

TYPE OF SERVICES	Phase I Environmental Site Assessment and Soil Quality Evaluation
LOCATION	Villages at Jackson Square 16480 Hill Road Morgan Hill, California
CLIENT	David J. Powers & Associates
PROJECT NUMBER	118-121-1
DATE	October 20, 2020

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Client Address	1871 The Alameda, Suite 200 San Jose, California 95126
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Prepared by



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Type of Services	Phase I Environmental Site Assessment and Soil Quality Evaluation
Location	Villages at Jackson Square 16480 Hill Road Morgan Hill, California

SECTION 1: INTRODUCTION

This report presents the results of the Phase I Environmental Site Assessment (ESA) and Soil Quality Evaluation performed at the proposed Villages at Jackson Square development located at 16480 Hill Road in Morgan Hill, California (Site) as shown on Figures 1 and 2. This work was performed for David J. Powers & Associates in accordance with our August 3, 2020 Agreement (Agreement).

1.1 PURPOSE

The scope of work presented in the Agreement was prepared in general accordance with ASTM E 1527-13 titled, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM Standard). The ASTM Standard is in general compliance with the Environmental Protection Agency (EPA) rule titled, "Standards and Practices for All Appropriate Inquiries; Final Rule" (AAI Rule). The purpose of this Phase I ESA is to strive to identify, to the extent feasible pursuant to the scope of work presented in the Agreement, Recognized Environmental Conditions at the property.

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.

Cornerstone Earth Group, Inc. (Cornerstone) understands that a residential housing project is proposed for the Site, along with the construction of appurtenant open space areas and roadways. We performed this Phase I ESA to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions at the Site. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for Recognized Environmental Conditions at the Site.

1.2 SCOPE OF WORK

As presented in our Agreement, the scope of work performed for this Phase I ESA and Soil Quality Evaluation included the following:

- A reconnaissance of the Site to note readily observable indications of significant hazardous materials releases to structures, soil or groundwater.
- Drive-by observation of adjoining properties to note readily apparent hazardous materials activities that have or could significantly impact the Site.
- 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 at nearby facilities.
- Review of readily available information on file at selected governmental agencies to help evaluate past and current Site use and hazardous materials management practices.
- Review of readily available maps and aerial photographs to help evaluate past and current Site uses.
- Interviews with persons reportedly knowledgeable of existing and prior Site uses.
- Collection of near surface soil samples for laboratory analysis.
- Preparation of a written report summarizing our findings and recommendations.

The limitations for the Phase I ESA are presented in Section 11.

1.3 ASSUMPTIONS

In preparing this Phase I ESA, Cornerstone assumed that all information received from interviewed parties is true and accurate. In addition, we assumed that all records obtained by other parties, such as regulatory agency databases, maps, related documents and environmental reports prepared by others are accurate and complete. We also assumed that the boundaries of the Site, based on information provided by David J. Powers & Associates, are as shown on Figure 2. We have not independently verified the accuracy or completeness of any data received.

1.4 ENVIRONMENTAL PROFESSIONAL

This 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: SITE DESCRIPTION

This section describes the Site as of the date of this Phase I ESA. The location of the Site is shown on Figures 1 and 2. Tables 1 through 3 summarize general characteristics of the Site and adjoining properties. The Site is described in more detail in Section 7, based on our on-Site observations.

2.1 LOCATION AND OWNERSHIP

Table 1 describes the physical location, and ownership of the property, based on information provided by David J. Powers & Associates.

Table 1. Location and Ownership

Assessor's Parcel No. (APN)	817-20-031
Reported Address/Location	16480 Hill Road, Morgan Hill, California
Owner	Lewis Morgan Hill, LLC
Approximate Lot Size	69.4 acres

2.2 CURRENT/PROPOSED USE OF THE PROPERTY

The current and proposed uses of the property are summarized in Table 2.

Table 2. Current and Proposed Uses

Current Use	Agricultural land with remnant structures from a former dairy operation.
Proposed Use	Residential with associated open space

2.3 SITE SETTING AND ADJOINING PROPERTY USE

Land use in the general Site vicinity appears to be primarily residential, along with agricultural land. Based on our Site vicinity reconnaissance, adjoining Site uses are summarized below in Table 3.

Table 3. Adjoining Property Uses

North	Residential
South	Agricultural land (row crops) and residential
East	Residential
West	Residential and (across Hill Road)

SECTION 3: 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 Phase I ESA, the User is David J. Powers & Associates. The "All Appropriate Inquiries" Final Rule (40 CFR Part 312) requires specific tasks be performed by or on behalf of the party seeking to qualify for Landowner Liability Protection under CERCLA (*i.e.*, the User).

Per the ASTM standard, if the User has information that is material to Recognized Environmental Conditions, such information should be provided to the Environmental Professional. This information includes: 1) specialized knowledge or experience of the User, 2) commonly known or reasonably ascertainable information within the local community, and 3) knowledge that the purchase price of the Site is lower than the fair market value due to contamination. A search of title records for environmental liens and activity and use limitations also is required.

3.1 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

An environmental lien is a financial instrument that may be used to recover past environmental cleanup costs. Activity and use limitations (AULs) include other environmental encumbrances, such as institutional and engineering controls. Institutional controls (ICs) are legal or regulatory restrictions on a property's use, while engineering controls (ECs) are physical mechanisms that restrict property access or use.

The regulatory agency database report described in Section 4.1 did not identify the Site as being in 1) US EPA databases that list properties subject to land use restrictions (*i.e.*, engineering and institutional controls) or Federal Superfund Liens or 2) lists maintained by the California Department of Toxic Substances Control (DTSC) of properties that are subject to AULs or environmental liens where the DTSC is a lien holder.

ASTM E 1527-13 categorizes the requirement to conduct a search for Environmental Liens and AULs as a User responsibility. A search of land title records for environmental liens and AULs was not within the scope of the current Phase I ESA.

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

Based on information provided by or discussions with David J. Powers & Associates, we understand that David J. Powers & Associates does not have specialized knowledge or experience, commonly known or reasonably ascertainable information regarding the Site, or other information that is material to Recognized Environmental Conditions.

SECTION 4: RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

Cornerstone conducted a review of federal, state and local regulatory agency databases provided by Environmental Data Resources (EDR) to evaluate the likelihood of contamination incidents at and near the Site. The database sources and the search distances are in general accordance with the requirements of ASTM E 1527-13. 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 project Site are attached in Appendix A.

The purpose of the records review was to obtain reasonably available information to help identify Recognized Environmental Conditions. Accuracy and completeness of record information varies among information sources, including government sources. Record information is often inaccurate or incomplete. The Environmental Professional is not obligated to identify mistakes or insufficiencies or review every possible record that might exist with the Site. The customary practice is to review information from standard sources that is reasonably available within reasonable time and cost constraints.

4.1.1 On-Site Database Listings

Tamura & Iwanaga Inc. was identified at the Site address on the Certified Unified Program Agency (CUPA) database as facility with permits for generation of waste oil.

Tamura Iwanaga Landscaping Company was identified at the Site address on the Hazardous Waste Tracking System (HWTS) database, which stores facility identification information since the early 1980s and waste manifest data since 1993. The listing was noted to have been created in 2000 and became inactive in 2002.

4.1.2 Nearby Spill Incidents

Based on the information presented in the agency database report, no off-Site spill incidents were reported that appear likely to significantly impact soil, soil vapor or groundwater 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 groundwater flow direction.

4.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

The following additional sources of readily ascertainable public information for the Site also were reviewed during this Phase I ESA.

4.2.1 City and County Agency File Review

Cornerstone requested available files pertaining to the Site at the Morgan Hill Building Department (BD) and the Santa Clara County Department of Environmental Health (DEH). The DEH indicated that they have no files pertaining to the Site. Files at the Building Department were not available at the time of this study due to City office closures associated with COVID-19.

SECTION 5: PHYSICAL SETTING

We reviewed readily available geologic and hydrogeologic information to evaluate the likelihood that chemicals of concern released on a nearby property could pose a significant threat to the Site and/or its intended use.

5.1 RECENT USGS TOPOGRAPHIC MAP

A 2012 USGS 7.5 minute topographic map was reviewed to evaluate the physical setting of the Site. The Site's elevation is approximately 360 feet above mean sea level; topography in the vicinity of the Site slopes downward gently to the southwest.

5.2 HYDROGEOLOGY

Published data (CDC, 2006¹) indicates that historic high ground water depths at the Site range from approximately 30 to 50 feet below the ground surface. Regionally, a southwesterly ground water flow direction would be anticipated.

¹ California Department of Conservation (CDC), Division of Mines and Geology. *Seismic Hazard Zone Report for the Mt. Sizer 7.5-minute Quadrangle, Santa Clara County, California*. 2006.

SECTION 6: 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.

6.1 HISTORICAL SUMMARY OF SITE

The historical sources reviewed are summarized below. The results of our review of these sources are summarized in Table 4.

- **Historical Aerial Photographs:** We reviewed aerial photographs dated between 1939 and 2016 obtained from EDR of Shelton, Connecticut; copies of aerial photographs reviewed are presented in Appendix B.
- **Historical Topographic Maps:** We reviewed USGS 15-minute and 7.5-minute historical topographic maps dated 1917, 1939, 1955, 1968, 1971, 1978, 1981, 1993 and 2012; copies of historical topographic maps reviewed are presented in Appendix B.
- **Historical Fire Insurance Maps:** EDR reported that the Site was not within the coverage area of fire insurance maps.
- **Local Street Directories:** We reviewed city directories obtained from EDR that were researched at approximately 5 year intervals between 1964 and 2017 to obtain information pertaining to past Site occupants. The city directory summary is presented in Appendix C.

Table 4. Summary of Historical Source Information for Site

Date	Source	Comment
1917	Topographic maps	No structures are shown on-Site. Tennant Creek is shown to traverse the Site.
1939	Topographic map	Orchards are depicted on the western portion of the Site. Tennant Creek is shown to traverse the Site.
1939, 1940 and 1950	Aerial photographs	Orchards are shown on the western portion of the Site; row crops are shown on the eastern portion of the Site. Tennant Creek is shown to traverse the Site. The orchards appear to have been removed by 1950.
1955, 1968 and 1978	Topographic maps	Three small structures typical of a residence and associated outbuildings are shown on the western portion of the Site. Two additional structures are shown to have been added by 1968. A pipeline also is shown to traverse the eastern portion of the Site.

Table 4 (Continued). Summary of Historical Source Information for Site

Date	Source	Comment
1956, 1963, 1968, 1971 and 1982	Aerial photographs	The Site is shown to be occupied mainly by row crops. A few of the existing structures are shown to have been constructed on the western portion of the Site by 1956 and the others were added by 1968. Livestock corrals are apparent in the vicinity of the structures. What appear to have been two former residences also are apparent on-Site; one was built during the 1950s and the other during the 1960s. In several of the photographs, what appear to have been irrigation ponds or stormwater retention basins are apparent on the southwest and northeast portions of the Site.
1971	City Directory	Occupant listed as Peter Hoy
1975	City Directory	Occupant listed as Larry B. Ford
1980	City Directory	Occupants listed as Ford Construction and Larry B. Ford
1986, 1992, 2005 and 2014	City Directories	Occupant listed as Kosei Tanaka
1998 to 2016	Aerial photographs	Barrett Avenue, which traverses the southern portion of the Site is shown to been constructed, along with the existing storm water retention basin. The existing soil stockpile on the eastern side of the Site also is apparent. The former residences appear to have been removed during the mid-2000s.
2000	City Directory	Occupant listed as Tamura & Iwanaga Landscaping

6.2 HISTORICAL SUMMARY OF SITE VICINITY

Based on our review of the information described in Section 6.1, the general Site vicinity historically consisted mainly of agricultural land (orchards and row crops) with widely spaced residences. By the early 1980s, an increase in residential development is apparent to the north of the Site. Property to the east of the Site was developed with residences by the 1990s.

SECTION 7: SITE RECONNAISSANCE

We performed a Site reconnaissance to evaluate current Site conditions and to attempt to identify Site Recognized Environmental Conditions. The results of the reconnaissance are discussed below. Additional Site observations are summarized in Table 5. Photographs of the Site are presented in Section 7.2.1.

7.1 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 September 17, 2020. The Site reconnaissance was conducted by walking representative areas of the Site, including the interiors of the on-Site structures, the periphery of the structures and the Site periphery. Cornerstone staff only observed those areas that were reasonably accessible, safe, and did not require movement of equipment, materials or other objects.

7.2 OBSERVATIONS

At the time of our visit, several remnant structures from a former dairy facility were present on the western portion of the Site. The structures appeared to have been used for milking, milk cooling/storage, cattle holding and feeding, and hay storage. Two water supply wells were observed near the structures. An approximately 5,500 gallon above ground storage tank (AST) was observed near the wells. Based on its location and observed piping, the AST appeared to have been used as a pressure tank for water delivery. However, a placard on the tank stated “for butane only,” thus, its possible that the AST was used for butane storage.

Most of the remainder of the Site consisted of fallow agricultural land. Barrett Avenue traverses the southern portion of the Site. The on-Site area to the South of Barrett Avenue was planted with row crops. A stormwater retention basin was observed on-Site, just north of Barrett Avenue.

A large soil stockpile, approximately 15 feet in height, was observed on the eastern portion of the Site (just west of Sorrel Drive). Based on information obtained via email from the City of Morgan Hill, the stockpiled soil was generated during construction of residences on the east side of Sorrel Drive by Arcadia in the 1990s.

Tennant Creek (a seasonal creek) was observed to traverse the western portion of the Site. Pipeline markers were observed on the eastern portion of the Site indicating the presence of two natural gas transmission pipelines operated by PG&E.

Table 5. Summary of Readily Observable Site Features

General Observation	Comments
Aboveground Storage Tanks	Observed as described above
Agricultural Wells	Observed as described above
Air Emission Control Systems	Not Observed
Boilers	Not Observed
Burning Areas	Not Observed
Chemical Mixing Areas	Not Observed
Chemical Storage Areas	Not Observed
Clean Rooms	Not Observed
Drainage Ditches	Storm water retention basin
Elevators	Not Observed
Emergency Generators	Not Observed
Equipment Maintenance Areas	Not Observed
Fill Placement	Not Observed
Groundwater Monitoring Wells	Not Observed
High Power Transmission Lines	Not Observed
Hoods and Ducting	Not Observed
Hydraulic Lifts	Not Observed
Incinerator	Not Observed
Petroleum Pipelines	Not Observed
Petroleum Wells	Not Observed
Ponds or Streams	Tennant Creek

Table 5 (Continued). Summary of Readily Observable Site Features

General Observation	Comments
Railroad Lines	Not Observed
Row Crops or Orchards	Not Observed
Stockpiles of Soil or Debris	Observed as described above
Sumps or Clarifiers	Not Observed
Transformers	Three pole mounted transformer were observed on-Site. No evidence of transformer oil leaks was readily apparent.
Underground Storage Tanks	Not Observed
Vehicle Maintenance Areas	Not Observed
Vehicle Wash Areas	Not Observed
Wastewater Neutralization Systems	Not Observed

The comment "Not Observed" does not warrant that these features are not present on-Site; it only indicates that these features were not readily observed during the Site visit.

7.2.1 Site Photographs



Photograph 1. Milking and storage structure, looking west.



Photograph 2. Interior of milking structure.



Photograph 3. Cattle feeding and hay storage structures, looking north.



Photograph 4. Interior of feeding and hay storage structure.



Photograph 5. Apparent cattle holding pen, looking east.



Photograph 6. Interior of holding pen.



Photograph 7. Fallow agricultural land, looking west.



Photograph 8. On-Site row crops south of Barrett Avenue, looking west.



Photograph 9. Soil stockpile, looking north.



Photograph 10. Stormwater detention basin, looking east.



Photograph 11. One of two water supply wells.



Photograph 12. Apparent water pressure AST.

SECTION 8: ENVIRONMENTAL QUESTIONNAIRE AND INTERVIEWS

8.1 ENVIRONMENTAL QUESTIONNAIRE / OWNER INTERVIEW

To help obtain information on current and historical Site use and use/storage of hazardous materials on-Site, we provided an environmental questionnaire for completion by the Site owner. The completed questionnaire is attached in Appendix D. The information provided on the questionnaire appears generally consistent with our on-Site observations and information obtained from other data sources. The Site was noted to have previously been owned by Arcadia Homes and Escobar Dairy. A tenant, Chiala Farms, was noted to have grown crops on-Site between 2010 and 2016. The owner noted that septic systems (presumably associated with the former residences) were assumed to have been present.

In addition to the completed questionnaire, the following documents were provided:

- GeoSolve, Inc., January 8, 2017. Proposal for Phase I and II Environmental Site Assessments, Agricultural Parcel – 69.43 Acres, 16480 Hill Road, Morgan Hill, California.
- GeoSolve, Inc., June 29, 2020. *Duplicate Soil Sample Analytical Results, Agricultural Parcel – 69.43 Acres, 16480 Hill Road, Morgan Hill, California.*
- California Department of Parks and Recreation, Primary Record form DPR 523A for 16480 Hill Road, Morgan Hill, California. March 25, 2019.

The 2017 proposal outlined a scope work that included the completion of a Phase I ESA and the collection of 40 soil samples to evaluate soil quality. Cornerstone was not provided with a report documenting the completion of this proposed work.

The 2020 *Duplicate Soil Sample* report indicates that 16 soil samples were collected from four borings within a “former retention basin.” The samples were analyzed for organochlorine pesticides (OCPs) and arsenic. No OCPs were detected. The detected arsenic concentrations were typical of natural background levels. The sampled locations were noted to have been previously sampled by D.R. Horton. The D.R. Horton report was not provided for review by Cornerstone.

DPR 523 forms are used to record a variety of resources, from buildings to archeological finds to bridges and roadways. They were designed to be the final product of a survey, organized in a standardized statewide format. This reconnaissance level survey form includes a description of the Site history and former dairy operations.

Copies of the DPR 523 forms and other provided documents are attached in Appendix D.

8.2 INTERVIEWS WITH PREVIOUS OWNERS AND OCCUPANTS

Contact information for previous Site owners and occupants was not provided to us. Therefore, interviews with previous Site owners and occupants could not be performed.

SECTION 9: SOIL QUALITY EVALUATION

Based on information obtained for this Phase I ESA, the Site was formerly used for agricultural purposes and dairy operations. Pesticides may have been applied to crops in the normal course of farming operations. Pesticides may also have been used at livestock management areas. 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.

Therefore, soil sampling was performed to evaluate soil quality within agricultural field areas, livestock management areas, adjacent to the foundations of the existing and former on-Site structures, at locations of the current and former stormwater retention basins and irrigation ponds, and within drainage areas such as Tennant Creek. The locations of the former structures/features were approximated based on our review of historical aerial photographs. In addition, soil samples were collected near each of the two water supply wells to evaluate potential impacts to soil quality from mixing of pesticides, which often was performed near agricultural wells. Samples also were collected from stockpiled soil on the eastern portion of the Site.

9.1 SOIL SAMPLE COLLECTION AND LABORATORY ANALYSES

On September 17, 2020, 50 soil samples (SS-1 through SS-50) were collected from a depth of approximately ½ foot using hand sampling equipment. The approximate sample locations are shown on Figure 2.

The soil samples were submitted to a state-certified laboratory for analyses. Each of the 50 soil samples was analyzed for OCPs (EPA Test Method 8081) and lead, arsenic, and mercury (EPA Test Method 6010B/7471A). Ten of the samples were selected and also analyzed for Total Petroleum Hydrocarbons (TPH) as diesel and motor oil (TPHd/TPHo) (EPA Test Method 8015, and TPH as gasoline (TPHg) (EPA Test Method 8260). Four were analyzed for volatile organic compounds (VOCs) (EPA Test Method 8260).

A discussion of the sampling protocol and copies of the laboratory reports are attached in Appendix E. The laboratory analytical results are summarized in Table A (attached).

As summarized in Table A, dieldrin, arsenic, lead and mercury were detected at concentrations exceeding residential DTSC-SLs² in 8 of 50 soil samples collected. These eight samples, as highlighted on Figure 2, were collected in the vicinity of the existing and former structures.

Dieldrin was detected at up to 0.15 mg/kg, exceeding the residential DTSC-SL of 0.034 mg/kg in four samples that were collected near the milking/milk storage structures and near the northernmost former residence.

Lead was detected at up to 120 mg/kg, exceeding the residential DTSC-SL of 80 mg/kg in two samples; one near the southernmost former residence and one just east of a feed/hay storage structure.

Mercury was detected at up to 37 mg/kg, exceeding the residential DTSC-SL of 13 mg/kg in one sample collected near a water supply well.

Arsenic was detected at up to 46 mg/kg, exceeding the typical background concentration of 11 mg/kg³ in one soil sample collected just east of the milking structure.

SECTION 10: FINDINGS, OPINIONS AND CONCLUSIONS (WITH RECOMMENDATIONS)

Cornerstone performed this Phase I ESA in general accordance with ASTM E1527-13 to support David J. Powers & Associates in evaluation of Recognized Environmental Conditions. Our findings, opinions and conclusions are summarized below.

10.1 HISTORICAL SITE USAGE

Based on the information obtained during this study, the Site historically has been used for agricultural purposes and operations by Escobar Dairy. Ford Construction and Tamura Iwanaga Landscaping also were identified as prior occupants. Two residences built during the 1950s and 1960s were previously located on-Site; these appear to have been demolished during the mid-2000s.

10.2 CHEMICAL STORAGE AND USE

Tamura & Iwanaga Inc. was identified as having a permit for generation of waste oil. No documentation of hazardous material use by other prior occupants was identified during this study and no hazardous materials were observed on-Site during our visit.

² DTSC-Screening Levels (DTSC-SLs) (DTSC, Human and Ecological Risk Office [Hero] Note 3, June, 2020). DTSC-SLs are used to screen sites for potential human health concerns where releases of chemicals to soil have occurred. DTSC-SLs are risk-based concentrations derived from standardized equations combining exposure information assumptions with toxicity data. Under most circumstances, the presence of a chemical in soil at concentrations below the corresponding screening level can be assumed not to pose a significant health risk.

³ Naturally occurring background concentrations of some metals in soil may exceed their respective DTSC-SLs. Cal/EPA generally does not require cleanup of soil to below background levels. This issue is frequently encountered with arsenic, and Cal/EPA recommends that site specific background levels be substituted for the published screening level.

10.3 SOIL QUALITY

Soil sampling was performed to evaluate potential impacts to soil quality from former agricultural and dairy operations, and associated Site features. Dieldrin, arsenic, lead and mercury were detected at concentrations exceeding residential DTSC-SLs in 8 of 50 soil samples analyzed. These samples were collected in the vicinity of the existing and former structures. The source of the elevated dieldrin and lead concentrations likely is related to the past application of termite control products and lead-containing paint, respectively. The source(s) of the elevated mercury and arsenic concentrations (in samples SS-9 and SS-10, respectively) is unknown. Sample SS-9 was collected adjacent to one of the two water supply wells, and SS-10 was collected east of the milking structure.

Mercury in the environment exists in several forms including metallic mercury (also known as elemental mercury) and inorganic mercury. Metallic mercury is the elemental or pure form of mercury (*i.e.*, it is not combined with other elements). Inorganic mercury compounds occur when mercury combines with elements such as chlorine, sulfur, or oxygen. These mercury compounds are also called mercury salts. As noted in Table A, the DTSC-SLs for elemental mercury and mercury salts are 1.0 mg/kg and 13 mg/kg, respectively. The mercury concentrations reported by the laboratory do not distinguish between mercury forms. Based on our experience, inorganic mercury salts are likely the predominant form in a soil environment. Thus, comparison of the detected concentrations to the DTSC-SL of 13 mg/kg appears appropriate; mercury was detected above this concentration only in sample SS-9.

Analyte concentrations exceeding residential screening criteria were not identified in soil samples collected from 1) the former orchard and row crop areas, 2) the soil stockpile, 3) the current and former stormwater retention basins and irrigation ponds, or 4) within drainage areas such as Tennant Creek. Thus, the majority of the Site appears suitable for residential use, as planned. At locations where contaminants were detected at concentrations exceeding the residential screening criteria, we recommend that additional sampling be conducted to evaluate the extent of the impacted soil. The sampling should be performed by an Environmental Professional following commonly accepted sampling protocols.

Based on the data obtained to date, remedial measures may be required to manage impacted soil and to limit potential health risks to future Site occupants and/or construction workers. The need for remedial measures is typically determined based on an evaluation of potential human health risks, which can vary based on the type of planned development and the potential for exposure to identified contaminants. The sampling recommended above will assist in further evaluating Site conditions. The following mitigation measures are recommended:

- An appropriate corrective action/risk management plan (*e.g.*, remedial action plan [RAP], removal action workplan [RAW] or Site Management Plan [SMP], etc.) should be prepared that reflects the results of the on-Site investigations. The corrective action/risk management plan should describe mitigation measures necessary to protect the health and safety of future Site occupants and establish appropriate management practices for handling and monitoring of impacted soil that may be encountered during construction activities. The corrective action/risk management plan should also describe protocols for the profiling of soil, if any, planned for off-Site disposal. The corrective action/risk management plan should be prepared by an Environmental Professional and be submitted to an appropriate overseeing regulatory agency (*e.g.*, Water Board, California Department of Toxic Substances Control [DTSC] or County Department of

Environmental Health [DEH]) for review. Regulatory agency approval should be obtained prior to commencing earthwork activities in the vicinity of the identified impacted soil. All mitigation measures should be completed under regulatory agency oversight and meet all applicable federal, state and local laws, regulations and requirements. Following completion, a report documenting compliance with the provisions of the corrective action/risk management plan and describing the work completed should be submitted to and approved by the overseeing regulatory agency.

10.4 PRIOR DOCUMENTS

Provided documents included a proposal (GeoSolve, 2017) for completion of a Phase I ESA and the collection of 40 soil samples to evaluate soil quality. Cornerstone was not provided with a report documenting the completion of the proposed work. If this work or similar work was completed by GeoSolve or by a different consultant, we recommend that copies of the associated reports be provided for review. Similarly, we recommend that a copy of the referenced soil sampling report by D.R. Horton be provided for review. These documents may contain information pertaining to the Site that is not readily available from other sources.

10.5 WATER SUPPLY WELLS AND SEPTIC SYSTEMS

Two water supply wells were observed on-Site. Abandoned wells (*i.e.*, those that are not properly destroyed) can act as a conduit for the vertical migration of groundwater contamination. Also, if groundwater 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, all on-Site wells not intended for future use should be properly destroyed in accordance with Santa Clara Valley Water District (Valley Water) Ordinance 90-1.

Although not observed, septic systems likely were present at the locations of the former residences. If septic systems are encountered during redevelopment activities, they should be properly abandoned in accordance with applicable regulations.

10.6 POTENTIAL ENVIRONMENTAL CONCERNS WITHIN THE SITE VICINITY

Based on the information obtained during this study, no other hazardous material spill incidents have been reported in the Site vicinity that would be likely to significantly impact the Site.

Two below ground natural gas transmission pipelines operated by PG&E traverse the eastern portion of the Site. The presence of these pipelines does not meet the definition of a Recognized Environmental Condition per ASTM E 1527-13; however, we recommend that the planned development be coordinated with PG&E and appropriate state and/or local authorities.

10.7 ASBESTOS CONTAINING BUILDING MATERIALS (ACBMS)

Due to the age of the on-Site structures, building materials may contain asbestos. Because demolition 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 ACBMs prior to building demolition or renovation that may disturb the ACBM.

10.8 LEAD-BASED PAINT

In 1978, the Consumer Product Safety Commission banned lead-containing paints and coatings sold for consumer use. Some lead-containing products, such as industrial coatings, however, are still allowed. Based on the age of the existing buildings, lead-containing paint may be present. If demolition is planned, the removal of lead-containing paint is not required if it is bonded to the building materials. However, if the lead-containing paint is flaking, peeling, or blistering, it should 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 or soil containing lead must be disposed appropriately.

10.9 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:

- Contact information for the former occupants and owners of the Site was not provided to us. Thus, former occupants and owners were not interviewed during this study. The general environmental setting of the Site appears to have been established based on the information reviewed from other data sources. We do not consider this data gap to be significant.
- Files at the Morgan Hill Building Department were not available at the time of this study due to City office closures associated with COVID-19. Based on the history of the Site and information reviewed from other data sources, it appears unlikely that the Building Department would have information that would significantly alter the findings of this study. We do not consider this data gap to be significant.

10.10 DATA FAILURES

As described by ASTM Standard Designation E 1527-13, a data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the historical research objectives have not been met. Data failures are not uncommon when attempting to identify the use of a Site at five year intervals back to the first use or to 1940 (whichever is earlier). ASTM Standard Designation E 1527-13 requires the Environmental Professional to comment on the significance of data failures and whether the data failure affects our ability to identify Recognized Environmental Conditions. A data failure by itself is not inherently significant; it only becomes significant if it raises reasonable concerns. No significant data failures were identified during this Phase I ESA:

10.11 RECOGNIZED ENVIRONMENTAL CONDITIONS

Cornerstone has performed a Phase I ESA in general conformance with the scope and limitations of ASTM E 1527-13 of 16480 Hill Road, Morgan Hill, California. This assessment identified the following Recognized Environmental Conditions⁴.

- Dieldrin, arsenic, lead and mercury were detected at concentrations exceeding residential DTSC-SLs in several soil samples that were collected in the general vicinity of the existing and former structures on the western portion of the Site. Appropriate management of this soil appears required.

SECTION 11: LIMITATIONS

Cornerstone performed this 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 Phase I ESA can wholly eliminate uncertainty regarding the potential for Recognized Environmental Conditions to be present at the Site. This 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.

Findings, opinions, conclusions and recommendations presented in this report are based on readily available information, conditions readily observed at the time of the Site visit, and/or information readily identified by the interviews and/or the records review process. 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, groundwater, soil vapor and/or air 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.

David J. Powers & Associates may have provided Cornerstone environmental documents prepared by others. David J. Powers & Associates understands that Cornerstone reviewed and relied on the information presented in these reports and cannot be responsible for their accuracy.

⁴ The presence or likely presence of hazardous substances or petroleum products on the Site: 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.

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

Villages at Jackson Square
16480 Hill Road
Morgan Hill, CA

Project Number

118-121-1

Figure Number

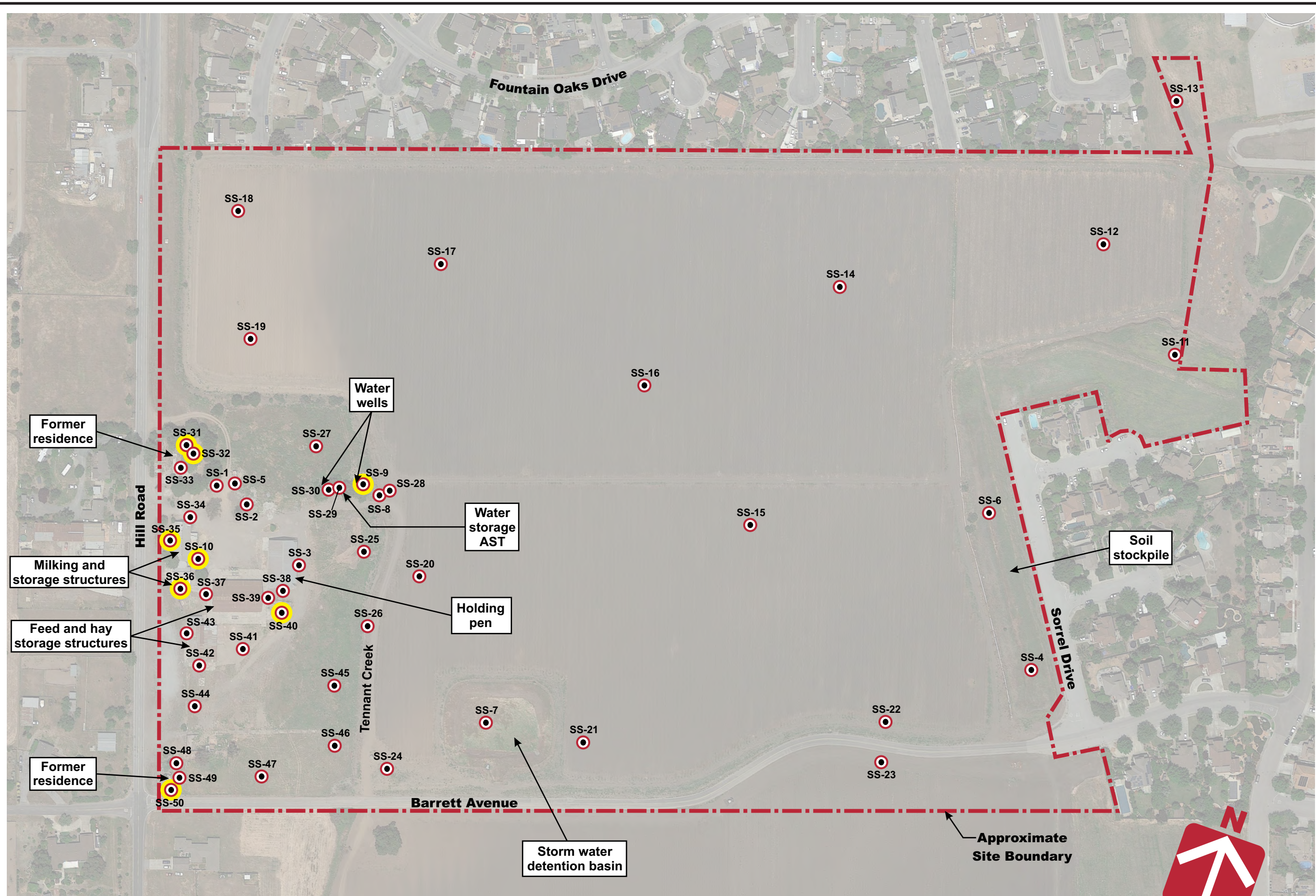
Figure 1

Date

September 2020

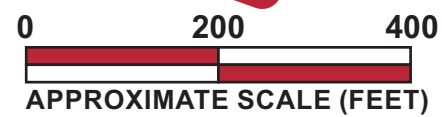
Drawn By

RRN



Base by Google Earth, dated 05/09/2018

- Legend**
- Approximate location of soil sample (SS)
 - Detected contaminant concentration exceeds residential screening criteria (see data Table A)



Project Number 118-121-1	Figure Number Figure 2	Date October 2020	Drawn By RRN

Site Plan	Villages at Jackson Square 16480 Hill Road Morgan Hill, CA


**CORNERSTONE
EARTH GROUP**

Table A. Analytical Results of Soil Samples - OCPs/Metals/TPH
(Concentrations in mg/kg)

Sample ID	Date	Depth (feet)	OCPs											Metals			TPH	
			4,4'-DDD	4,4'-DDE	4,4'-DDT	DDT Total	alpha-BHC	Dieldrin	Endosulfan sulfate	Heptachlor epoxide	alpha-Chlordane	gamma-Chlordane	Technical Chlordane	Arsenic	Lead	Mercury	TPHd	TPHo
SS-1	9/17/2020	0-%	0.0012	0.036	0.02	0.0572	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.0051	6.8	16	0.087	3.7	36
SS-2	9/17/2020	0-%	<0.001	0.0015	0.0014	0.0029	<0.001	<0.00021	<0.001	<0.001	0.0012	<0.001	0.0052	3.8	5.7	0.14	44	520
SS-3	9/17/2020	0-%	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.001	<0.0052	<0.0052	<0.0052	<0.0052	<0.026	5	11	0.1	11	140
SS-4	9/17/2020	0-%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00021	<0.001	<0.001	<0.001	<0.001	<0.0052	2.8	4.8	0.044	<5.1	65
SS-5	9/17/2020	0-%	<0.001	0.002	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.0051	5	12	0.21	<20	160
SS-6	9/17/2020	0-%	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.00021	<0.0011	<0.0011	<0.0011	<0.0011	<0.0053	3.6	5.9	<0.042	2.1	29
SS-7	9/17/2020	0-%	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.00024	<0.0012	<0.0012	<0.0012	<0.0012	<0.0059	4	6	0.054	2.6	38
SS-8	9/17/2020	0-%	<0.0011	0.0043	<0.0011	0.0043	<0.0011	<0.00021	<0.0011	<0.0011	0.0025	0.0023	0.017	6.5	21	0.12	8.7	49
SS-9	9/17/2020	0-%	0.0077	0.012	0.0022	0.0219	<0.0011	<0.00021	<0.0011	<0.0011	0.0078	0.0028	0.022	8.4	26	37	100	440
SS-10	9/17/2020	0-%	<0.001	0.0016	<0.001	0.0016	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.005	46	7.3	0.064	22	250
SS-11	9/17/2020	0-%	<0.0011	0.0078	0.0012	0.009	<0.0011	<0.00022	<0.0011	<0.0011	<0.0011	<0.0011	0.0066	4.2	6.6	0.055	---	---
SS-12	9/17/2020	0-%	<0.0011	0.0092	0.0052	0.0144	<0.0011	<0.00021	<0.0011	<0.0011	0.0012	<0.0011	0.011	5.5	8.2	0.069	---	---
SS-13	9/17/2020	0-%	<0.001	0.014	0.0045	0.0185	<0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.0052	4.3	9.6	0.062	---	---
SS-14	9/17/2020	0-%	<0.0011	0.0038	<0.0011	0.0038	<0.0011	<0.00021	<0.0011	<0.0011	<0.0011	<0.0011	<0.0053	4.7	7.5	<0.041	---	---
SS-15	9/17/2020	0-%	<0.0011	0.0013	<0.0011	0.0013	<0.0011	<0.00022	<0.0011	<0.0011	<0.0011	0.0012	0.014	4.5	8.1	<0.041	---	---
SS-16	9/17/2020	0-%	<0.0011	0.0023	<0.0011	0.0023	<0.0011	<0.00021	<0.0011	<0.0011	<0.0011	<0.0011	<0.0053	3.8	7	<0.040	---	---
SS-17	9/17/2020	0-%	<0.0011	0.005	0.0022	0.0072	<0.0011	<0.00021	<0.0011	<0.0011	<0.0011	<0.0011	<0.0054	4	7.1	<0.047	---	---
SS-18	9/17/2020	0-%	<0.001	0.0013	<0.001	0.0013	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.0051	5.2	8.4	0.038	---	---
SS-19	9/17/2020	0-%	<0.001	0.004	<0.001	0.004	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.0051	4.7	7.9	<0.044	---	---
SS-20	9/17/2020	0-%	<0.001	0.0012	0.001	0.0022	<0.001	<0.00021	<0.001	<0.001	<0.001	<0.001	0.016	3.7	6.2	<0.044	---	---
SS-21	9/17/2020	0-%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00021	<0.001	<0.001	<0.001	<0.001	0.0072	4.9	8.3	0.046	---	---
SS-22	9/17/2020	0-%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00021	<0.001	<0.001	0.0019	0.0016	0.01	3.9	6.7	<0.044	---	---
SS-23	9/17/2020	0-%	0.0013	<0.0011	<0.0011	0.0013	<0.0011	0.00093	<0.0011	<0.0011	0.0025	0.0014	0.0099	3.6	6	<0.041	---	---
SS-24	9/17/2020	0-%	<0.001	<0.001	<0.001	<0.001	<0.001	0.00039	<0.001	<0.001	<0.001	<0.001	<0.0051	4.2	6.9	0.057	---	---
SS-25	9/17/2020	0-%	<0.0051	0.019	0.0067	0.0257	<0.001	0.0007	<0.001	<0.001	0.0017	0.0013	0.01	5.1	12	0.079	---	---
SS-26	9/17/2020	0-%	<0.0011	0.002	<0.0011	0.002	<0.0011	0.00041	<0.0011	<0.0011	<0.0011	<0.0011	0.018	5.7	14	0.048	---	---
SS-27	9/17/2020	0-%	<0.01	0.018	<0.01	0.018	<0.01	0.0028	<0.01	<0.01	<0.01	<0.01	<0.052	6.5	17	0.14	---	---
SS-28	9/17/2020	0-%	0.0019	0.0069	<0.0011	0.0088	<0.0011	0.0018	<0.0011	<0.0011	<0.0011	<0.0011	0.021	5	7.4	0.054	---	---
SS-29	9/17/2020	0-%	<0.0053	0.0079	0.025	0.0329	<0.0011	0.0054	0.005	<0.0011	0.027	0.023	0.11	4.2	34	1.4	---	---
SS-30	9/17/2020	0-%	0.015	0.0056	0.0091	0.0297	0.034	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.0051	6.7	38	0.095	---	---
SS-31	9/17/2020	0-%	<0.0051	0.054	0.0055	0.0595	<0.001	0.15	<0.001	0.0028	0.072	0.017	0.095	5.6	19	0.087	---	---
SS-32	9/17/2020	0-%	<0.01	0.013	<0.01	0.013	<0.001	0.037	<0.001	0.004	0.043	0.017	0.11	6.8	22	0.09	---	---
SS-33	9/17/2020	0-%	0.0022	0.015	<0.001	0.0172	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.0051	5.6	8.9	<0.041	---	---
SS-34	9/17/2020	0-%	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.051	4.6	19	0.11	---	---
SS-35	9/17/2020	0-%	0.082	0.47	0.025	0.577	<0.0011	0.052	<0.0011	<0.0011	0.0018	<0.0011	<0.0055	4.9	23	0.093	---	---
SS-36	9/17/2020	0-%	<0.01	0.16	<0.01	0.16	<0.01	0.059	0.021	<0.01	<0.01	<0.01	<0.052	4.8	28	0.072	---	---
SS-37	9/17/2020	0-%	0.0018	0.0055	<0.001	0.0073	<0.001	0.0008	<0.001	<0.001	0.0024	0.0076	0.04	2.7	23	0.054	---	---
SS-38	9/17/2020	0-%	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.05	4	16	0.064	---	---
SS-39	9/17/2020	0-%	<0.001	0.0074	0.0065	0.0139	<0.001	<0.0002	<0.001	<0.001	0.0014	0.0018	<0.0051	8.4	71	0.057	---	---
SS-40	9/17/2020	0-%	0.092	0.12	0.055	0.267	<0.02	<0.0041	<0.02	<0.02	<0.02	<0.02	<0.1	5.5	120	0.13	---	---
SS-41	9/17/2020	0-%	<0.001	0.014	0.015	0.029	<0.001	0.00036	<0.001	<0.001	<0.001	<0.001	<0.0051	5	16	0.064	---	---
SS-42	9/17/2020	0-%	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.001	<0.0051	<0.0051	<0.0051	<0.0051	<0.025	1.9	5.9	0.059	---	---
SS-43	9/17/2020	0-%	<0.001	0.015	0.0036	0.0186	<0.001	0.0089	<0.001	<0.001	0.001	<0.001	<0.005	4.1	11	0.066	---	---
SS-44	9/17/2020	0-%	<0.001	0.0048	<0.001	0.0048	<0.001	<0.00021	<0.001	<0.001	<0.001	<0.001	<0.0052	3.1	6.1	0.053	---	---
SS-45	9/17/2020	0-%	0.21	0.31	0.098	0.618	<0.001	0.0078	<0.001	0.0016	0.28	0.33	0.85	4.9	21	0.053	---	---
SS-46	9/17/2020	0-%	<0.0011	0.0041	0.0011	0.0052	<0.0011	0.00038	<0.0011	<0.0011	<0.0011	<0.0011	0.018	5.8	9.2	0.064	---	---
SS-47	9/17/2020	0-%	0.0012	0.022	0.0021	0.0253	<0.0011	0.00022	<0.0011	<0.0011	<0.0011	<0.0011	0.019	5	11	0.065	---	---
SS-48	9/17/2020	0-%	0.0044	0.035	0.0043	0.0437	<0.0011	0.0015	<0.0011	<0.0011	0.011	0.016	0.043	4.3	18	0.069	---	---
SS-49	9/17/2020	0-%	<0.001	0.025	<0.001	0.025	<0.001	0.00052	<0.001	<0.001	0.012	0.0091	0.045	4.9	16	0.06	---	---
SS-50	9/17/2020	0-%	<0.001	0.0083	<0.001	0.0083	<0.001	0.0013	<0.001	0.002	0.022	0.012	0.086	5.2	120	0.064	---	---
Maximum Detection			0.21	0.47	0.098	0.618	0.034	0.15	0.021	0.004	0.28	0.33	0.85	46	120	37	100	520
Residential DTSC-SL ¹			2.3	2	1.9	1 ²	0.086 ³	0.034	380	0.07	1.7 ⁴	1.7 ⁴	1.7	11 ⁵	80	1 (13) ⁶	260 ⁷	1,600 ⁷

- 1 Residential DTSC-Screening Level. DTSC, Human and Ecological Risk Office [Hero] Note 3, June, 2020.
- 2 Total Threshold Limit Concentration - California Code of Regulations, Title 22.
- 3 US EPA Regional Screening Level (RSL), May 2020.
- 4 Residential DTSC-SL for Chlordane
- 5 Typical background arsenic concentration. Duverge, 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*.
- 6 Residential DTSC-SL for elemental Mercury. The value in parentheses is for inorganic mercury (*i.e.*, mercury salts).
- 7 Tier 1 Environmental Screening Level (ESL), RWQCB, San Francisco Bay Region, January 2019.
- < Not detected at or above laboratory reporting limit
- Not Analyzed

BOLD Concentration exceeds residential screening criteria

APPENDIX A – DATABASE SEARCH REPORT

APPENDIX B – HISTORICAL AERIAL PHOTOGRAPHS AND TOPOGRAPHIC MAPS

APPENDIX C – LOCAL STREET DIRECTORY SEARCH RESULTS

APPENDIX D – QUESTIONNAIRE AND PROVIDED DOCUMENTS

APPENDIX E – SOIL SAMPLING PROTOCOL AND LABORATORY REPORTS

Sampling Protocol: Soil samples for laboratory analyses were collected in clean stainless steel liners using hand sampling equipment. The ends of the liners were covered in a Teflon film, fitted with plastic end caps, and labeled with a unique sample identification number. The samples were then placed in an ice-chilled cooler and transported to a state-certified laboratory with chain of custody documentation.