

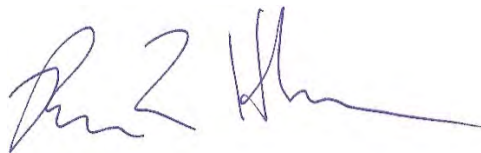
APPENDIX D
SCREENING LEVEL PHASE I
ENVIRONMENTAL SITE ASSESSMENT

TYPE OF SERVICES	Screening Level Phase I Environmental Site Assessment
LOCATION	Tasman East Focus Area Santa Clara, California
CLIENT	David J. Powers & Associates 1871 The Alameda, Suite 200 San Jose, California 95126
PROJECT NUMBER	118-87-1
DATE	January 17, 2017

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FIGURE 1 – Vicinity Map

FIGURE 2 – Site Plan

APPENDIX A – DATABASE SEARCH REPORT

APPENDIX B – HISTORICAL AERIAL PHOTOGRAPHS

APPENDIX C – SELECTED PRIOR REPORTS AND DOCUMENTS

Type of Services**Screening Level Phase I
Environmental Site Assessment****Location****Tasman East Focus Area
Santa Clara, California**

SECTION 1: INTRODUCTION

This report presents the results of the Screening Level Phase I Environmental Site Assessment (ESA) performed for the Tasman East Focus Area located in Santa Clara, California (Site) as shown on Figures 1 and 2. This work was performed for David J. Powers & Associates in accordance with our agreement dated November 9, 2016 (Agreement).

1.1 SITE/PROJECT DESCRIPTION

We understand that David J. Powers & Associates is preparing an EIR for the Tasman East Focus Area in Santa Clara, California. The Site is an existing industrial neighborhood, 46 acres in size. It is bounded by Tasman Drive to the south, the Guadalupe River to the east, the Santa Clara Golf Club (formerly a portion of the City's all-purpose landfill) to the north, and Lafayette Street to the west. The Site is adjacent to the Lick Mill Light Rail Transit station on Tasman Drive and the Great America Station on the west side of Lafayette Street which is served by both the Altamont Commuter Express (ACE) and Amtrak. The Site consists of 36 parcels currently developed with light industrial and commercial uses.

The City proposes a Specific Plan to create a framework for the development of a high density transit-oriented neighborhood with supportive retail services. The Specific Plan would allow development of up to 4,500 dwelling units and up to 106,000 square feet of retail space including a 25,000 square foot grocery store. The Specific Plan would maintain the existing roadway network and vehicular connections to Tasman Drive and Lafayette Street. Lick Mill Boulevard would be extended through the Site to connect with the existing roadway network. The right-of-way on Calle De Luna would be widened to accommodate sidewalks. An extension of Calle Del Sol within the Specific Plan area, from Calle De Luna to Calle Del Mundo, would also provide an additional north/south connection. Public open space within the plan area is planned for a minimum of four acres.

1.2 PURPOSE AND SCOPE OF WORK

The purpose of this investigation was to strive to document, to the extent feasible pursuant to the scope of work presented in the Agreement, Recognized Environmental Conditions at the Site based on readily known historical and current land uses and to provide recommendations to further evaluate or mitigate these Recognized Environmental Conditions.

American Society for Testing and Materials (ASTM) E 1527-13, *Standard Practice for Environmental Site Assessments* was used as a guide for development of the project scope. As

defined by ASTM E 1527-13, the term Recognized Environmental Condition means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not Recognized Environmental Conditions.

As presented in our Agreement, the scope of work performed for this Screening Level Phase I ESA included the following:

- A reconnaissance of the Site to note readily observable indications of significant hazardous materials releases to structures, soil or ground water. Our observations were made from public right-of-ways.
- Acquisition and review of a regulatory agency database report of public records for the general area of the Site to evaluate potential impacts to the Site from reported contamination incidents on-Site and at nearby facilities.
- Review of selected documents obtained from the state Geotracker (<http://geotracker.waterboards.ca.gov>) and Envirostor (<http://www.envirostor.dtsc.ca.gov>) databases to obtain information regarding reported on-Site and nearby spill incidents.
- Review of readily available historical aerial photographs to help evaluate past and current Site uses.
- Preparation of a written report summarizing our findings and recommendations.

The limitations for the Screening Level Phase I ESA are presented in Section 7.

1.3 ASSUMPTIONS

In preparing this Screening Level Phase I ESA, Cornerstone assumed that all records obtained from other parties, such as regulatory agency databases, maps, related documents and environmental reports prepared by others are accurate and complete. We have not independently verified the accuracy or completeness of any data received.

1.4 ENVIRONMENTAL PROFESSIONAL

This Screening Level Phase I ESA was performed by Stason I. Foster, P.E. and Ron L. Helm, C.E.G., environmental professionals who meet the qualification requirements described in ASTM E 1527-13 and 40 CFR 312 § 312.10 based on professional licensing, education, training and experience to assess a property of the nature, history and setting of the Site.

SECTION 2: USER PROVIDED INFORMATION

The ASTM standard defines the User as the party seeking to use a Phase I ESA to evaluate the presence of Recognized Environmental Conditions associated with a property. For the purpose of this Screening Level Phase I ESA, the User is David J. Powers & Associates.

2.1 SPECIALIZED KNOWLEDGE AND/OR COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

The ASTM Standard requires that if the User is aware of any specialized knowledge and/or commonly known or reasonably ascertainable information within the local community about the Site that is material to Recognized Environmental Conditions, such as environmental liens, a significantly lower purchase price due to the property being affected by hazardous materials, or other conditions that are material to Recognized Environmental Conditions in connection with the Site, it is the User's responsibility to communicate such information to the environmental professional. Based on our discussions with David J. Powers & Associates, we understand that David J. Powers & Associates does not have such specialized knowledge and/or commonly known or reasonably ascertainable information regarding the Site.

2.2 REASON FOR PERFORMING PHASE I ENVIRONMENTAL SITE ASSESSMENT

We performed this Screening Level Phase I ESA to support the David J. Powers & Associates in evaluation of Recognized Environmental Conditions at the Site. This Screening Level Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for Recognized Environmental Conditions at the Site.

SECTION 3: RECORDS REVIEW

3.1 STANDARD ENVIRONMENTAL RECORD SOURCES

Cornerstone obtained a report of federal, state and local regulatory agency database listings within the Tasman East Focus Area. Database listings for nearby facilities also were obtained. The database report was acquired from Environmental Data Resources (EDR) to evaluate the likelihood of contamination incidents within and near the Site. A list of the database sources reviewed, a description of the sources, and a radius map showing the location of reported facilities relative to the Site are attached in Appendix A.

A brief summary of selected databases is presented below in Table 1. The database report in Appendix A contains additional details regarding these listings, as well as findings associated with other databases.

Table 1. Summary of Selected Database Listings

Database Name and Description	Number of on-Site Listings	Number of Nearby off-Site Listings*
NPL: Also known as Superfund, the National Priority List (NPL) database is a subset of CERCLIS and identifies properties for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.	0	1
LUST: The Leaking Underground Storage Tank (LUST) database contains an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.	1	2
SLIC: The Spills, Leaks, Investigations and Cleanup (SLIC) database contains a list of properties where the Regional Water Quality Control Board is overseeing site investigation and corrective action under the Site Cleanup Program (SCP).**	4	1

Continued on next page.

Table 1. continued.

Database Name and Description	Number of on-Site Listings	Number of Nearby off-Site Listings*
ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Envirostor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites; State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.	6	19
VCP: A list of properties within the Voluntary Cleanup Program (VCP) where the project proponents have requested that DTSC oversee investigation and/or cleanup activities.	0	3
RCRA-LQG: This database includes selective information on facilities that generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.	5	0
RCRA-SQG: This database includes selective information on facilities that generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.	16	1
HAZNET: This database contains data extracted from the copies of hazardous waste manifests received each year by the DTSC.	56	Not reported
UST: The Underground Storage Tank database contains registered USTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.	0	0
Historic UST Databases: FID UST: The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board.	0	1
HIST UST: A historical listing of UST sites within the Hazardous Substance Storage Container Database.	3	0
SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990s. The listing is no longer updated or maintained.	0	1
AST: A listing of aboveground petroleum storage tank locations.	1	1
DEED: A list of properties with recorded land use restrictions required by the DTSC Hazardous Waste Management Program (HWMP) as a result of the presence of hazardous substances that remain on property after the facility (or part of the facility) has been closed or cleaned up.	0	1
US INST CONTROL: A US EPA listing of properties with institutional controls in place that are intended to prevent exposure to contaminants remaining on the property.	0	0
US ENG CONTROLS: A US EPA listing of properties with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to eliminate pathways for regulated substances to enter environmental media or effect human health.	0	0

Note: In some cases, the number of facilities listed was adjusted by Cornerstone to remove duplicate database entries.

* As described in the database report (Appendix A), the search distances were in general accordance with the requirements of ASTM E 1527-13 and ranged from ¼ to 1 mile.

** Note that the SLIC case at 2278 Calle De Luna appears to have been recently opened and was not listed in the database report. It was identified during or review records discussed in Section 3.2.

3.2 FURTHER REVIEW OF DATABASE LISTINGS

Based on the information presented in the agency database report, hazardous material spill incidents were reported at several on-Site locations and the northerly adjacent property was identified as the former All Purpose Landfill (APL), which currently is developed as a golf course. Except for the APL, no off-Site spill incidents/facilities were reported that appear likely to significantly impact soil, soil vapor or ground water beneath the Site. The potential for impact was based on our interpretation of the types of incidents, the locations of the reported incidents in relation to the Site and the assumed ground water flow direction.

To obtain additional information regarding the on-Site database listings and the APL, a cursory review of readily available documents obtained from the state Geotracker (<http://geotracker.swrcb.ca.gov>) and Envirostor (<http://www.envirostor.dtsc.ca.gov>) databases was performed. Geotracker is a database and geographic information system (GIS) that provides online access to environmental data. It tracks regulatory data about leaking underground storage tank (LUST), Department of Defense, Site Cleanup Program and Landfill facilities. The Envirostor database is maintained by the Department of Toxic Substances Control (DTSC) and contains information on investigation, cleanup, permitting, and/or corrective actions that are planned, being conducted or have been completed under DTSC's oversight. The Envirostor database includes the following facility types: Federal Superfund sites; State Response sites; Voluntary Cleanup sites; and School sites.

Available information regarding the on-Site database listings and the adjacent APL is summarized in Table 2. Copies of selected documents reviewed are attached in Appendix C. On-Site properties at which spill incidents have been reported (*i.e.*, reported LUST and SLIC cases) are identified on Figure 2.

Table 2. Summary of Reported on-Site Spill Incidents and other Selected Database Listings

Facility Name and Address	Comments
LUST Case	
Bill Doran Company 2200 Calle De Luna	Identified as a closed case on the LUST database. However, residual contaminant concentrations appear to remain at the property. A 2,000 gallon gasoline UST was removed from the property in 1988. TPH as gasoline (TPHg) and benzene were detected in soil below the UST at up to 340 and 2.5 mg/kg, respectively. A ground water monitoring well was subsequently installed near the UST pit. The first ground water sample collected from the monitoring well in June 1988 contained TPHg at 2,100 µg/L and benzene at 2 µg/L. Beginning in 1993, quarterly sampling of the well was conducted over a period of 1½ years. The most recent sampling event reported residual TPHg and benzene concentrations in ground water at 150 and 0.7 µg/L, respectively. The LUST case was closed by the Santa Clara Valley Water District in 1995.

Continued on next page.

Table 2. continued.

Facility Name and Address	Comments
SLIC Cases	
Watts Machining 2339 Calle Del Mundo	Identified as a closed case on the SLIC database. See discussion in Section 3.2.1
Tasman East Parcel 57 2220 & 2222 Calle De Luna	Identified as an open case on the SLIC database. See discussion in Section 3.2.2
2278 Calle De Luna 2258-2278 Calle De Luna	Identified as an open case on the SLIC database. See discussion in Section 3.2.3
D&H Manufacturing 2301 Calle De Luna	Identified as an open case on the SLIC database. See discussion in Section 3.2.4
Envirostor Listings	
Western Digital 5102 Calle Del Sol Paragon Electronics 2318 Calle De Luna Coatek, Inc. 2272 Calle De Luna Sun Circuits, Inc. 5191 Lafayette Street. Nu-Metal Finishing 2262 Calle Del Mundo Italix Company, Inc. 2232 Calle Del Mundo	The Envirostor listings indicate that these six on-Site facilities were subject to DTSC's tiered permit program for hazardous waste treatment or storage¹. The "facility status" for Paragon Electronics is listed as "No Action Required." For each of the five remaining facilities, the status is listed as "inactive-needs evaluation." In general, these listings are an indication that hazardous wastes were generated and treated at these facilities; however, these listings are not necessarily an indication that releases have occurred.
All Purpose Landfill 5401 Lafayette Street	The adjacent APL is listed on the Envirostor database and also as a Land Disposal Site in the Geotracker database. The APL is further discussed in Section 3.2.5.
HIST UST Database Listings	
Paragon Electronics 2318 Calle De Luna	Listed as a manufacturing business and as having four USTs that were installed between 1981 and 1984. The USTs were noted to consist of concrete sumps with capacities of 200, 470, 1,500 and 2,600 gallons. The contents included sulfuric acid, boric acid, nitric acid, sodium hydroxide, copper, lead, nickel, polyglycol and waste water. The current status of the USTs was not identified.
Citrix 2309 Calle De Luna	Listed as a printed circuit board business and as having one UST that was installed in 1984. The UST was noted to be a 200 gallon polypropylene tank used to store waste water.
Bill Doran Company 2200 Calle De Luna	As described above, this facility was noted to have operated a 2,000 gallon gasoline UST that was removed in 1988.
AST Database Listings	
Server Farm Realty 5101 Lafayette Street	Listed as an above ground petroleum storage location. The property is occupied by a data center. The AST database listing is likely associated with diesel fuel storage for emergency generators.

¹ The Wright-Polanco-Lempert Hazardous Waste Treatment Permit Reform Act of 1992 established a five-tiered program for authorizing hazardous waste treatment or storage at many businesses that are required to have State authorization but not Federal authorization (i.e., authorization under the Resource Conservation and Recovery Act (RCRA)) to treat or store hazardous waste. This five-tiered program matches the regulatory requirements to the degree of risk posed by the facility's activities. The tiers include Full Permit, Standardized Permit, Permit by Rule (PBR), Conditionally Authorized, and Conditionally Exempt.

3.2.1 Watts Machining, 2339 Calle Del Mundo

Crown Circuits, a former occupant, assembled printed circuit boards at the Site in the late 1970s and early 1980s and was considered a potential discharger of volatile organic compounds (VOCs). Soil and ground water quality studies conducted between 1988 and 1996 identified VOCs, predominantly trichloroethene (TCE), at concentrations up to 4,900 µg/L in ground water. Three on-Site ground water monitoring wells were installed and periodically sampled. The VOC impacted ground water appears to have migrated below the northerly adjacent landfill property (current golf course); however, the lateral extent of the impacted ground water does not appear to have been well defined.

In soil, TCE was reported at up to 0.56 mg/kg; the greatest concentrations were detected in soil samples collected from a depth of approximately 7½ feet (*i.e.*, near ground water, which was typically encountered at depths between 10 and 15 feet). A north-northeasterly ground water flow direction was reported.

Two potential source areas, an underground sump and stormwater catch basin, were closed in place; subsequent soil sampling did not identify elevated VOC concentrations associated with these structures.

The Water Board issued a case closure letter in 1997 and stated that on-Site VOC concentrations in ground water declined significantly since 1989. In 1996, the greatest reported TCE concentration in ground water was 380 µg/L.

3.2.2 Tasman East Parcel 57, 2220 and 2222 Calle De Luna

Langan Treadwell Rollo (Langan) performed a Phase I ESA for 2220 and 2222 Calle De Luna (APN 097-05-057) in 2015. The business occupying 2220 Calle De Luna, Air Flight Service (AFS), was noted to have performed photograph/film processing for several years in a photo lab area, located in the northeastern portion of the building. Langan also stated that the parcel had a former address of 2200 Calle De Luna and that a former occupant, Bill Doran Company, operated a 2,000 gallon gasoline underground storage tank (UST). Based on Cornerstone's review of LUST case files for Bill Doran Company at 2200 Calle De Luna (as discussed in Table 2), the UST was not located on the parcel studied by Langan (APN 097-05-057), but rather on the northerly adjacent parcel (APN 097-05-058 with a current address of 2200 Calle De Luna).

In July and August, 2015, Langan conducted soil, soil vapor and ground water sampling to evaluate potential impacts from the former photographic processing activities and from the UST. Total petroleum hydrocarbons and diesel (TPHd) was detected in ground water on the eastern portion of the parcel at up to 9,400 µg/L. The Water Boards Tier 1 environmental screening level (ESL) for TPHd in ground water is 100 µg/L. No significant impacts to soil or soil vapor were identified. Langan concluded that the former operations involving photograph/film processing did not adversely affect the property. Langan attributed the TPHd in ground water to the former UST; however, as noted above, the location of the UST established by Langan was not correct. Thus, the source of the TPHd appears unknown.

In 2015, the property owner submitted a Voluntary Cleanup Program application and entered into a Remedial Action Agreement with the Santa Clara County Department of Environmental Health (DEH) for DEH oversight of future characterization or mitigation activities, if required, during redevelopment of the property.

3.2.3 2278 Calle De Luna

A subsurface investigation report was prepared by AllWest Environmental (AllWest) in June 2016 that summarized the property history and prior sampling data, and presented the results of additional soil, soil vapor and ground water samples.

The building reportedly has been occupied by various light industrial businesses, many of which have used regulated hazardous materials, including coolants, lubricants, oils and cleaners. Coatek, Incorporated (Coatek), the current tenant of the four westernmost building units, produces printed circuit boards. As part of the manufacturing of these products, they utilize heavy metals, acids, bases, cyanides, and other chemicals.

AllWest reviewed soil and ground water analytical laboratory reports prepared for the property in 1995 and 2003. Soil and ground water samples collected in 1995 were reportedly obtained near the corners of the building; soil samples collected in 2003 were reportedly obtained from inside the Coatek facility in units 2272 and 2274. AllWest noted that no narrative or sample location maps were provided for their review. Nickel, oil and grease, and TCE concentrations detected in ground water samples during the 1995 sampling event reportedly were above current (2016) ESLs. AllWest concluded that elevated nickel and copper concentrations may be attributable to industrial land use activities, as these constituents have been and are utilized in on-site processes. The source of oil and grease and TCE was described by AllWest as being unclear as the use of only small amounts of these substances has been reported at the facility.

During the 2016 study by AllWest, selected additional soil and ground water samples were analyzed for Potential Constituents of Concern (PCOCs) including total petroleum hydrocarbons as diesel and motor oil (TPHd and TPHmo), VOCs, semi-VOCs, organochlorine pesticides (OCPs), CAM 17 metals, hexavalent chromium (CrVI), cyanide and pH.

In general, most PCOCs in soil were not detected, or were identified at concentrations that did not exceed residential or commercial ESLs, or for metals, identified at concentrations typical of natural background levels. One detection of cobalt in soil exceeded it's the residential ESL. AllWest considered the slightly elevated cobalt concentration an anomalous outlier, not reflective of the greater data set.

AllWest concluded that ground water contains TPHmo and CrVI at concentrations exceeding their applicable ESLs. AllWest stated that ground water metals concentrations (including CrVI) are within or slightly above regional background levels and are likely naturally occurring. However, AllWest also noted that the distribution of CrVI concentrations in ground water appear to indicate the greatest concentrations are in the vicinity or down-gradient of a plating area and generally correlate with the distribution of cyanides in soil and ground water, and elevated pH in soil.

Soil vapor samples collected from an approximate depth of 5 feet contained benzene concentrations above the residential ESL, but not the commercial/industrial ESL. AllWest noted that the absence of detectable benzene in soil and ground water implies that it does not originate from the subject property activities.

AllWest recommended no additional investigation activities at the property.

In September 2016, the property owner submitted a Voluntary Cleanup Program application and entered into a Voluntary Cleanup Agreement with the DEH for oversight of future property assessment activities and mitigation activities, if required, to facilitate redevelopment of the property.

3.2.4 D&H Manufacturing, 2301 Calle De Luna

D&H Manufacturing (D&H) previously owned the 2301 Calle De Luna parcel and produced precision metal-parts for the semiconductor industry at the facility since approximately 1984. The existing building is a single story structure with a former metal shavings storage area at the rear of the building. D&H ceased operations in this facility in March 2005.

In 2001, solvent contamination in soil and ground water near a sump was reported within the former metal shavings storage enclosure. The sump was reportedly installed in 1987 to contain fluids draining from metal shavings storage bins. Under Water Board oversight, D&H conducted multiple investigations to evaluate and mitigate the extent of VOC impacts. The primary chemicals of concern were identified as tetrachloroethene (PCE) and 1,1,1-trichloroethane (1,1,1-TCA). The greatest original concentration of PCE was 3,900 mg/kg in the soil and 71,000 µg/L in ground water. VOCs were detected in ground water within the first saturated zone encountered at an approximate depth of 7 to 12 feet, and in the next or “deep” saturated zone at an approximate depth of 19 to 25. Impacted ground water has migrated below the easterly adjacent property (2281 Calle De Luna). An east-southeast ground water flow direction was reported. The most recent available ground water monitoring report is attached in Appendix C and depicts the extent of impacted ground water.

In 2005, soil vapor, sub-slab and indoor air samples were collected from the 2301 Calle De Luna building. The VOC concentrations detected reportedly did not exceed established ESLs (Treadwell & Rollo, 2005). In 2015 and 2016, indoor air samples were collected from the adjacent 2281 Calle De Luna building to evaluate potential impacts from vapor intrusion². VOC concentrations exceeding the Water Board’s commercial ESLs were detected. Potential vapor intrusion mitigation options reportedly are being evaluated (Langan, 2016).

3.2.5 All Purpose Landfill, 5401 Lafayette Street

Based on the information reviewed, the Santa Clara All Purpose Landfill (Landfill) is a closed municipal landfill with a footprint of approximately 136 acres (Golder, 2016). Portions of the Landfill have been converted into a public golf course, and the remainder is open space. The City of Santa Clara proposes to lease City-owned property, which includes the former APL, to Related Santa Clara, LLC (Related) for purposes of developing City Place Santa Clara, a new multi-building mixed-use development. The project will include demolishing existing above-ground improvements and constructing new buildings and improvements. Some of the in-ground landfill gas (LFG) extraction system, leachate collection and removal systems, and landfill cover will be abandoned, modified and enhanced. A Post-Closure Land Use Plan (PCLUP) for the redevelopment and repurposing of the landfill was recently completed (Langan, 2016).

² Vapor intrusion is the movement of chemical vapors from contaminated ground water or soil into a nearby building. Vapors primarily enter through openings in the buildings foundation, such as cracks in the concrete slab and gaps around utility lines. It is also possible for vapors to pass through concrete, which is naturally porous. Once inside the building, vapors may be inhaled posing potential health risks to building occupants.

The Landfill consists of four Parcels: 1, 2, 3/6, and 4. Parcel 2 is located adjacent to the north of the Site, and Parcel 4 is located across Lafayette Street to the west of the Site. Parcels 1 and 3/6 are located further to the north and northwest.

Landfill operations began on Parcel 4 and were conducted between 1934 and 1977 (Golder, 2016). Parcel 4 was used initially as an open burn landfill. In 1965, the City of Santa Clara began operating it as a sanitary landfill and, in 1968, contracted All Purpose Disposal Company to operate the facility. Following closure of Parcel 4, the existing golf course was constructed during the 1980s. Landfill operations took place at Parcel 2 between 1977 and 1984. Landfill operations began at Parcel 1 in 1982 and continued until 1986. Parcel 3/6 was filled between 1986 and 1991. Landfill operations resumed in the northwest corner of Parcel 1 (Parcel 1-NW) in 1991, and continued until the last waste was accepted on September 30, 1993.

During early landfilling operations, dragline techniques were used to excavate subgrade material at Parcels 2 and 4 and the southern portion of Parcel 1. Dragline excavation resulted in irregular bottom topography with discrete trenches or pits surrounded by relatively undisturbed soil. Parcels 1, 2 and 4 were constructed without clay liners. Only Parcel 1-NW and Parcel 3/6 were developed with clay liners and leachate collection and removal systems (LCRSs). All parcels include a LFG collection system consisting of 75 active vertical LFG extraction wells connected by horizontal laterals to a landfill gas-to-energy flare system operated by Ameresco, a private company under contract with the City of Santa Clara.

Ground water beneath the Landfill, primarily on Parcel 4, is impacted with VOCs. The primary VOCs detected in ground water samples collected during the first quarter of 2016 were 1,1-dichloroethene (1,1-DCE); *cis*-1,2-dichloroethene (*cis*-1,2-DCE); *trans*-1,2-dichloroethene (*trans*-1,2-DCE); TCE; and vinyl chloride (Golder, 2016). The measured ground water flow direction at the APL is to the northeast. The area of VOC impacted on Parcel 4 is located cross-gradient from the Site with respect to the reported ground water flow direction and does not appear to have migrated below the Site.

Two wells (G-2R and G-16R, see Figure 2) used to monitor ground water quality at the APL are located on the southern border of Parcel 2 (immediate north of the Site). Golder (2016) reported that low concentrations of several VOCs (*e.g.*, TCE, DCE, DCA and Methyl tert-butyl Ether [MTBE]) were detected in ground water from G-2R. Similar VOC concentrations were detected in ground water from G-2R during the 1990s during studies associated with the SLIC case at Watts Machining, 2339 Calle Del Mundo (see Section 3.2.1). Well G-2R is located immediately down-gradient of the reported VOC impacted ground water at 2339 Calle Del Mundo. MTBE also was detected at a low concentration in ground water from G-16R.

In preparation for the PCLUP, LFG investigations were conducted at the APL and identified several VOCs in landfill gas. Benzene, ethylbenzene, vinyl chloride were reported in LFG at concentrations exceeding residential and commercial ESLs. Figures depicting LFG sampling data from Langan (2016) are attached in Appendix C. Potential risk to inhabitants of the proposed City Place development at the APL may be present related to intrusion of LFG into the proposed new structures. As such, a Landfill Gas Mitigation System (LFGMS) will be installed to mitigate the potential building occupants' exposure to harmful compounds from the subsurface (Langan, 2016).

3.4 HYDROGEOLOGY

Based on information presented in the California Geotracker database, the shallow ground water beneath the Site is likely present at depths of approximately 7 to 15 feet. A northeasterly ground water flow direction appears predominant in the Site area; however, east-southeasterly flow directions also have been reported.

SECTION 4: HISTORICAL USE INFORMATION

The objective of the review of historical use information is to develop a history of the previous uses of the Site and surrounding area in order to help identify the likelihood of past uses having led to Recognized Environmental Conditions at the property. The ASTM standard requires the identification of all obvious uses of the property from the present back to the property's first developed use, or back to 1940, whichever is earlier, using reasonably ascertainable standard historical sources.

4.1 HISTORICAL SUMMARY OF THE SITE

The historical sources reviewed are summarized below. The results of our review of these sources are summarized in Table 3.

- **Historical Aerial Photographs:** We reviewed aerial photographs dated between 1939 and 2012 obtained from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut; copies of aerial photographs reviewed are presented in Appendix B.

Table 3. Summary of Historical Source Information for the Site

Date	Source	Comment
1939 and , 1948	Aerial photographs	In the 1939 photograph, what appears to be a residence and associated outbuildings are shown on the western portion of the Site. Two additional adjacent on-Site residences, along with additional outbuildings, were constructed by 1948. The remainder of the Site is shown as agricultural property (orchards and row crops).
1950 to 1968	Aerial photographs	By 1950, eleven additional small structures are shown on the western portion of the Site. They appear to be dwellings, typical of those historically occupied by farm laborers. The remainder of the Site is shown as agricultural property.
1974	Aerial photograph	The prior on-Site structures are shown to have been removed by 1974 and the existing on-Site roadways appear to be under construction.
1979 to 2012	Aerial photographs	Several of the existing on-Site structures are shown to have been constructed by 1979. The remaining existing on-Site structures are shown to have been constructed during the 1980s and 1990s.

SECTION 5: SITE RECONNAISSANCE

We performed a Site reconnaissance to evaluate current general Site conditions and to attempt to identify Site Recognized Environmental Conditions. The results of the reconnaissance are discussed below.

5.1 METHODOLOGY AND LIMITING CONDITIONS

To observe current Site conditions (readily observable environmental conditions indicative of a significant release of hazardous materials), Cornerstone staff Stason I. Foster, P.E. visited the Site on January 5, 2017. Our observations were made from readily accessible public right-of-ways.

5.2 OBSERVATIONS

At the time of our visit, the Site was observed to be developed with commercial buildings that appeared to be used for general office space, research and development purposes, manufacturing activities, a data center and restaurants.

National Fire Protection Association (NFPA) placards were observed to be posted on several of the on-Site buildings indicating that hazardous materials are used or stored within the buildings. Observed on-Site businesses that appeared likely to use and store hazardous materials predominantly included several machine shops, metal finishing and plating businesses, and electronics manufactures, along with a data center and a glass blowing facility.

No evidence of on-Site hazardous materials spills was readily apparent from public right-of-ways.

SECTION 6: CONCLUSIONS (FINDINGS) AND RECOMMENDATIONS

Cornerstone performed this Screening Level Phase I ESA to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions. Our conclusions and recommendations are summarized below.

6.1 SITE HISTORY

Based on the information obtained during this study, the Site historically consisted mainly of agricultural land including row crops and orchards. Three residences with associated outbuildings and 11 apparent farm laborer dwellings were previously located on the western portion of the Site. By 1974, the former residential structures were removed and the existing on-Site roadways were constructed. The Site generally was developed with the existing on-Site structures between the late 1970s and the late 1990s.

6.2 CHEMICAL STORAGE AND USE

Several on-Site businesses were observed during our Site visit that appeared likely to use and store hazardous materials, including several machine shops, metal finishing and plating businesses, and electronics manufactures, along with a data center and a glass blowing facility. Five on-Site businesses were identified as RCRA Large Quantity Generators, along with 16

RCRA Small Quantity Generators. The HAZNET database indicates that 56 on-Site businesses have disposed of hazardous waste under hazardous wastes manifests³.

Gasoline fuel was stored in a UST at 2200 Calle De Luna that was removed in 1988.

Four USTs described as concrete sumps with capacities of 200, 470, 1,500 and 2,600 gallons were installed during the 1980s at Paragon Electronics, 2318 Calle De Luna. The contents of these USTs included sulfuric acid, boric acid, nitric acid, sodium hydroxide, copper, lead, nickel, polyglycol and waste water. A former printed circuit board business (Citrix) also reportedly utilized a 200 gallon UST installed in 1984 to store waste water at 2309 Calle De Luna. The status of the USTs formerly used by Paragon Electronics and Citrix is not known.

Potential impacts to the Site from hazardous materials use and storage at on-Site businesses, and the status of the USTs formerly used by Paragon Electronics and Citrix should be further evaluated during the recommended studies described in Section 6.9.

Additionally, current building occupants that use hazardous materials may be required to obtain a permit for facility closure (*i.e.*, demolition, removal, or abandonment of any facility or portion of a facility where hazardous materials are used or stored). The property owner and/or developer should coordinate facility closure activities with the building occupants and contact the Santa Clara Fire Department to determine facility closure requirements prior to building demolition or change in use.

6.3 AGRICULTURAL USE

The Site was used for agricultural purposes for several decades. Pesticides may have been applied to crops in the normal course of farming operations. Residual pesticide concentrations may remain in on-Site soil. If elevated concentrations of agricultural chemicals are present, mitigation or soil management measures may be required during construction/earthwork activities.

We recommend performing soil sampling to evaluate if agricultural chemicals are present prior to redevelopment or earthwork activities. At agricultural properties, pesticides often were stored within structures such as barns or sheds, and pesticide mixing often was performed near agricultural wells. The recommended sampling should include an evaluation of these areas, along with the former agricultural field and orchard areas.

6.4 CLOSED LUST CASE

A diesel UST was removed from 2200 Calle De Luna in 1998. The LUST case was closed by the SCVWD in 1995. Although no further work associated with the former UST appears required, residual petroleum hydrocarbon-contaminated soil and/or ground water could be encountered during earthwork activities near the former UST. If encountered, impacted materials should be appropriately managed in accordance with an agency approved Site Management Plan (SMP) as described in Section 6.9.

³ Note that the RCRA-LQG, RCRA-SQG and HAZNET databases do not distinguish between current and prior on-Site businesses.

6.5 ON-SITE SLIC CASES

Four on-Site properties were identified on the Water Board's SLIC database.

The SLIC case at 2339 Calle Del Mundo was closed by the Water Board in 1997; however, residual concentrations of VOCs remained in soil and ground water that pose a potential vapor intrusion concern. Also, the lateral extent of the impacted ground water was not well defined. We recommend that soil vapor sampling be conducted at the property to evaluate potential vapor intrusion risks. The current VOC concentrations in ground water and the lateral extent of the VOC impacted ground water also should be established.

VOCs also were identified in ground water at 2301 Calle De Luna and have migrated below the easterly adjacent on-Site parcel at 2281 Calle De Luna. This open SLIC case is being overseen by the Water Board. Monitoring and mitigation efforts are on-going. Any redevelopment plans for these parcels should be coordinated with and approved by the Water Board.

The two remaining on-Site SLIC cases, 2278 Calle De Luna, and 2220 & 2222 Calle De Luna, are being overseen by the DEH under the Voluntary Cleanup Program. Any redevelopment plans for these parcels should be coordinated with and approved by the DEH.

6.6 LEAD-BASED PAINT AND TERMITE CONTROL PESTICIDES

The Consumer Product Safety Commission banned the use of lead as an additive in paint in 1978. Based on the age of the buildings, lead-based paint may be present. The removal of lead-based paint is not required prior to building demolition if the paint is bonded to the building materials. However, if the lead-based paint is flaking, peeling, or blistering, it shall be removed prior to demolition. In either case, applicable OSHA regulations must be followed; these include requirements for worker training, air monitoring and dust control, among others. Any debris containing lead must be disposed appropriately.

Additionally, soil adjacent to structures that are painted with lead-containing paint can become impacted with lead as a result of the weathering and/or peeling of painted surfaces. Soil near wood framed structures also can be impacted by pesticides historically used to control termites. No information was identified during this study documenting the use of lead based paint or termite control pesticides on-Site; however, if used, residual pesticide and lead concentrations may remain in on-Site soil. Most of the existing commercial buildings appear have been constructed post-1978 and many are surrounded mainly by pavements; thus, limiting the potential for impacts to adjacent soil from weathering of painted surfaces. The prior residences and associated outbuildings, however, likely were wood framed structures surrounded by soil. We recommend that soil sampling and laboratory analyses be conducted at the locations of prior residences and associated outbuildings to evaluate potential impacts to soil quality from the use of termite control pesticides and lead containing paint.

6.7 ASBESTOS AND OTHER HAZARDOUS BUILDING MATERIALS

Due to the age of many of the on-Site structures, building materials may contain asbestos. Because demolition of the buildings is planned, an asbestos survey is required by local authorities and/or National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. NESHAP guidelines require the removal of potentially friable asbestos containing building materials prior to building demolition or renovation that may disturb these materials.

Some components encountered as part of a building demolition waste stream may contain hazardous materials. Universal wastes, lubrication fluids and refrigerants should be removed before structural demolition begins. Materials that may result in possible risk to human health and the environment when improperly managed include lamps, thermostats, and light switches containing mercury; batteries from exit signs, emergency lights, and smoke alarms; lighting ballasts which contain PCBs; and lead pipes and roof vent flashings. Demolition waste such as fluorescent lamps, PCB ballasts, lead acid batteries, mercury thermostats, and lead flashings have special case-by-case requirements for generation, storage, transportation, and disposal. Before disposing of any demolition waste, the demolition contractor should determine if the waste is hazardous and ensure proper disposal of waste materials.

6.8 GROUND WATER WELLS

Ground water monitoring wells associated with the identified LUST and SLIC cases are located on some on-Site parcels. These wells must be protected during construction. Upon written approval from the overseeing regulatory agency and the well owner, the wells could be destroyed under permit from the Santa Clara Water District prior to development activities. Relocation of the wells may be required. Monitoring wells that are no longer in use, or any unidentified wells (such as former agricultural wells) encountered during construction activities, should be properly destroyed in accordance with SCVWD Ordinance 90-1. Abandoned wells (*i.e.*, those that are not properly destroyed) can act as a conduit for the vertical migration of ground water contamination. Also, if ground water levels rise, an abandoned well can become an artisan well with uncontrolled water flow that can adversely impact future developments. Prior to redevelopment of the Site, we recommend that well records from the SCVWD be researched and that attempts be made to locate and properly destroy any identified abandoned on-Site wells.

6.9 REDEVELOPMENT CONSIDERATIONS

As a result of the identified soil and ground water contamination, and the use of hazardous materials at multiple existing and prior businesses, Cornerstone recommends the following mitigation measures:

- Prior to the start of any construction activity, a property-specific Phase I ESA shall be completed in accordance with ASTM Standard Designation E 1527-13 (or most recent version) to identify Recognized Environmental Conditions, evaluate the property history, and establish if the property is likely to have been impacted by chemical releases. Soil, soil vapor and/or ground water quality studies shall subsequently be conducted, if warranted based on the findings of the property-specific Phase I ESAs to evaluate if mitigation measures are needed to protect the health and safety of Site occupants. All Site mitigation measures shall be completed under the oversight of an appropriate regulatory agency, such as the DEH, DTSC or Water Board. Any required cleanup/remediation of the Site during development activities shall meet all applicable federal, state and local laws, regulations and requirements.
- At properties where VOCs are identified as contaminants of concern (COC), the potential for vapor intrusion shall be evaluated. A Vapor Intrusion Investigation Work Plan shall be submitted to the overseeing regulatory agency for review and approval. This plan shall include soil vapor sampling for VOCs in areas of concern. The soil vapor

sampling shall be conducted in general conformance with DTSC's July 2015 advisory titled *Active Soil Gas Investigations*. A minimum of two soil vapor sampling events (with soil vapor concentrations less than the most conservative residential or commercial screening levels – as appropriate) is required to document mitigation measures are not required; additional sampling events may be required by the overseeing regulatory agency.

The need for vapor intrusion mitigation measures will be dependent upon the planned building design and the results of the Vapor Intrusion Investigation. Prior to redevelopment of the Site, a report assessing the potential for vapor intrusion shall be submitted to and approved by the overseeing regulatory agency. The assessment shall be conducted in general conformance with DTSC's *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* dated October 2011.

- Prior to the start of any construction activity on properties with known contaminants of concern (COC) exceeding the lower of the then-current DTSC, Water Board or US EPA residential screening levels⁴, the Project Applicant shall submit the following plans to the overseeing regulatory agency for review and approval:
 - o Corrective Action Plan– An appropriate corrective action plan (e.g., remedial action plan [RAP], removal action workplan [RAW], etc.) shall be prepared that reflects the results of the above investigations. Site cleanup levels presented in the plan shall be based on a target cancer risk (TR) of 10^{-6} or, for non-carcinogens, a target hazard quotient (THQ) of 1.0. The lower of the then-current DTSC, Water Board or US EPA residential screening levels shall be used to interpret the TR and THQ levels or, alternatively, a site-specific human health risk assessment shall be prepared and approved by the overseeing regulatory agency. Higher cleanup goals may be acceptable, if approved in writing by the oversight agency. The Project Applicant shall provide an oversight agency's written approval of the corrective action plan to the City.

Leaving contaminated soil (above residential screening levels and, for metals, above background concentrations) in-place or re-using contaminated soil shall require the oversight agency's written approval. At a minimum, if contaminated soil is left in-place, a deed restriction or land use covenant shall detail the location of the soil. This document shall include a surveyed map of the location of the impacted soil and shall restrict future excavation in the impacted area unless approved in writing by an oversight agency.

- o Air Monitoring Plan– This plan shall assess the potential for exposure of construction workers and neighboring occupants adjoining the property to COCs during construction activities; this plan shall specify measures to be implemented if COC concentrations exceed threshold values.

⁴ Note that naturally occurring background concentrations of some metals may exceed their respective screening levels. Regulatory agencies generally do not require cleanup of contaminants in soil to below background levels. Site specific background levels may be substituted for the published screening levels if approved by the overseeing regulatory agency.

- o Vapor Intrusion Mitigation Plan and Associated Documents– If the Vapor Intrusion Investigation identifies the need for mitigation measures, a Vapor Intrusion Mitigation Plan shall be prepared that describes the measures to be implemented to prevent exposure of property occupants to VOCs in indoor air as a result of vapor intrusion. The Vapor Intrusion Mitigation Plan will require the Project Applicant to design the proposed occupied spaces with appropriate structural and engineering features to reduce risk of vapor intrusion into buildings. At a minimum, this design shall include: 1) passive sub-slab ventilation with a spray applied seamless vapor barrier (and with the ability to convert the system from passive to active ventilation), 2) monitoring to ensure the long-term effectiveness of the remedy, and 3) the implementation of institutional controls. Other designs would be acceptable if approved in writing by the overseeing regulatory agency. The Vapor Intrusion Mitigation Plan shall be submitted for agency review and approval. DTSC's October 2011 *Vapor Intrusion Mitigation Advisory* provides useful guidance in selecting, designing, and implementing appropriate response actions for sites where a potential vapor intrusion risk has been identified.

A completion report shall be submitted to the overseeing regulatory agency upon completion of construction of the mitigation system. The report shall document installation of the vapor control measures identified in the Vapor Intrusion Mitigation Plan and present final as-built design drawings.

A Long-Term Operations, Maintenance, and Monitoring Plan (OMMP) also shall be submitted for agency approval that presents the actions to be taken following construction to maintain and monitor the vapor intrusion mitigation system, and a contingency plan should the vapor mitigation system fail.

A financial assurance mechanism shall additionally be established (*i.e.*, proof that adequate funds are available for long-term maintenance and monitoring of the vapor intrusion mitigation system) and described in the OMMP.

- A Site Management Plan (SMP) and Health and Safety Plan (HSP) shall be developed to establish appropriate management practices for handling and monitoring of impacted soil, soil vapor and ground water that potentially may be encountered during construction activities. The SMP shall be prepared by an Environmental Professional and be submitted to the overseeing regulatory agency (*e.g.*, Water Board, DTSC and/or DEH) for review and approval prior to commencing construction activities. The SMP also shall be provided to the City.

Prior to the start of any construction activity that involves below ground work (*e.g.*, mass grading, foundation construction, excavating or utility trenching), information regarding Site risk management procedures, including copies of the HSP and SMP, shall be provided to the Contractors for their review, and each Contractor should provide such information to its Subcontractors. The SMP measures shall be incorporated into the project design documents. The SMP shall include a discussion of the following:

- o Site control procedures to control the flow of personnel, vehicles and materials in and out of the Site.

- o Measures to minimize dust generation, storm water runoff and tracking of soil off-Site.
- o Dewatering protocols, if dewatering is anticipated, including methods to evaluate water quality and discharge/disposal alternatives; the pumped water shall not be used for on-Site dust control or any other on-Site use.
- o Protocols for conducting earthwork activities in areas where impacted soil, soil vapor and/or ground water are present or suspected. Worker training requirements, health and safety measures and material handling procedures shall be described.
- o Perimeter air monitoring for dust during any activity that significantly disturbs impacted Site soil (e.g., mass grading, foundation construction, excavating or utility trenching) to document the effectiveness of dust control measures.
- o Protocols to be implemented if buried structures, wells, debris, or unidentified areas of impacted soil are encountered during Site development activities.
- o Protocols to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented. Soil in contact with impacted ground water should be assumed contaminated. All soil excavated and transported from this Site should be appropriately disposed at a permitted facility.
- o Stockpiling protocols for “clean” and “impacted” soil.
- o Decontamination procedures to reduce the potential for construction equipment and vehicles to release contaminated soil onto public roadways or other off-Site transfer.
- o Procedures to evaluate and document the quality of any soil imported to the Site. Soil containing chemicals exceeding residential (unrestricted use) screening levels or typical background concentrations of metals should not be accepted. The DTSC’s Clean Fill Advisory (October 2001 or latest version) provides useful guidance on evaluating imported fill.
- o Methods to monitor excavations and trenches for the potential presence of VOC impacted vapors. Mitigation protocols shall be developed and implemented in the event elevated VOC vapors are released during excavation activities that may pose a risk to construction worker health and/or a risk to the health of occupants of neighboring properties.
- o Protocols to evaluate if the residual contaminants will adversely impact the integrity of below ground utility lines and/or structures (e.g., the potential for corrosion due to subsurface contamination).
- o Measures to reduce soil vapor and ground water migration through trench backfill and utility conduits. Such measures shall include placement of low-permeability backfill “plugs” at specified intervals on-Site and at all locations where the utility

trenches (within impacted soil or ground water) extend off-Site. In addition, utility conduits that are placed below ground water shall be installed with water-tight fittings to reduce the potential for ground water to migrate into the conduits.

- o Measures to help reduce the potential for the downward migration of contaminated ground water if deep foundation systems are proposed. These measures shall be identified in the Geotechnical Investigation report and implemented as a part of the development plans.

The Project Applicant's Environmental Professional shall assist in the implementation of the SMP and shall, at a minimum, perform part-time observation services during demolition, excavation, grading and trenching activities. Upon completion of construction activities, the Environmental Professional shall prepare a report documenting compliance with the SMP; this report shall be submitted to the oversight regulatory agency and City.

6.10 ALL PURPOSE LANDFILL

The former All Purpose Landfill is located adjacent to the Site. California Department of Resources, Conservation and Recycling (CalRecycle)⁵, along with the Local Enforcement Agency (LEA) (i.e., the DEH), regulate solid waste facilities including closure activities, post-closure development, and ongoing monitoring and maintenance, among other activities. California Code of Regulations (CCR), Title 27, Division 2 stipulates requirements for both active and closed solid waste disposal sites.

Per CCR Title 27 Section 21190(g), *"All on site construction within 1,000 feet of the boundary of any disposal area shall be designed and constructed in accordance with the following, or in accordance with an equivalent design which will prevent gas migration into the building, unless an exemption has been issued:*

- (1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and subgrade;*
- (2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab;*
- (3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer;*
- (4) perforated venting pipes shall be installed within the permeable layer, and shall be designed to operate without clogging;*
- (5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system;*

⁵ In January 2010, CalRecycle was created from a merger of the Department of Conservation, Division of Recycling and the California Integrated Waste Management Board (CIWMB).

(6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and

(7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this chapter (section 20920 et seq.)."

CCR Title 27 Section 21190(c) states that *"all proposed postclosure land uses, other than non-irrigated open space, on sites implementing closure or on closed sites shall be submitted to the local enforcement agency (LEA), Water Board, local air district and local land use agency. The LEA shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area..."*

Each of the on-Site parcels is located within 1,000 feet of the refuse disposal boundary at the former All Purpose Landfill. Thus, the incorporation of landfill gas migration controls into the design of the proposed structures may be warranted. However, because the on-Site parcels are not part of the landfill property, the on-Site parcels may not be regulated by post-closure land use requirements of 27 CCR 21190.

As discussed in CalRecycle Advisory 51 (July 22, 1998), "disposal site" or "site" (as used in 27 CCR 21190) *includes the place, location, tract of land, area, or premises in use, intended to be used, or which has been used for the landfill disposal of solid wastes (California Public Resources Code [PRC] Section 40122). In practice, this definition means that any property located outside the parcel containing the solid waste is not subject to the postclosure land use requirements of 27 CCR 21190, even if the outside property is within 1,000 feet of the waste footprint. This can be problematic for CalRecycle and the LEA because parcel boundaries can be split from the disposal site, allowing development close to the waste footprint without triggering postclosure land use controls and approvals.*

In addition to methane, several VOCs have been detected in LFG on the adjacent landfill. Benzene, ethylbenzene, vinyl chloride were reported in LFG at concentrations exceeding residential and commercial ESLs. We recommend that potential impacts to the Site from LFG migration and vapor intrusion be evaluated and redevelopment activities be coordinated with CalRecycle and the LEA. We recommend that the mitigation measures described in CCR Title 27 Section 21190(c) be incorporated into the design and construction of the planned on-Site structures unless otherwise approved by the LEA.

6.11 DATA GAPS

ASTM Standard Designation E 1527-13 requires the environmental professional to comment on significant data gaps that affect our ability to identify Recognized Environmental Conditions. A data gap is a lack of or inability to obtain information required by ASTM Standard Designation E 1527-13 despite good faith efforts by the environmental professional to gather such information. A data gap by itself is not inherently significant; it only becomes significant if it raises reasonable concerns. The following data gaps were identified:

- This Screening Level Phase I ESA is a limited inquiry into the environmental condition of the Site. ASTM E 1527-13, *Standard Practice for Environmental Site Assessments*, was used as a guide for development of the project scope. However, this screening level

study was not intended to fulfill all requirements of the ASTM standard. Property-specific Phase I ESAs completed in accordance with ASTM E 1527-13 are recommended prior to construction/redevelopment activities.

SECTION 7: LIMITATIONS

Cornerstone performed this Screening Level Phase I ESA to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions associated with the Site. David J. Powers & Associates understands that no Screening Level Phase I ESA can wholly eliminate uncertainty regarding the potential for Recognized Environmental Conditions to be present at the Site. This Screening Level Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for Recognized Environmental Conditions. David J. Powers & Associates understands that the extent of information obtained is based on the reasonable limits of time and budgetary constraints.

Conclusions presented in this report are based on selected, readily available information and conditions readily observed at the time of the Site visit. Screening Level Phase I ESAs are inherently limited because findings are developed based on information obtained from a non-intrusive Site evaluation. Cornerstone does not accept liability for deficiencies, errors, or misstatements that have resulted from inaccuracies in the publicly available information or from interviews of persons knowledgeable of Site use. In addition, publicly available information and field observations often cannot affirm the presence of Recognized Environmental Conditions; there is a possibility that such conditions exist. If a greater degree of confidence is desired, soil, ground water and/or soil vapor samples should be collected by Cornerstone and analyzed by a state-certified laboratory to establish a more reliable assessment of environmental conditions.

Cornerstone acquired an environmental database of selected publicly available information for the general area of the Site. Cornerstone cannot verify the accuracy or completeness of the database report, nor is Cornerstone obligated to identify mistakes or insufficiencies in the information provided (ASTM E 1527-13, Section 8.1.3). Due to inadequate address information, the environmental database may have mapped several facilities inaccurately or could not map the facilities. Releases from these facilities, if nearby, could impact the Site.

This report, an instrument of professional service, was prepared for the sole use of David J. Powers & Associates and may not be reproduced or distributed without written authorization from Cornerstone. It is valid for 180 days. An electronic transmission of this report may also have been issued. While Cornerstone has taken precautions to produce a complete and secure electronic transmission, please check the electronic transmission against the hard copy version for conformity.

Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.



CORNERSTONE
EARTH GROUP

Vicinity Map

Tasman East Focus Area
Santa Clara, CA

Project Number

118-86-1

Figure Number

Figure 1

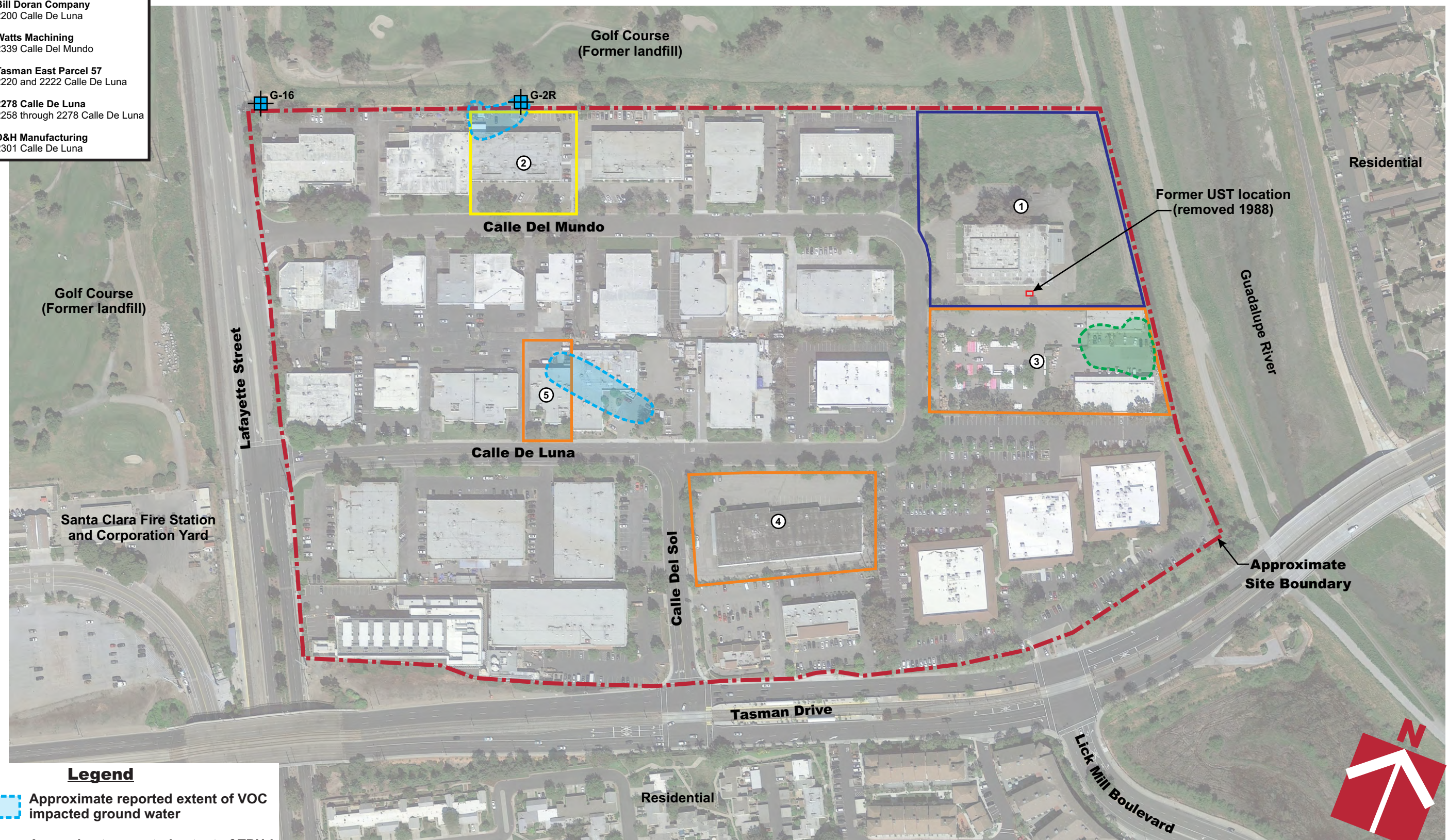
Date

January 2017

Drawn By

RRN

- ① Bill Doran Company
2200 Calle De Luna
- ② Watts Machining
2339 Calle Del Mundo
- ③ Tasman East Parcel 57
2220 and 2222 Calle De Luna
- ④ 2278 Calle De Luna
2258 through 2278 Calle De Luna
- ⑤ D&H Manufacturing
2301 Calle De Luna



Legend

- Approximate reported extent of VOC impacted ground water
- Approximate reported extent of TPHd impacted ground water
- Open SLIC Case
- Closed SLIC Case
- Closed LUST Case
- +
 Approximate location of ground water monitoring well at landfill

Base by Google Earth, dated 4/5/2016



**Reported Spill Incidents and
Areas of VOC/TPHD Impacted Ground Water**

**Tasman East Focus Area
Santa Clara, CA**

0 200 400

APPROXIMATE SCALE (FEET)

Project Number	118-86-1
Figure Number	Figure 2
Date	January 2017
Drawn By	RRN

APPENDIX A – DATABASE SEARCH REPORT

APPENDIX B – HISTORICAL AERIAL PHOTOGRAPHS

APPENDIX C – SELECTED PRIOR REPORTS AND DOCUMENTS