

Master City of San José Consultant Agreement
Approved Service Order
(Non-Capital Projects)

Cover Page

1a. Intentionally Omitted **1b.** AC Contract No.: 32001 (GILES OC-000369)

2. Approved Service Order No. 24

3. Consultant's Name: Cornerstone Earth Group, Inc. ("Consultant")

4. Project Name: FS32 Additional Investigation ("Project")

5. Project Location: 1138 Olinder Court, San Jose, CA 95122

6. The Consultant and the City will implement this Approved Service Order in accordance with the Master Agreement, this cover page and Attachments "A" (Tasks), "B" (Terms and Conditions), and "C" (Compensation Table), which are incorporated herein by references.

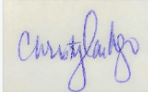
7. Budget/Fiscal:

a. Current unencumbered amount in Master Agreement:	\$	355,191
b. Maximum Service Order Compensation for this Approved Service Order:	\$	37,405
c. New unencumbered balance in Master Agreement (7.a – 7.b):	\$	317,786

d. **Appropriation Certification:** I certify that an unexpended appropriation in the amount of the Maximum Service Order Compensation is available in the following fund(s) and that such fund(s) will be encumbered to pay for this Approved Service Order.

Fund: 498 (Dept. 76) Appn: 415A RC: 198401 Amount: \$37,405

Authorized Signer:


Email: christy.ngo@sanjoseca.gov
Date: 03/17/2023 GMT

8. Division Analyst Approval:


Email: sanjay.krishnaswamy@sanjoseca.gov
Date: 03/17/2023 GMT

9. Consultant Approval:


Email: cheiny@cornerstoneearth.com
Date: 03/17/2023 GMT

10. Approval as to Form (City Attorney):

Service Order Form Approved by the Office of the City Attorney
(Maximum Service Order Compensation is \$100,000 or less, and the provisions of the service order form are not altered.)

Approved as to Form:

(Sr.) Deputy City Attorney

11. City Director Approval:

Napp Fukuda

Email: napp.fukuda@sanjoseca.gov
Date: 03/20/2023 GMT

Attachment A: Tasks

The Consultant shall provide the services and deliverables set forth in this **Attachment A**. The Consultant shall provide all services and deliverables required by this **Attachment A** to the satisfaction of the City's contract manager.

General Description of Project for which Consultant will Provide Services: The City is planning to construct a fire station (Fire Station 32) on the approximately 1-acre Site. Based on information reviewed in the *Phase I Environmental Site Assessment* (ESA) prepared by ODIC Environmental (2016), the Site was used for agricultural purposes until at least 1971 when Eachus Construction Company (Eachus) began using the Site for construction equipment storage and maintenance. The Phase I ESA reported two underground storage tanks (USTs) were used by Eachus for equipment fueling purposes. These USTs reportedly were removed; however, no information is available documenting the condition of the USTs during removal or if impacted soil or groundwater was encountered during removal. Previous subsurface investigations performed by AEI Consultants and Consultant indicated the presence of benzene, bromodichloromethane, and chloroform at concentrations exceeding the Tier 1 Environmental Screening Levels (ESLs) in soil vapor and diesel-range petroleum hydrocarbons (TPHd) at concentrations exceeding the Maximum Contaminant Level (MCL) in groundwater. Fill material within the upper approximately 2 to 3 feet of soil contains naturally occurring asbestos and elevated metal concentrations associated with serpentinite material (nickel, chromium, and cobalt).

The City entered into a Remedial Action Agreement (RAA) with the Department of Environmental Health (DEH) on December 15, 2021. After review of the previous environmental reports, the DEH issued a directive letter on March 3, 2022, that required further Site assessment to better define the extent of volatile organic compounds (VOCs) in soil vapor and TPHd downgradient from the reported location of the former USTs. The Consultant submitted the *Groundwater and Soil Vapor Assessment Workplan (Workplan)* dated May 4, 2022. The DEH approved this workplan in a letter dated May 17, 2022, and the Consultant performed the field activities on June 7, 2022. Based on the results of the June 2022 Site assessment, the DEH recommended the collection of additional soil, soil vapor, and groundwater samples. The Consultant submitted a workplan via email that proposed this additional Site assessment work, and the DEH concurred with the approach in an email dated August 18, 2022. The Consultant performed the additional Site assessment work on September 22, 2022. Results from the June and September 2022 Site assessments were presented in the Site Management Plan (SMP) dated October 21, 2022.

The DEH conditionally approved the SMP in a letter dated January 9, 2023 but required additional Site assessment to further evaluate the impacts to groundwater and soil vapor beneath the Site. The DEH required submittal of a workplan to further assess the following data gaps:

- Collection of groundwater samples to the west-northwest of previous sample location EB-7 to further assess the extent of TPHd in groundwater.
- Collection of soil vapor samples to the east and south of previous soil vapor samples SV-10 and SV-13 to further assess the extent of trichloroethene (TCE), and the collection of soil samples from this area to evaluate the presence of a TCE source area.
- Collection of soil vapor samples to the north and east of sample SV-11 and to the north and west of sample SV-6 to further assess the extent of benzene in soil vapor.

The DEH letter requires preparation of an *Additional Groundwater and Soil Vapor Assessment Report* that will present the results of this assessment.

The purpose of this service order is to prepare a workplan for submittal to the DEH that will propose the collection and analysis of soil vapor and groundwater samples per their January 9, 2023 letter; implementation of the approved workplan; and preparation of a report for submittal to the DEH that will present results from this assessment.

Task No. 1: Workplan Preparation

- A. Services:** Consultant will prepare a workplan per the January 9, 2023 DEH letter that proposes the sampling and analysis work presented in Task 2. Consultant will submit a draft workplan for City review. After addressing any comments from the City, the final workplan will be submitted to the DEH via Geotracker for review and approval. Consultant anticipates the DEH will have comments to the first workplan submittal. This task includes addressing one round of comments from the DEH and issuance of a revised workplan.
- B. Deliverable:** The Consultant will provide the following to the City's Contract Manager: Draft and Final Workplan.
- C. Completion Time:** The Consultant must complete the services and deliverables for this task in accordance with whichever one of the following time is marked:
- On or before the following date: _____.
- On or before 25 Business Days from execution of this service order.

Task No. 2: Additional Soil Vapor and Groundwater Assessment

- A. Services:** Consultant will implement the DEH-approved Workplan to further evaluate the extent of TPHd in groundwater, extent TCE and benzene in soil vapor, and the presence of a TCE source area near previous sample location SV-10. This assessment will include the following:
- Collection of groundwater samples from three (3) exploratory borings on the western side of the Site to further delineate the extent of TPHd in groundwater.
 - Collection of 5-foot and 15-foot soil vapor samples from four (4) exploratory borings advanced along the eastern side of the Site and one (1) exploratory boring advanced north of SV-6 to assess the extent of benzene and/or TCE in soil vapor.
 - Collection of soil samples from selected borings and depths along the eastern side of the Site to assess the presence of an on-Site source area.

The exploratory borings will be advanced using a direct push drilling rig as discussed below.

Pre-Field Activities

Utility Clearance

Prior to performing field work, Consultant will mark boring locations at least three (3) working days prior to beginning the explorations as required by law, and notify the regional utility notification center – Underground Service Alert (USA), and the City, so that public and private utilities can be identified and marked at the ground surface. Where practical Consultant will mark the locations in white paint, or otherwise designate the exploration locations, as requested by USA. Utility operators/owners are required to mark their utilities at the ground surface prior to the start of work. California law requires that Consultant receive notification that the marked exploration locations have been cleared by each subscribing utility operator with nearby facilities before proceeding with the exploration. Failure of these utility operators to respond with the status of their facilities may result in delays to the schedule that is outside of Consultant's control.

To reduce the risk of damaging unidentified underground utilities during drilling, Consultant will also contract with a private utility locator. Consultant also requests that City forward a copy of utility location plans or drawings, if available, to aid in determining the exploration locations.

Permits and Site Access

Drilling permits through the Santa Clara Valley Water District (SCVWD) will not be required since the planned boring depth is less than 45 feet. The project is not within the public right-of-way and, therefore, encroachment permits will not be required.

Consultant will coordinate Site access through the City.

Exploratory Borings

A Consultant field geologist or engineer will direct a subsurface investigation and implement the DEH-approved Workplan. The field staff will continuously log each boring in general accordance with the Unified Soil Classification System (USCS) (ASTM D-2487), and sample exploratory borings at seven (7) locations to depths up to approximately 25 feet for the collection of soil, soil vapor, and/or groundwater samples.

A direct push drilling rig will be used to advance each exploratory boring to the desired depth and to assist with retrieving soil and groundwater samples. The direct push drilling rig will also be used to assist with the installation of the soil vapor probes. The direct push drilling rig will be equipped with a dual wall sampler that consists of an inner sampling barrel and an outer steel casing. The outer steel casing helps protect the integrity of the boring during sample collection and helps prevent cross contamination between different sampling intervals. The inner casing is fitted with an approximately 5-foot long acetate liner that retains soil as the casing is advanced. As the direct push drilling rig advances the dual wall sampler, in-situ soil is retained within the inner acetate liner. Once the sampler has been advanced approximately 5-feet, the acetate liner is retrieved leaving the core barrel in place and is then replaced with a new acetate liner for the next 5-foot interval. This procedure is repeated until the desired boring depth is achieved.

An organic vapor meter (OVM) will be used to measure volatile vapors within the soil retained from each boring. For each 5-foot section of soil retrieved from an exploratory boring, a small hole will be drilled through the acetate liner at approximately 1-to-2-foot intervals, and the OVM probe will be inserted into the hole to record the volatile vapor concentrations. The subsurface material observations and OVM readings will be recorded on the boring logs.

Soil Sampling and Analysis

Soil samples will be collected for laboratory analysis from the five (5) locations where temporary soil vapor probes will be installed (discussed below). The soil samples will be collected from depths corresponding to the temporary vapor probe installation depth, which is anticipated to be approximately 5-feet and 15-feet at each location. Additional samples may be collected for laboratory analysis based on subsurface observations, OVM readings, and/or other signs of apparent contamination.

The ten (10) soil samples will be analyzed for VOCs and gasoline-range petroleum hydrocarbons (TPHg) (EPA Test Method 8260B). Consultant e will request a standard 5- to 7-business day laboratory response time; however, the actual response will depend on the laboratory's workload.

Groundwater Sample Collection and Analysis

Three (3) exploratory borings will be advanced approximately 5 feet below the shallow groundwater surface. Groundwater was encountered at depths of approximately 10 to 18 feet in exploratory borings advanced during the previous subsurface assessment. Consultant anticipates the exploratory borings will be advanced up to depths of approximately 25-feet; however, the borings will not be advanced deeper than 45 feet, which is the depth that triggers a permit through the SCVWD.

Once groundwater has been encountered, a slotted section of PVC pipe will be inserted into the boring through the direct push rod. Enough blank PVC pipe will be connected to the slotted section until the bottom of the pipe reaches the total boring depth. The direct push rods will be withdrawn approximately 2

to 3 feet to allow groundwater flow into the open boring. Groundwater grab samples will be collected using either a peristaltic pump and clean (new) tubing or a new disposable bailer. The groundwater samples will be collected in laboratory-provided containers, preserved where appropriate, labeled with a unique identifier, and transported to the project laboratory under chain of custody control.

The groundwater samples will be analyzed for TPHd (EPA Test Method 8015). One duplicate groundwater sample will be collected from one (1) randomly selected location. The duplicate sample will also be analyzed for TPHd. We will request a standard 5- to 7-business day laboratory response; however, the actual response will depend on the laboratory's workload.

Soil Vapor Probe Installation and Sampling

Temporary soil vapor probes will be installed at five (5) locations. Each location will consist of paired shallow and deep soil vapor probes (ten (10) total soil vapor probes) installed to depths of approximately 5 and 15 feet, respectively. The soil vapor probes will be installed using a direct push drilling rig as discussed below.

Vapor Probe Construction

The ten (10) temporary soil vapor probes will be installed to depths of approximately 5 and 15 feet using the direct push drilling rig. Each probe will consist of a stainless-steel expendable vapor tip and screen affixed to Teflon™ tubing. The probes will be constructed by first placing approximately 2 inches of coarse aquarium sand into the bottom of the borehole using a tremie pipe. The stainless-steel tip and tubing will then be lowered into the borehole via a tremie pipe. Additional sand is then placed in the borehole via tremie to create an approximately 1-foot sand pack interval around the vapor tip. Approximately 1 foot of granular bentonite (Benseal™) will be placed on top of the sand pack via the tremie pipe. Bentonite "gel" will be mixed utilizing a power drill and paddle (creating the consistency of porridge, but to the viscosity that would allow for flow in a ¾ inch diameter PVC tremie pipe through a funnel). The bentonite gel will then be placed via tremie pipe on top of the dry granular bentonite to the approximate ground surface. The Teflon™ tubing will be labeled with depth of placement and capped utilizing a vapor-tight Swagelok valve set in the "off" position. If necessary, the temporary wells will be protected from tampering by installing a surface mounted 6-inch diameter vault box.

Vapor Sampling Procedure

Per Department of Toxic Substances Control (DTSC) guidance for probes installed using a direct push drilling rig, vapor sampling will be performed at least 2 hours after completing well construction activities. The tubing emanating from the vapor points will be affixed to a sample shut-off valve in the "off" position during the time needed to reach equilibrium (at least 2 hours). A 167 milliliters-per-minute flow regulator inclusive of particulate filter will be fitted to the shut-off valve and the other end to a "T" fitting. One end of the "T" will be connected to the sampling summa canister. The other end of the "T" will be affixed to a digital vacuum gauge and a 1-liter summa canister utilized for purging.

A minimum 10-minute vacuum tightness test will be performed on the manifold and connections by opening and closing the 1-liter purge canister valve and applying and monitoring a vacuum on the vacuum gauge. The sample shut-off valve on the downhole side of the sampling manifold will remain in the "off" position. When gauge vacuum is maintained for at least 10 minutes without any noticeable decrease (less than approximately 0.1 inches of mercury (Hg) for properly connected fittings), purging will begin. The downhole shut off valve will be opened, and three pore volumes will be removed utilizing the purging summa. Purge volumes of vapor will be removed and verified by the calculated pressure drop in the 1-liter summa canister utilized for purging. The purge volume will be calculated based on the length and inner diameter of the sampling probe and the connected sampling tubing and equipment. Assuming the vapor probe has been properly sealed, the borehole sand pack vapor space will have equilibrated with the surrounding vapors following the 2-hour equilibration period. Thus, the sand pack vapor space will not be included in the purge volume calculation.

Isopropyl alcohol will be utilized as a leak detection compound during sampling by applying 5 drops to cotton gauze and placing the moistened gauze near the borehole. Sampling will begin by opening the summa canister valve. Immediately upon opening the sampling valve, a shroud will be placed over and enclose the atmosphere of the borehole and entire sampling train including all connections. Sampling will continue until the vacuum gauge indicates approximately 5 inches of Hg remaining. A datalogging photoionization detector (PID) will be utilized during sampling to monitor the atmosphere inside the shroud through a bulk-head fitting. The logged data (at minimum 30 second intervals) will be corrected to parts per million by volume isopropyl alcohol concentrations and utilized to evaluate the integrity of the sampling train.

To confirm the isopropyl alcohol atmosphere, one confirmation Tedlar bag sample (approximately 20 percent of the total number of samples collected) will be collected from the shroud atmosphere through the sampling port of the PID. Alternatively, the confirmation samples may be collected using a summa connected to a flow controller within the shroud during sample collection. One simultaneous duplicate sample will be collected from one location utilizing a "T" fitting. All field data, including equilibrium time, purge volume calculations and leak check measurements will be recorded and presented in the final report.

One (1) replicate sample will be collected from one randomly selected temporary probes. The replicate sample will be collected immediately following collection of the co-located soil vapor sample. The ten (10) soil vapor samples and one replicate sample will be analyzed for VOCs and TPHg (EPA Test Method TO-15) and fixed gasses oxygen, carbon dioxide, and methane (ASTM D1946). We will request a standard one-week laboratory response. Actual laboratory response will depend on the laboratory's availability.

- B. **Deliverable:** The Consultant will provide the following to the City's Contract Manager Laboratory Testing Results.
- C. **Completion Time:** The Consultant must complete the services and deliverables for this task in accordance with whichever one of the following time is marked:
 - On or before the following date: _____.
 - On or before 20 Calendar Days from Task 1 completion.

Task No. 3: Reporting

- A. **Services:** Consultant will present the results from this assessment in an Additional Groundwater and Soil Vapor Assessment Report. This report will include the results from the previous Site assessments and will provide conclusions/recommendations where appropriate. A draft report will be issued for the City's review. After incorporating any comments from the City, Consultant will issue a final report to the DEH for their review. This task includes addressing one round of comments from the DEH and submittal of a revised report. The report, along with the analytical data from Task 2, will be uploaded to Geotracker per DEH requirements.
- B. **Deliverable:** The Consultant will provide the following to the City's Contract Manager: Report.
- C. **Completion Time:** The Consultant must complete the services and deliverables for this task in accordance with whichever one of the following time is marked:
 - On or before the following date: _____.
 - On or before 15 Business Days from Task 2 completion.

Attachment B: Terms and Conditions

1. **City's Contract Manager:** The City's contract manager for this Approved Service Order is:

Name: Geoff Blair	Phone No.: 408-975-2576
Department: Environmental Services	Email: Geoffrey.Blair@sanjoseca.gov
Address: 200 E. Santa Clara Street, San José, CA 95113	

2. **Consultant's Contract Manager and Other Staffing:** Identified below are the following: (a) the Consultant's contract manager for this Approved Service Order, and (b) the Consultant(s) and/or employee(s) of the Consultant who will be principally responsible for providing the services and deliverables. ***If an individual identified below does not have a current Form 700 on file with the City Clerk for a separate agreement with the City, and is required to file a Form 700, the Consultant must comply with the requirements of Subsection 17.2 of the Master Agreement, entitled "Filing Form 700."***

		<u>Required to File Form 700?</u>		
		Yes Already Filed (Date Filed)	Yes Need to File	No
<u>Consultant's Contract Manager</u>				
Name: Chris Heiny, Principal Geologist	Phone No.: 925-705-5063			X
Address: 1220 Oakland Blvd, Suite 220, Walnut Creek, CA 94596	Email: cheiny@cornerstoneearth.com			
<u>Other Staffing</u>				
<u>Name:</u>	<u>Assignment:</u>	<u>Email:</u>		
1. Michael Chang	Senior Project Engineer	mchang@cornerstoneearth.com		X
2.				
3.				

3. Subconsultants: Whichever of the following is marked applies to this Approved Service Order:

- The Consultant can **not** use any subconsultants.
- The Consultant can use the following subconsultants to assist in providing the required services and deliverables:

<u>Subconsultant's Name</u>	<u>Area of Work</u>
1. Torrent Laboratories	Laboratory Testing
2. SVC Environmental, Inc.	Soil Vapor Probe Sampling
3. Penecore	Drilling Subcontractor
4. Underground Locating Specialists	Utility Locator

4. Reimbursable Expenses: If the Compensation Table set forth in **Attachment C** of this Approved Service Order states that the City will reimburse the Consultant for expenses, then only the expenses identified in Subsection 10.5.3 of the Master Agreement are Reimbursable Expenses unless the following box is marked and additional reimbursable expenses are set forth:

- In addition to the expenses identified in Subsection 10.5.3 of the Master Agreement, the following expenses are Reimbursable Expenses:

<u>Additional Reimbursable Expense(s)</u>	<u>Mark-up</u>
1. _____	_____
2. _____	_____
3. _____	_____

Notwithstanding the foregoing, any additional reimbursable expense(s) set forth in the above table will be disregarded if the Compensation Table states that the City will *not* reimburse the Consultant for any expenses.

Attachment C: Compensation Table

The City will compensate the Consultant for providing the services and deliverables set forth in **Attachment A** in accordance this Compensation Table. This Compensation Table is subject to the terms and conditions set forth in the Master Agreement, including without limitation Section 10 of the Master Agreement.

Part 1 – Compensation for Services and Deliverables						
Column 1	Column 2		Column 3			Column 4
Task Nos. from Attachment A	Basis of Compensation		Invoice Period			Compensation
1	<input type="checkbox"/> Time & Materials	<input checked="" type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s)	<input type="checkbox"/> Completion of Work	\$3,500
2	<input type="checkbox"/> Time & Materials	<input checked="" type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s)	<input type="checkbox"/> Completion of Work	\$28,405
3	<input type="checkbox"/> Time & Materials	<input checked="" type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s)	<input type="checkbox"/> Completion of Work	\$5,500
	<input type="checkbox"/> Time & Materials	<input type="checkbox"/> Fixed Fee	<input type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s)	<input type="checkbox"/> Completion of Work	\$
Part 2 – Reimbursable Expenses						
<input checked="" type="checkbox"/> No expenses are separately reimbursable. The amount(s) in Column 4 of Part 1 include(s) payment for all expenses.			<input type="checkbox"/> Expenses are separately reimbursable in the maximum amount of:			\$
Part 3 – Subconsultant Costs						
<input checked="" type="checkbox"/> Subconsultant costs are not separately compensable. The amount(s) in Column 4 of Part 1 include(s) subconsultant costs.			<input type="checkbox"/> Subconsultant costs are separately compensable in the maximum amount of:			\$
Maximum Service Order Compensation (sum of Parts 1 through 3):						\$37,405

Attachment D: Sub Consultant Schedule of Rates and Charges

Torrent Laboratory	
Analytical (Standard Turnaround Time)	
Description	Rate
TPH as Diesel and Motor Oil (8015) (Soil and Groundwater)	\$65.00 per sample
VOCs and TPH as Gasoline (8260) (Soil and Groundwater)	\$150.00 per sample
VOCs (TO-15) Sub-Slab Vapor	\$180.00 per sample
VOCs (TO-15 SIM) Indoor Air	\$230.00 per sample
Fixed Gasses (ASTM D-1946)	\$150.00 per sample
Sampling Canisters SIM Certified	\$135.00 per canister
Canister Cleaning	\$15.00 per canister
SVC Environmental	
Soil Vapor Probe Sampling	
Description	Rate
Soil Vapor Probe Sampling (Hourly Rate)	\$135.00 per hour
Soil Vapor Sampling Manifold and Connections	\$100.00 per day
Miscellaneous consumables/Sampling Materials	\$100.00 per lump
PID Meter	\$150.00 per day
Penecore	
Drilling Subcontractor	
Description	Rate
Mobilization/Demobilization	\$650.00 per day
Geoprobe DPT Rig	\$2,400.00 per day
DT Liners	\$13.00 each
Cement Grout	\$1.50 per foot
Drums	\$75.00 each
Support truck and steam cleaner	\$150.00 per day
Concrete Coring	\$55.00 each
Soil Vapor Probe Materilas	\$1.50 per foot
PVC and Tubing for Groundwater Sampling	\$6.00 per foot
Fuel Surcharge	\$150 per day
Underground Locating Specialists	
Utility Locator	
Description	Rate
Hourly Rate	\$140.00 per hour