for laboratory analysis). Alternatively, RMD will collect soil samples for chemical analysis from approximately 10, 20, 30, 40, 50, and 60 feet bgs from well MW-4B if PID readings or field observations do not exhibit impact. Soil samples will be collected in

stainless steel sleeves, sealed with Teflon™ tape, capped with plastic, labeled, sealed in a ziploc bag, and immediately placed in a chilled cooler for delivery to a California-certified laboratory. Samples will be analyzed for CVOCs by United States Environmental Protection Agency (USEPA) Method 8260B, which include PCE and its daughter products [trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene (trans-1,2 DCE), and vinyl chloride].

The groundwater monitoring wells (MW-4/MW-4B) will consist of 2-inch diameter Schedule 40 poly vinyl chloride (PVC) blank and screened (0.010-inch slot) casing. The screened interval for wells MW-4 and MW-4B are expected to extend from approximately 21 to 31 feet bgs and 50 to 60 feet bgs, respectively. Actual well construction will be based on field observations.

The filter pack surrounding the screened portion of the well casing will consist of #2/12 Monterey sand poured through the auger into the annular space between the well casing and the borehole wall. The filter pack surrounding the screened casing in each monitoring well will extend from the total borehole depth to approximately 1-foot above the top of screen. Each well will be surged during the emplacement of the filter pack to reduce the potential for bridging. The annular seal above the filter pack will consist of a minimum of 2 feet of bentonite chips poured through the auger (and then hydrated), followed by grout installed via tremie-pipe to approximately 1-foot bgs. Surface completion will consist of a flush-mounted, traffic-rated, well box set in concrete to grade at each well location.

MONITORING WELL DEVELOPMENT

The monitoring wells will be developed a minimum of 72 hours after installation. Monitoring wells will be gauged and then developed to produce representative water quality samples. Well development will consist of surging and bailing techniques and will continue until groundwater is reasonably free of sediment and/or at least 10 well casing volumes of water have been removed. Standard water quality parameters will be recorded on field forms.

MONITORING WELL SURVEY

A California-licensed land surveyor will survey and assign each monitoring well location unique, grid-based coordinates, within a minimum horizontal accuracy of +/- 0.05 feet. The North American Datum, 1983 (NAD83) geographic coordinate datum will be referenced. Well casing and groundwater elevations will use the North American Vertical Datum of 1988 (NAVD88) as the vertical datum and will be recorded to a minimum accuracy of +/- 0.01-foot elevation.

BASELINE MONITORING AND SAMPLING

The Site monitoring wells will be gauged for water levels as measured from the top of casing. After the water level survey is conducted, groundwater monitoring wells will be purged and sampled. Low-flow procedures, using a peristaltic pump equipped with dedicated or disposable polyethylene tubing, will be utilized to purge each well. During purging, water parameters including pH, temperature, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) will be monitored to note stabilization of each parameter and ensure that representative groundwater is entering the well.

After purging, groundwater samples will be collected using dedicated tubing or similar equipment. Samples will be slowly decanted into laboratory provided containers appropriate for the requested analysis. The containers will be capped with Teflon® septa, labeled, and placed on ice for transport to California-certified laboratory for analysis. The samples will be collected to determine electron-donor substrate requirements and baseline geochemical conditions. Analyses will include the following:

- CVOCs by USEPA Method 8260B;
- Dissolved manganese, and total and dissolved iron by USEPA Method 200.7;
- Alkalinity by Standard Method (SM) 2320B; and
- Nitrate, sulfate, and chloride by USEPA Method 300.0.

INVESTIGATION-DERIVED WASTE HANDLING

Investigation-derived waste (IDW) will consist of soil cuttings, monitoring well purge water, and decontamination water. IDW will be stored on-Site in properly labeled 55-gallon drums pending waste characterization profiling. Following waste characterization profiling, IDW will be disposed of in accordance with applicable laws and regulations.

REPORTING

A *Remedial Investigation Report* (RIR) will be submitted to the SCCDEH following the completion of investigation activities. The RIR will describe field activities, summarize results, and provide any changes to the proposed SVE system or EISB injection design presented in the RAP.

SCHEDULE

A schedule for the activities proposed in this Work Plan is provided below. The anticipated schedule assumes that SCCDEH approval is received within 30 days from receipt of this Work Plan.

- May 2019 - Permitting and pre-field activities.
- June 2019 – Remedial investigation field activities: groundwater monitoring well installation, development, survey, and monitoring and sampling activities;
- July 2019 – Submittal of RIR to SCCDEH.

CLOSURE

If you have any questions or require additional information, please do not hesitate to call Greg McIver at (530) 592-7755.

Sincerely,

RMD ENVIRONMENTAL SOLUTIONS, INC.



Greg McIver
Principal Scientist



Khaled Rahman, P.G., C.H.G.
Principal Hydrogeologist

ATTACHMENTS

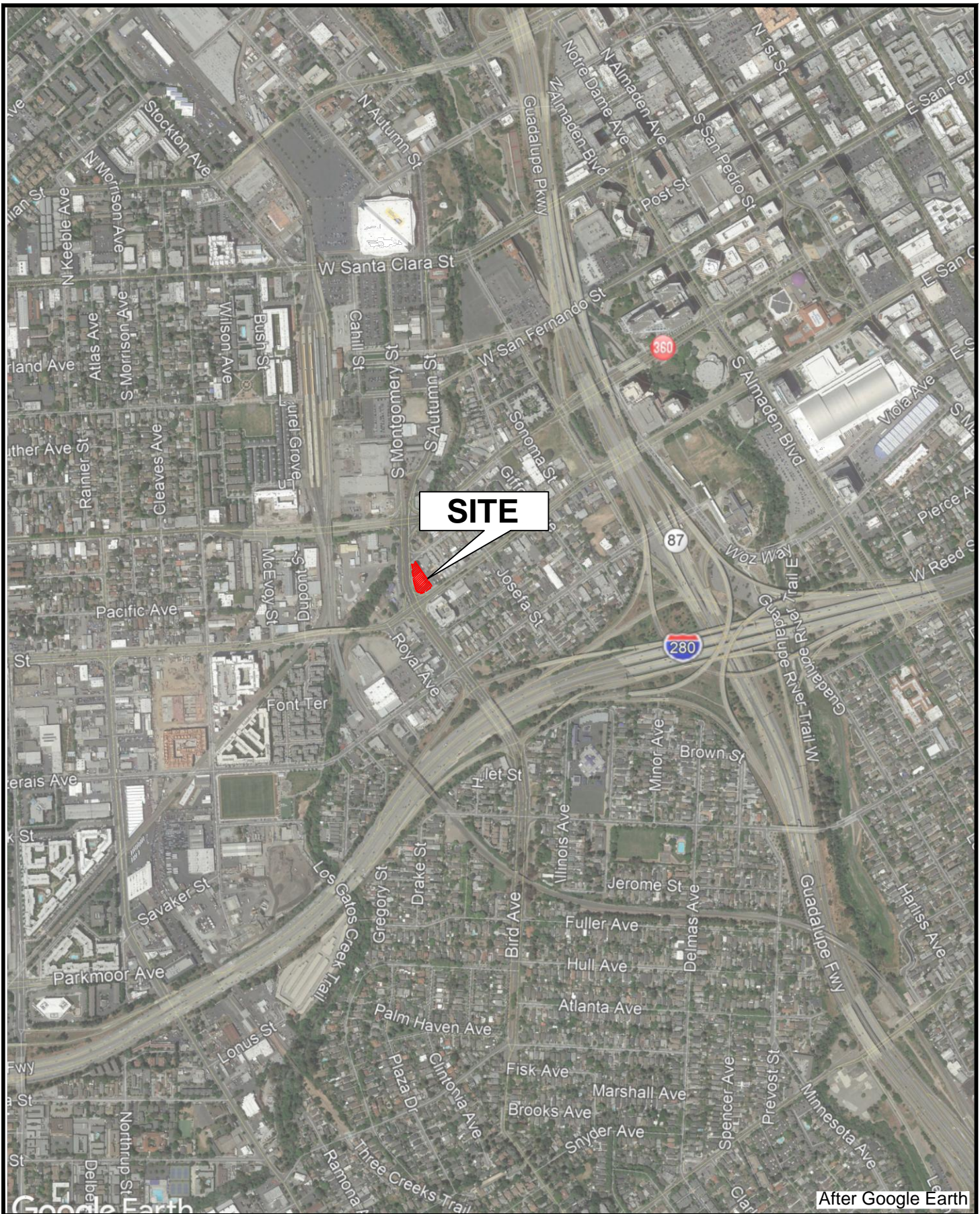
Figure 1 – Site Location Map




Figure 2 – Site Plan with Proposed Monitoring Well Locations

LIMITATIONS





















This document was prepared for the exclusive use of the Property Owner and the SCCDEH for the express purpose of complying with a client- or regulatory directive for environmental investigation or restoration. RMD has used professional judgment to present the findings and opinions of a scientific and technical nature. The opinions expressed are based on the conditions of the Site existing at the time of the field investigation, current regulatory requirements, and any specified assumptions. The presented findings and recommendations in this report are intended to be taken in their entirety to assist the Property Owner and SCCDEH personnel in applying their own professional judgment in making decisions related to the property. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, conclusions, and recommendations.

FIGURES



	Project: 01-SMS-01	<h2>SITE LOCATION MAP</h2> <p>282 SOUTH MONTGOMERY STREET SAN JOSE, CA</p>		FIGURE 1
	Date: 03/08/19			
	Drawn: ZA			
	Approved: KD			
	 SCALE IN FEET			

LEGEND

- | | | | | | | |
|---|---|---|--|---|---|---------------------|
|  | Site Boundary |  | Grab Groundwater Sample (November, 2018) |  |  | Water Supply Line |
|  | 580 Lorraine Ave. Boundary |  | Soil Sample (February/March 2018) |  |  | Sanitary Sewer Line |
|  | Proposed Monitoring Well |  | Soil Vapor Sample (February/March 2018) |  |  | Electrical Line |
|  | Proposed Deep Monitoring Well |  | Indoor Air Sample |  |  | Gas Line |
|  | Groundwater Monitoring Well |  | Ambient Air Sample | | | |
|  | Soil Vapor Probe | | | | | |
|  | Grab Groundwater Sample (February/March 2018) | | | | | |



Project:	01-SMS-01
Date:	03/20/19
Drawn:	ZA
Approved:	GM

0 60
SCALE IN FEET

**SITE PLAN WITH PROPOSED MONITORING
WELL LOCATIONS**
282 SOUTH MONTGOMERY STREET &
580 LORRAINE AVENUE
SAN JOSE, CA



FIGURE 2