



103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129-0052  
T (415) 561-5300  
[www.presidio.gov](http://www.presidio.gov)

June 22, 2020

Mr. Jeff White  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Subject: Revised Operations, Monitoring, and Maintenance Plan  
Vapor Mitigation System and Cap  
Buildings 127A, 127B, and 128A  
Section BR11-1 - Fuel Distribution System  
Riley Avenue, Presidio of San Francisco, San Francisco, California

Dear Mr. White:

Enclosed is the *Revised Operations, Monitoring, and Maintenance Plan (Revised OMMP)* prepared by TRC Solutions, Inc., on behalf of the Presidio Trust (Trust). This *Revised OMMP* presents the protocols for conducting operation, monitoring, and maintenance of the installed Vapor Mitigation System (VMS) at Building 127B, and concrete basements and surrounding exterior hardscape and landscape around Buildings 127A, 127B, and 128A during annual inspections and inter-occupancy periods. The Revised OMMP address RWQCB's 13 December 2019 comments received on the original 2 October 2019 *OMMP* and subsequent comments received on the Draft *Revised OMMP*.

The Trust looks forward to RWQCB review and approval of the *Revised OMMP*. Should you have questions or need additional information, please contact me at (415) 561-5421.

Sincerely,

Nina Larssen  
Remediation Program Manager

cc: Alfonso Ang, TRC  
Justin Hanzel-Durbin, TRC  
Sally Schoemann, TRC

Attachment:

*Revised Operations, Monitoring, and Maintenance Plan, Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A, Section BR11-1 Fuel Distribution System, Riley Avenue, Presidio of San Francisco, San Francisco, California. June 22, 2020.*



**Revised Operations, Monitoring, and Maintenance Plan  
Vapor Mitigation System and Cap  
Buildings 127A, 127B, and 128A**

Section BR11-1 – Fuel Distribution System  
Riley Avenue  
Presidio of San Francisco, San Francisco, California

June 22, 2020

This document has been prepared for:

**THE PRESIDIO TRUST**  
103 Montgomery Street, P.O. Box 29052  
San Francisco, California 94129-0052

Project No. 285830

  
Alfonso Ang, PE  
Senior Engineer/Project Manager

  
REGISTERED PROFESSIONAL ENGINEER  
ALFONSO ANG  
No. C 81007  
Exp. 09/30/21  
CIVIL  
STATE OF CALIFORNIA

  
Justin Hanzel-Durbin, PE  
Senior Engineer/Project Manager

505 Sansome Street, Suite 1600; San Francisco, California 94111  
Main (415) 644-3000 Fax (415) 541-9378  
Website: [www.TRCompanies.com](http://www.TRCompanies.com)

---

**TABLE OF CONTENTS**

**1.0 INTRODUCTION..... 1**

1.1 PROJECT OVERVIEW ..... 1

1.1.1 *Current and Future Site Conditions*..... 2

1.1.2 *BR11-1 Environmental Investigation and Remedial History*..... 2

1.1.3 *Vapor Intrusion and Impacted Soil Mitigation Objectives and Screening Levels* ..... 3

1.2 LAND USE CONTROLS ..... 4

**2.0 MITIGATION DESCRIPTIONS ..... 5**

2.1 VAPOR MITIGATION SYSTEM – BUILDINGS 127B ..... 5

2.2 VAPOR MITIGATION – BUILDINGS 127A AND 128A ..... 6

2.3 SOIL AND HARDSCAPE CAP ..... 6

**3.0 OPERATION, MONITORING, AND MAINTENANCE PROGRAM..... 6**

3.1 VMS SSVS AND CAP OPERATIONS ..... 7

3.2 PHYSICAL INSPECTION..... 7

3.3 ANNUAL AND INTER-OCCUPANCY SAMPLING ..... 8

3.3.1 *127B Vent Riser Sampling*..... 8

3.3.2 *Inter-Occupancy Indoor and Ambient Air Sampling* ..... 8

3.3.3 *Sampling Frequency*..... 9

3.3.4 *Indoor and Ambient Air Data Analysis*..... 9

3.3.5 *Documentation* ..... 11

**4.0 HEALTH AND SAFETY ..... 11**

4.1 KEY PERSONNEL..... 11

4.1.1 *Site Emergency Information and Hospital Directions* ..... 12

4.1.2 *Personal Protective Equipment*..... 12

4.1.3 *Working at Heights Procedures*..... 13

4.1.4 *Site Entry and Exit Procedures*..... 13

4.1.5 *Personnel Training and License Requirements*..... 13

**5.0 FUTURE DEVELOPMENT CONSIDERATIONS..... 13**

**6.0 REPORTING REQUIREMENTS..... 14**

6.1 ANNUAL INSPECTION SUMMARY REPORTS ..... 14

6.2 FIVE-YEAR REVIEW REPORTS ..... 14

6.3 DATA AND DOCUMENT AVAILABILITY ..... 15

**7.0 FINANCIAL ASSURANCE..... 15**

**8.0 VARIANCE FROM OR MODIFICATION OF THE OMM PLAN ..... 15**

**9.0 REFERENCES..... 15**

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

**FIGURES**

- 1 Site Vicinity Map
- 2 Site Map
- 3A 127B Sub-Slab Venting System Plan
- 3B 127B Sub-Slab Venting System Details
- 4 Existing Cap
- 5 127A Indoor Air Sampling Locations
- 6 127B Indoor Air and Vent Riser Sampling Locations
- 7 128A Indoor Air Sampling Locations
- 8 Ambient Air Sampling Locations

**TABLES**

- 1 Soil Cleanup & Screening Levels
- 2 Soil Vapor & Sub-Slab Vapor Screening Levels
- 3 Indoor Air Screening Levels
- 4 Inspection and Monitoring Schedule

**APPENDICES**

- A Site Inspection Log
- B Hospital Map and Direction
- C Vapor Mitigation System (VMS), Indoor Air, and Ambient Air Sampling Protocols
- D RWQCB Comments

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

**ABBREVIATIONS AND ACRONYMS**

BTEX	benzene, toluene, ethylbenzene, xylenes
COC	chemical of concern
DTSC	Department of Toxic Substances Control
EKI	Erler & Kalinowski, Inc
EPA	Environmental Protection Agency
FDS	Fuel Distribution System
HAZWOPER	Hazardous Waste Operations and Emergency Response
HDPE	high-density polyethylene
IT	IT Corporation
LEL	lower explosive limit
LUC	land use control
LUCMRR	Land Use Controls Master Reference Report
NFA	no further action
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
OMMP	Operations, Monitoring, and Maintenance Plan
PVC	polyvinyl chloride
RWQCB	Regional Water Quality Control Board
TRC	TRC Solutions, Inc.
SSVS	sub-slab venting system
SVI	soil vapor intrusion
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TPH-g	total petroleum hydrocarbons as gasoline
Trust	The Presidio Trust
VMS	vapor mitigation system

## **1.0 INTRODUCTION**

TRC Solutions, Inc. (TRC) on behalf of the Presidio Trust (the Trust) has prepared this Revised Operations, Monitoring, and Maintenance Plan (OMMP) for the installed mitigation systems consisting of a soil vapor mitigation system (VMS) in Building 127B and existing cap in the basement and exterior surroundings of Building 127A and 127B, and basement of Building 128A located at Riley Avenue, at the Presidio of San Francisco (Presidio), California (**Figure 1**). This Revised OMMP has been prepared in response to Regional Water Quality Control Board (RWQCB) comments dated December 13, 2019 (RWQCB, 2019d) on the original OMMP dated October 2, 2019 (TRC, 2019d) and comments dated April 24 and June 12, 2020, on the Draft Revised OMMP sent March 25, 2020, via email. Received comments are included as **Appendix D**.

The installed VMS and cap mitigate soil vapor intrusion (SVI) and exposure to impacted soil resulting from the fuel oil release at Section BR11-1 of the former Fuel Distribution System (FDS) that serviced the buildings. The installed VMS and cap consist of the following elements:

- Passive, wind powered, sub-slab venting system (SSVS) and vapor barrier beneath concrete basement floor at Building 127B
- Concrete basement floors at Buildings 127A and 128A
- Existing clean soil, landscape and hardscape cap over identified soil impacts in the front yards of Building 127A and 127B

All three units are managed by the Presidio Trust (Trust). The VMS and concrete basement slab at 127B were installed in accordance with the *Revised Vapor Mitigation System Design, Building 127B Riley Avenue (Revised VMS Design, TRC 2019a)* dated March 5, 2019, and approved by the Regional Water Quality Control Board (RWQCB) on March 8, 2019 (RWQCB, 2019). The concrete basement floors in Buildings 127A and 128A are original. Soil and hardscape around buildings 127A and 127B were also existing and were identified as a cap through completed site investigations (TRC, 2019c).

The Revised OMMP describes activities that will be implemented to ensure that the mitigation remains protective of human health and the environment.

### **1.1 PROJECT OVERVIEW**

This section presents a summary of current and future site conditions, previously conducted site investigations, and the vapor intrusion mitigation objectives for the Site.

### **1.1.1 Current and Future Site Conditions**

The Site is a small residential neighborhood located in the northwest area of the Main Post District of the Presidio (**Figure 1**) and within Area B of the Presidio, where the Trust has jurisdiction. The historic residential Buildings 127A/B, 128A/B, and 129A/B are similarly designed duplexes, with a below ground basement and crawl space, and living quarters above. The buildings are bound by Riley Avenue to the east, Lincoln Boulevard to the Northwest, Sheridan Avenue to the southwest and with the Korean War Memorial to the west. Currently, buildings 127A and 127B are unoccupied, but will be leased once the Feasibility Study/Corrective Action Plan presenting a preferred alternative of no additional remedial excavation has been approved by RWQCB. The exterior surroundings are a combination of paved walkways and landscaped areas.

The Site is expected to remain a residential neighborhood for the foreseeable future.

### **1.1.2 BR11-1 Environmental Investigation and Remedial History**

The former FDS Section BR11-1 serviced boilers in the basements of residential Buildings 127A/B, 128A/B, and 129A/B on the west side of Riley Avenue (**Figure 2**).

The FDS was substantially removed by the U.S. Army between 1996 and 1999. Documentation of the removal activities and associated confirmation sampling is presented in the three-volume report, titled *Fuel Distribution System Closure Report, Presidio of San Francisco, California*, prepared by IT Corporation (IT) and dated May 1999 (IT, 1999).

On January 27, 2006, the Presidio Trust submitted the *FDS Closure Certification Report – Phase I* to the RWQCB requesting closure of 27 FDS sections, including Section BR11-1 (Trust, 2006). On September 16, 2009, the RWQCB determined that no further action (NFA) was required (RWQCB, 2009b).

In May 2017, soil contaminated with total petroleum hydrocarbons as diesel (TPH- d) was discovered during maintenance work in the basement of residential Building 127B. After notifying the RWQCB of the discovery, the Trust implemented interim remedial measures in accordance with the established *Petroleum Contingency Plan* (EKI, 2004), including initial soil and groundwater sampling to characterize the area of impact, limited excavation of impacted soil, placement of oxygen release compound within the excavation, and backfill with clean soil.

Based on information about the fuel release discovery provided by the Trust, the RWQCB re-opened FDS Section BR11-1 in an email dated July 20, 2017 (RWQCB, 2017a). RWQCB directed the Trust to prepare a work plan to further assess the fuel release and all the buildings potentially affected by the release.

## Revised Operations and Maintenance Plan

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

Between October 2017 and July 2018, the Trust conducted site characterization to assess the extent of soil and groundwater impacts associated with the fuel release and performed soil vapor intrusion (SVI) investigation in Buildings 127A, 128A/B and 129A/B. No SVI investigation was conducted in Building 127B until after installation of the VMS. Based on investigation results, the RWQCB issued determinations of no unacceptable risk to human health from SVI for Buildings 128B and 129A (RWQCB, 2018a), 128A and 129B (RWQCB, 2018b), 127A (RWQCB, 2018c), and 127B (RWQCB, 2019c).

Due to the extent of impacted soil that could not feasibly be removed without imperiling the integrity of the historic building, a VMS was installed to mitigate potential SVI beneath the basement of Building 127B. Installation of the VMS was completed in March 2019 with the first post-construction SVI investigation completed in April and October 2019 (TRC, 2019d).

### 1.1.3 Vapor Intrusion and Impacted Soil Mitigation Objectives and Screening Levels

The vapor intrusion and impacted soil mitigation objectives are media-specific goals for protecting human health and the environment. Considering the current and planned future land use, the mitigation objectives for the Site are:

1. Mitigate SVI risk and unacceptable human health risk to current occupants of 128A and future occupants of 127B and adjacent 127A as follows:
  - a. Maintain indoor air SVI chemical of concern (COC) concentrations at acceptable levels in 127A, 127B, and 128A, as reported in previously conducted investigations that resulted in a determination of no unacceptable risk to human health (TRC, 2018e and RWQCB, 2018c and 2019c).
  - b. Verify indoor air SVI COC concentrations remain at acceptable indoor air levels between periods of occupancy (inter-occupancy) through indoor air sampling for 127A, 127B, and 128A in accordance with this OMMP.
  - c. Establish Land Use Control (LUC) area and controls regarding property use, mitigation measures, and monitoring for 127A, 127B, and 128A.
2. Mitigate impacted soil contact exposure pathway and associated human health risk to occupants (current and future) of 127A, 127B, and 128A, other Riley Avenue residents and visitors, Trust maintenance workers, and future construction workers as follows:
  - a. Maintain a cap consisting of existing concrete basement floors in the building interior, and minimum 2-foot thick unimpacted soil and hardscape cap on exterior areas.
  - b. Establish LUC area and controls regarding property use, mitigation measures, and monitoring for 127A, 127B, and 128A.

- c. Verify integrity of cap elements in LUC areas during yearly site inspections in accordance with this OMMP.

Applicable screening levels for soil and groundwater are the Presidio Cleanup Levels (CUL) from the *Presidio-Wide Cleanup Levels* document (EKI, 2002), as amended, and RWQCB Tier 1 and Residential Environmental Screening Level (ESL) (RWQCB, 2019a). Indoor air and sub-slab/soil vapor screening levels are RWQCB ESLs. The sub-slab methane screening level is set as 1.25 % (25% of the lower explosive limit [LEL] of 5% by volume) (RWQCB, 2001) and indoor action level of 0.75% (half the sub-slab/soil vapor screening level). Screening levels for soil, soil vapor and indoor air are summarized in **Tables 1 through 3**.

## **1.2 LAND USE CONTROLS**

Areas of the Site in which contamination remains above the applicable screening levels are addressed with institutional controls including establishments of LUC areas. Land use controls provide a legal framework governing future land use, notification to potential tenants of the site conditions, preserve the integrity of the remedy, provide site management requirements, restrict intrusion activities, and establish protocols for inspection, operation, maintenance and reporting. The anticipated land use controls, and LUC area restrictions and administrative procedures include:

- Establishing and recording the LUC areas via a site-specific addendum to the Presidio Trust Land Use Controls Master Reference Report (LUCMRR; EKI, 2009). LUC addenda require regulatory approval prior to incorporation in the LUCMRR.
- Projects in Area B of the Presidio shall be screened for National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) (collectively referred as “N2”) compliance, which is the first step to ensure that project proponents are aware of LUC areas at the project site.
- Projects involving building alterations or sub-surface work are required to go through the Presidio Trust building or dig permit process, respectively, which notifies and requires adherence by project proponents to LUC area restrictions and requirements. Dig permits are tracked and reported annually via the Annual O&M Report.
- Lease agreements prohibit tenants from undertaking any construction, modification, repair, planting, ground disturbance, or installation in or around the premises (The Presidio Residential Rules, Trust, 2014)
- Disclosure information about residual COCs and LUCs will be provided to potential residents by the Presidio Trust leasing office.
- Yearly LUC area inspection, maintenance, and repairs of mitigation system (e.g., VMS and/or cap) and reporting in the Annual O&M Report.
- 

A description of the LUC areas, including a figure depicting the locations, a summary of remaining COCs, and site-specific land use restrictions, will be provided in a site-specific

addendum to the Presidio Trust Land Use Controls Master Reference Report, which is pending preparation. The extents of the LUC for Buildings 127A, 127B, and 128A are shown in **Figure 4**.

## **2.0 MITIGATION DESCRIPTIONS**

The following sections provide a description of the installed VMS and existing cap.

### **2.1 VAPOR MITIGATION SYSTEM – BUILDING 127B**

The VMS for 127B consists of a passive sub-slab venting system (SSVS) and vapor barrier installed beneath the basement of Building 127B. The vapor barrier provides the primary mitigation measure by creating a physical barrier that has low permeability to soil vapor. The SSVS acts in conjunction with the vapor barrier and provides passive fresh air venting beneath the vapor mitigation membrane and limits accumulation of soil vapors beneath the slab. Layout and VMS components are presented in **Figures 3A and 3B**.

The VMS design consists of the following main elements:

- Approximately 750 square feet of a 15 mil-thick, Stego® vapor barrier over the entire permeable base layer containing the SSVS.
- Permeable base layer consisting of a minimum of 4 inches of gravel or crushed rock providing a continuous, highly permeable zone that allows advective flow of soil vapor to the collection piping.
- SSVS venting (fresh air intake) and collection piping within the permeable base layer beneath the vapor mitigation membrane, which is passively vented through a 4-inch, wind turbine-equipped stack/vent located above the roofline of the building. The venting and collection system consist of pre-fabricated, low-profile (flat), three-dimensional vent cores wrapped in non-woven, needle-punched filter fabric. The collection vents are fabricated of high-density polyethylene (HDPE). The vapor collection piping is installed directly on the subgrade and beneath the vapor barrier. The horizontal vapor collection piping is connected to vertical vent risers. The oblong piping is connected to round, 4-inch, schedule 80 polyvinyl chloride (PVC) using manufacturer-provided transition fittings. The vertical vent riser penetrates the vapor membrane and foundation slab. A wind-driven turbine fan is installed at the top of the riser vent to provide wind siphoning flow from the vent. The fresh air intake riser is installed through the window of the basement.
- A 4-inch thick, fiber mesh reinforced concrete slab is installed on top of the vapor barrier (although not considered part of the VMS, the concrete slab serves as a cap and additional barrier providing further soil vapor attenuation).

## **2.2 VAPOR MITIGATION – BUILDINGS 127A AND 128A**

The existing basement concrete floor slabs at Buildings 127A and 128A provide mitigation of potential soil vapor intrusion and are the vapor intrusion mitigation for the buildings. Indoor air investigations conducted to date indicate that under current conditions there is no unacceptable risk to human health from soil vapor intrusion (RWQCB, 2018a and 2019c). Inspection and maintenance of existing concrete are included in this OMMP. The extent of the concrete basement slabs is presented in **Figure 4**.

## **2.3 SOIL AND HARDSCAPE CAP**

The cap consists of the use and maintenance of existing hardscape and clean soil over impacted soil. The cap for residual soil contamination beneath the basements in Buildings 127A, 127B and 128A consists of the existing (127A and 128A) and newly installed (127B) concrete basement floors. Existing concrete basements in Buildings 127A and 128A are in good condition and do not require maintenance prior to incorporation to the cap.

The cap for residual soil contamination present in the front yards of 127A and 127B consists of a minimum two-foot thick cap of clean soil and the existing concrete hardscape (i.e., walkways, stairs, landing areas), as shown in **Figure 4**. The 2-foot thick clean soil cap is currently in-place as documented by boring logs collected for sample locations across the site (e.g., SB004, SB005, SB007, BR11-1SB010, BR11-1SB011, BR11-1SB012, BR11-1SB013, BR11-1GW01, etc.) (TRC, 2019c). Residual soil contamination above screening levels at the exterior landscaped areas begins at a depth of approximately 5 feet bgs and is overlain with clean soil and landscaping vegetation.

## **3.0 OPERATION, MONITORING, AND MAINTENANCE PROGRAM**

An operation, monitoring and maintenance (OMM) program is required to evaluate and verify that the VMS and cap functional requirements are being met. The key objectives of the OMM program are to:

1. Ensure the VMS is functioning as designed and inspect its physical integrity.
2. Monitor and assess the venting of sub-slab vapors.
3. Protect the integrity of the vapor membrane during planned future building modifications.
4. Verify indoor air concentrations remain at acceptable indoor air levels via inter-occupancy indoor air sampling.
5. Protect the integrity of the cap (interior and exterior)

The vapor membrane does not require routine OMM, and as a result the SSVS is the focus of OMM activities for the VMS outlined in the document.

### **3.1 VMS SSVS AND CAP OPERATIONS**

VMS SSVS is equipped with a wind-driven ventilator designed to operate continuously. However, operation may be intermittent and is dependent on wind conditions. Thus the VMS does not require specific steps for startup and shutdown. Inspection, sampling and monitoring activities will be performed while the system is operating. Similarly, the cap, once installed, does not require any specific steps to begin operation.

Qualified personnel will inspect the VMS SSVS and cap to assess their condition. Inspections should be performed under the supervision of a qualified professional; however, personnel may include Trust staff, qualified consultants, and/or contractors hired by the Trust.

It is expected that the buildings will be occupied during the scheduled inspections. Because visual inspections require access to the basement, Trust will send advance notification to the residents notifying them of the date and time of the VMS and interior slab inspection.

### **3.2 PHYSICAL INSPECTION**

The physical integrity of the VMS will be assessed by visually inspecting the condition of visible portions of the vent and fresh air riser piping and the concrete slab. Visual inspections will check for signs of physical damage, such as loose pipe supports, connections, damaged riser or cracking resulting from impact, undocumented penetrations of the concrete slab and cracking. The wind turbines will also be inspected visually for damage or any obstructions that impede the flow of the turbine. The wind turbine bearings will be lubricated as necessary.

Physical inspections also extend to inspecting building surroundings for indications of underground utility construction or trenching activities that may have led to building foundation penetrations and/or disturbances to the cap. During the inspections, the inspector will check the building surroundings for indications of underground utility construction or trenching activities within the landscaped and hardscaped areas. The inspector will document conditions that may compromise the integrity of the VMS and/or the cap. Inspectors will complete the Site Inspection Log and take photographs to document Site conditions at the time of the inspection. A report will be prepared for each inspection and maintained by the Trust. Reports will include recommendations for maintenance or repairs. RWQCB will be notified within 48 hours of the observation of significant breaches, failures, or repairs of the VMS and/or existing cap.

A sample Site Inspection Log is included as **Appendix A**. The inspection log includes sections for documentation of the condition of the visible, above-ground elements of the VMS, concrete basement, and surrounding exterior hardscape and landscape cap elements. The log also includes a section to note recommended maintenance or repairs. Alternate forms may be

developed or approved by the Trust as the frequency and scope of the inspections change over time.

The key remedy features of the Site are summarized in **Table 4** along with their respective inspection, maintenance, monitoring elements and schedule. Inspections were performed during the first two post-construction confirmation sampling events and will be annually thereafter. Inspections will also be performed after the following events to verify integrity of the VMS system and cap:

- **Significant seismic events.** Significant seismic events are defined as M=5.5 or greater within 100 miles of the Site with shaking felt at the Presidio, as verified at <http://www.ncedc.org/ncedc/catalog-search.html>.
- Inter-occupancy sampling events and/or maintenance and repairs breaching the integrity of the cap.

### **3.3 ANNUAL AND INTER-OCCUPANCY SAMPLING**

Annual sampling of the 127B VMS vent riser will be conducted during the annual inspection. In addition, inter-occupancy indoor and outdoor air sampling will be performed at 127A, 127B, and 128A. The purpose of the inter-occupancy sampling will be to evaluate indoor air concentration trends and verify that no unacceptable risk from vapor intrusion is present.

#### **3.3.1 127B Vent Riser Sampling**

Vent riser sampling will be conducted on an annual basis during site inspection and during inter-occupancy sampling events conducted at Building 127B. A grab sample will be collected from the vent riser of the SSVS system for laboratory analysis to assess the vapor conditions below the vapor barrier. The sampling of the vent will be conducted via the installed sampling port in the above-ground pipe section. Sampling will be conducted using sub-slab vapor sampling protocols included in **Appendix C**. Collected vent riser samples will be analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and naphthalene by Environmental Protection Agency (EPA) Test Method TO-15, total petroleum hydrocarbons as diesel (TPH-d) by TO-17, TPH as gasoline (TPH-g) by EPA Test Method TO-03M Low Level (LL), and fixed gases (carbon dioxide, carbon monoxide, methane, nitrogen, and oxygen) by ASTM D-1946. Samples will be collected using laboratory provided vacuum canisters for TO-15, TO-03M, and fixed gases analyses and sorbent tubes for TO-17 analyses. The location of the vent riser is presented in **Figure 6**.

#### **3.3.2 Inter-Occupancy Indoor and Ambient Air Sampling**

Indoor air sampling at Buildings 127A, 127B, and 128A and concurrent ambient (outdoor) air sampling will be conducted during periods of inter-occupancy and after completion of construction work (e.g., trenching for sub-slab utility installations, basement drainage

improvements, heating and ventilation equipment upgrades, etc) that affects the integrity of the VMS at 127B or the concrete basement floors. The indoor air samples will be collected from the basement, kitchen, sunroom and upstairs bedroom (nearest to the bathroom) and shown in **Figure 5 through 7** and represent the same locations as those performed during previously completed SVI sampling events. Outdoor air samples will be collected from three locations around the Riley neighborhood as shown in **Figure 8**. Indoor air sampling will be conducted using the protocols described in **Appendix C** and that were utilized for previously completed SVI investigations.

Collected indoor and ambient air samples will be analyzed for BTEX and naphthalene by EPA Test Method TO-15 Selective Ion Mode (SIM), TPH-d by TO-17, TPH-g by TO-03M LL, and fixed gases (carbon dioxide, carbon monoxide, methane, nitrogen, and oxygen) by ASTM D-1946.

The inter-occupancy indoor and ambient air sampling results will be compared to results from previous SVI investigations. In the event the inter-occupancy results indicates a statistically significant increase in indoor air concentrations, the Trust will immediately notify the RWQCB and implement response actions to address the risk. The building with the identified increase risk will remain off-rental until remediation and/or mitigation has been implemented and RWQCB concurs that no unacceptable human health risk from soil vapor intrusion remains.

### **3.3.3 Sampling Frequency**

Building 127B vent riser sampling will be conducted on an annual basis during inspections and during inter-occupancy periods.

Per the approved *Revised FS/CAP* (TRC 2020 and RWQCB2020), indoor air sampling of Building 127A, 127B, and 128A will be conducted during inter-occupancy periods and after slab penetration/repairs have been completed.

VMS vent riser and indoor air sampling will continue per the aforementioned sampling frequency until such time the residual soil and soil vapor impacts no longer pose a risk to human health and the environment as demonstrated by monitoring data or implementation of remedial actions. Any proposed cessation of sampling or mitigation will be coordinated with the RWQCB.

### **3.3.4 Indoor and Ambient Air Data Analysis**

The inter-occupancy data collected will be evaluated to determine air quality conditions at time of inspection and also compared to prior site data to evaluate if indoor air quality is being affected by SVI. Mitigation measure performance will be evaluated primarily by indoor air sampling results supplemented by ambient air and vent riser (127B only) sampling data. The indoor air sampling data will be evaluated first against the screening levels in **Table 3** and against levels reported during the previous investigations. If the evaluation indicates indoor

### Revised Operations and Maintenance Plan

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

concentrations are below screening levels and/or are below or within the range of reported concentrations during previous investigations, no further statistical data analysis will be required and the existing mitigations are continuing to be effective.

In the event significant increases in indoor air concentration are detected, further data evaluation will be conducted. Further investigation might include a second confirmation sampling to confirm the reported increase while maintaining the unit vacant. For the purpose of this OMMP, a significant increase is defined as a reported analytical result that meets the following criteria:

1. The reported detection exceeds current screening level (Tier 1 and/or Residential ESLs), and
2. Exceeds published typical, midpoint of the 50<sup>th</sup> percentile, background indoor air concentrations for unimpacted sites (EPA/OSWER, 2011), and
3. Is greater than 1.5 times the calculated 95 Upper Confident Limit (95 UCL) concentration of cumulative ambient (i.e., outdoor) concentrations reported in the ambient air samples concurrently collected.

As the COCs are collocated, the significant increases would need to be reflected across the known COCs. A significant increase of a single COC would not constitute soil vapor intrusion and would be noted in the evaluation. In the event significant increases are reported across all COCs, the RWQCB will be notified of the findings, and additional investigation and/or mitigation prior to re-occupancy will be required. Further investigation or mitigation measures will be implemented in coordination with the RWQCB.

Once sufficiently large indoor air data set (minimum of four data points) has been collected, long-term inter-occupancy data will be evaluated using the Mann-Kendall statistical method to determine trends in indoor and ambient (outdoor) air COC concentrations. The Mann-Kendall Trend Test (sometimes called the M-K test) is used to analyze data collected over time for consistently increasing or decreasing trends and it is a recognized statistical tool for environmental data trend analysis (EPA, 2009). The statistical trend analysis will be conducted on the detected concentrations at each indoor air sampling location (basement, sunroom, kitchen and bedroom) analysis and on a combined concentration calculated using a 95 UCL concentration as representative exposure point concentration for the building. A similar statistical analysis will be conducted for reported ambient air concentrations. A comparison of indoor air and ambient air concentrations will be conducted and increasing trends in indoor air concentrations not attributed to ambient air (i.e., increasing indoor air concentrations with decreasing, stable, or no ambient air concentration trends) will require further investigation and/or mitigation prior to re-occupancy and in coordination with the RWQCB.

### Revised Operations and Maintenance Plan

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

### 3.3.5 Documentation

Monitoring and inspection activities will be documented on the Site Inspection Log. Completed Inspection Logs will be retained by the Trust and will be submitted to the RWQCB as part of the *Annual Operation and Maintenance (O&M) Report*. Additional reporting requirements are presented in Section 6.0.

While vent riser flow parameters may aid in determining supplementary performance data, the vapor membrane provides the primary mitigation measure for the VMS. The passive SSVS design will likely operate intermittently and thus prevent meaningful vapor extraction rates from being calculated.

## 4.0 HEALTH AND SAFETY

Personnel conducting VMS and cap inspections, maintenance, and repair, or monitoring activities should be aware of health and safety considerations at the site and should perform their work under an appropriate Health & Safety Plan (HASP) specific to the work being performed and prepared by a Health and Safety professional. Basic health and safety information is provided below for reference.

### 4.1 KEY PERSONNEL

The primary personnel involved in the OMM is the Presidio Trust Remediation Manager. OMM activities are coordinated by the Presidio Trust Remediation Manager and performed by designated personnel. Designated personnel may include qualified Trust staff, qualified consultants, and/or contractors hired by the Trust and their functional roles are listed below. The current names of assigned individuals, companies, and contact information is presented in the following table.

Project Role	Contact Name and Title	Phone Number
Primary Operator	Presidio Trust Nina Larsen - Remediation Program Manager	(415) 561-5421 (office)
VMS Design and Implementation	TRC Solutions, Inc. Alfonso Ang – Project Manager	(415) 644-3003 (office)

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

**4.1.1 Site Emergency Information and Hospital Directions**

In the event of a serious injury or if a life-threatening condition exists, contact Presidio Park Police prior to calling 911. Emergency contact and hospital information is provided below. A map and directions to the hospital are included as *Appendix B*.

Provider	Name	Phone Number
Emergency	Presidio Park Police	Emergency: (415) 561-5656 Non-emergency: (415) 561-5505
	Ambulance	(415) 561-5656 or 911
	Police	(415) 561-5656 or 911
	Fire	(415) 561-5656 or 911
Local Hospital	California Pacific Medical Center Van Ness Campus 1260 Franklin Street San Francisco, CA 94109	General Line: (415) 600-600 Emergency Room: (415) 600-3333

**4.1.2 Personal Protective Equipment**

Minimum personal protective equipment required for the facility is Occupational Safety and Health Administration (OSHA) Level D as follows:

Level D - A work uniform affording minimal protection: used for nuisance contamination only.

The following constitute Level D equipment; it may be used as appropriate:

1. Coveralls.
2. Gloves.(optional)
3. Boots/shoes, chemical-resistant steel toe and shank.
4. Boots, outer, chemical-resistant (disposable).(optional)
5. Safety glasses or chemical splash goggles.(optional)
6. Hard hat.(optional)
7. Escape mask.(optional)
8. Face shield.(optional)

In situations where more hazardous conditions may arise, higher levels of protection will be used in accordance as determined by the Health and Safety professional.

### **4.1.3 Working at Heights Procedures**

Tasks requiring working at heights include inspection of the vent riser on the roof of the building. Inspector accessing the roof shall:

1. Use appropriate fall protection safety devices when working above a certain height (typically > 4 to 6 ft above working surface) or when immediate fall hazards are present
2. Always inspect fall protection equipment for visible defects before use and do not use equipment again once it has arrested a fall.
3. Workers should be trained in the use of, and inspection of, fall protection devices before using.
4. Secure all tools and equipment before ascending.
5. Wear a full body harness.
6. Assure that the anchor point can withstand a 5,000 lb load

To the extent possible, access to the ventilator for maintenance shall be through mechanical means such as powered aerial lifts, cherry picker, or bucket truck.

### **4.1.4 Site Entry and Exit Procedures**

Vehicle parking and access into the buildings is arranged by the Trust. Access to occupied buildings requires advanced notification and coordination with the residents. The presence of the resident while conducting VMS and cap inspections and VMS monitoring is not required.

### **4.1.5 Personnel Training and License Requirements**

At a minimum, personnel conducting inspection and monitoring of the VMS shall be trained on the performance of the work and have read and acknowledged the HASP. Additional training, including Hazardous Waste Operations and Emergency Response training (HAZWOPER), as outlined in 29 Code of Federal Regulations Part 1910.120, may be required if the proposed work involves exposure or direct contact with impacted media above screening levels. The additional required training shall be based on the work activity and will be determined by the designated Health and Safety Officer. Personnel conducting OMM for VMS and cap inspections will be experienced in reviewing and inspecting similar VMS systems and caps, which include staff level geologists, engineers, or scientists working under the direction of a California licensed Professional Geologist or Engineer.

## **5.0 FUTURE DEVELOPMENT CONSIDERATIONS**

The Site is anticipated to remain in its current condition for the foreseeable future. Aside from routine residential refurbishment work (e.g., painting, appliance changes, floor refinishing, etc.) between inter-occupancy period, no development is anticipated in the Riley Avenue neighborhood.

## **6.0 REPORTING REQUIREMENTS**

The Trust will include O&M of the Site as part of the Annual O&M report submitted to Department of Toxic Substances Control (DTSC) and RWQCB, as required under the 2012 Operations and Maintenance Agreement between DTSC and the Trust (DTSC, 2012). The Annual O&M report documents Trust compliance with site specific O&M plans and informs DTSC and RWQCB of changes to the OMM of the installed mitigation system or cap.

As necessary, separate reports specific to the inspection and monitoring of the VMS and cap may be submitted under separate cover at the request of the RWQCB.

### **6.1 ANNUAL INSPECTION SUMMARY REPORTS**

The results of inspection and monitoring activities will be presented in the Annual O&M Report submitted to DTSC and RWQCB. The report will include the Site Inspection Logs, description of inspection observations, maintenance and repair activities, and associated figures and tabulated data collected during the inspection. The annual inspection report will also include unit occupancy status throughout the reporting period, laboratory analytical reports for collected samples during the reporting period, analytical results trend analysis of indoor and ambient air concentrations, and description of responses initiated and completed (if implemented) to mitigate soil vapor exposure prior to re-occupancy.

After the first year of operations, the Trust will evaluate the frequency of inspections described in **Section 3.0** and shown on **Table 4**. If a reduction in the frequency and scope of inspections is warranted, the Trust will include justification for the proposed change in the Annual O&M report and request approval from RWQCB.

### **6.2 FIVE-YEAR REVIEW REPORTS**

The first Five-Year Review Report for the site will be completed five years from the date RWQCB issued concurrence of the Revised Feasibility Study and Corrective Action Plan (RWQCB, 2020). All subsequent Five-Year Review Reports will be completed five years from the date of the prior Five-Year Review Report.

The Five-Year Review Report will identify any incidents or problems with the VMS system, and will evaluate system performance, effectiveness, and protectiveness. The Five-Year Review Report will include a technical assessment and evaluation of the on-going protectiveness of the mitigation, and make recommendations for any changes needed to maintain remedy protectiveness, if necessary.

## **Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

Trust will evaluate the frequency of inspections based on the 5-year evaluation. If a reduction in the frequency and scope of inspections is warranted, the Trust will include justification for the proposed change and submit to RWQCB for concurrence.

### **6.3 DATA AND DOCUMENT AVAILABILITY**

All data and documentation, including field reports, inspections, regular reports, and other relevant documents will be maintained by the Presidio Trust Remediation Department for a period of five (5) years after the conclusion of each five-year review period.

Reports specifically submitted to RWQCB for this Site will also be uploaded to GeoTracker Site under Site ID T10000001505 Presidio of San Francisco – FDS Group I.

### **7.0 FINANCIAL ASSURANCE**

As a Federal Agency, the Trust is not required to provide financial assurance. Operation and maintenance of the VMS will be performed indefinitely, or until no longer required by RWQCB. The cost of O&M activities will be covered by the Trust.

### **8.0 VARIANCE FROM OR MODIFICATION OF THE OMM PLAN**

The Trust may seek variance from and/or modification to the OMMP at any time during the life cycle of the mitigation/remedy. The Trust may submit a written request to RWQCB for such variations from the OMMP. RWQCB will evaluate the request, and will grant a variance request only after determining that the request would be protective of human health and the environment.

### **9.0 REFERENCES**

DTSC, 2012. Operation and Maintenance Agreement. December 6.

Environmental Protection Agency (EPA). 2009. *Statistical Analysis of Groundwater Monitoring Data and RCRA Facilities, Unified Guidance*. March.

U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response (EPA/OSWER). 2011. *Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences (1990-2005): A Compilation of Statistics for Assessing Vapor Intrusion*. June.

Erler & Kalinowski, Inc. (EKI). 2002. *Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco, California*. 2002. Updates through 2013.

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

EKI. 2009. Presidio Trust Land Use Controls Master Reference Report (LUCMRR), Presidio of San Francisco, California. September.

IT Corporation. 1999. *Fuel Distribution System Closure Report, Presidio of San Francisco, California.*

The Presidio Trust (Trust). 2006. *Fuel Distribution System, Draft FDS Closure Certification Report – Phase 1, Presidio of San Francisco, California, REQUEST FOR CLOSURE CERTIFICATION.* January 27.

The Presidio Trust (Trust). 2014. *The Presidio Residential Rules.* October 20.

California Regional Water Quality Control Board (RWQCB). 2001. *Clarification of the AB2061 Process, Clarification of the California Integrated Waste Management Board (CIWMB) letter dated April 4, 2001, and Development of a Protocol for Management of Methane, Mission Bay Project Area, City and County of San Francisco.* May 15.

RWQCB. 2009. *No Further Action, Fuel Distribution System, FDS Closure Certification Report Phase I, Presidio of San Francisco, San Francisco County, Water Board Case No. 38D9327.* September 16.

RWQCB. 2017a. *Presidio Trust – Re-Opening of Closed Case, FDS Section BR 11-1.* Email message to Nina Larssen. July 20.

RWQCB, 2018a. *Presidio Trust Request for Final Concurrence – No Unacceptable Soil Vapor Intrusion Risk and No Further Action Determination, Buildings 128B and 129A Riley Avenue, Presidio of San Francisco.* June 22.

RWQCB, 2018b. *Presidio Trust Request for Final Concurrence – No Unacceptable Soil Vapor Intrusion Risk and No Further Action Determination, Buildings 128A and 129B Riley Avenue, Presidio of San Francisco.* August 16.

RWQCB, 2018c. *Water Board Concurrence with No Unacceptable Soil Vapor Intrusion Risk, Building Unit 127A Riley Avenue, Fuel Distribution System Section BR11-1, Presidio of San Francisco, California.* October 24.

RWQCB. 2019a. *Environmental Screening Levels.* January 2019 (Revision 2).  
[http://www.waterboards.ca.gov/rwqcb2/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml)

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

June 2020

---

- RWQCB, 2019b. *Regional Water Board Review of Revised Mitigation Design – Vapor Mitigation System, Building Unit 127B Riley Avenue, Fuel Distribution System Section Br11-1, dated March 5, 2019, Presidio of San Francisco.* March 8.
- RWQCB, 2019c. *Water Board Concurrence with the November 8, 2019 Request for a Determination of No Unacceptable Soil Vapor Intrusion Risk, Riley Avenue Site, Building Unit 127B, Fuel Distribution System Section BR11-1, Presidio of San Francisco, California.* December 13.
- RWQCB, 2019d. *Water Board Review of the November 2 [sic], 2019 Operations, Monitoring, and Maintenance Plan, Building 127B Vapor Mitigation System and Buildings 127A and 127B Cap, Riley Avenue Site, Fuel Distribution System Section BR11-1, Presidio of San Francisco, California.* December 13.
- RWQCB, 2020. *Water Board Review of the January 17, 2020 Revised Feasibility Study and Corrective Action Plan Report, Riley Avenue Site, Building Units 127A, 127B, and 128A, Fuel Distribution System Section BR11-1, Presidio of San Francisco, California.* January 24.
- TRC. 2017. *Addendum 1, Section BR11-1 Vapor Intrusion Assessment Work Plan and Interim Mitigation Plan, Fuel Distribution System, Riley Avenue, Presidio Trust of San Francisco, San Francisco, California.* December 20
- TRC, 2019a. *Revised Vapor Mitigation System Design, Building 127B Riley Avenue, Section BR11-1, Fuel Distribution System, Riley Avenue, Presidio of San Francisco, San Francisco, California.* March 5.
- TRC, 2019b. *Construction Completion Report Vapor Mitigation System, Building 127B Riley Avenue, Section BR11-1, Fuel Distribution System, Riley Avenue, Presidio of San Francisco, San Francisco, California.* In Progress.
- TRC, 2019c. *Revised Section BR11-1 Supplemental Site Investigation Report, Fuel Distribution System, Riley Avenue, Presidio of San Francisco, San Francisco, California.* August 2.
- TRC, 2019d. *Building 127B Second Post-Construction Sampling Report and No Soil Vapor Intrusion Risk Determination Request, Building Unit 127B Riley Avenue, Fuel Distribution System Section BR11-1, Presidio of San Francisco, San Francisco, California.* August 2.

**Revised Operations and Maintenance Plan**

Vapor Mitigation System and Cap, Buildings 127A, 127B, and 128A – Section BR11-1 Riley Avenue, Presidio of San Francisco, California

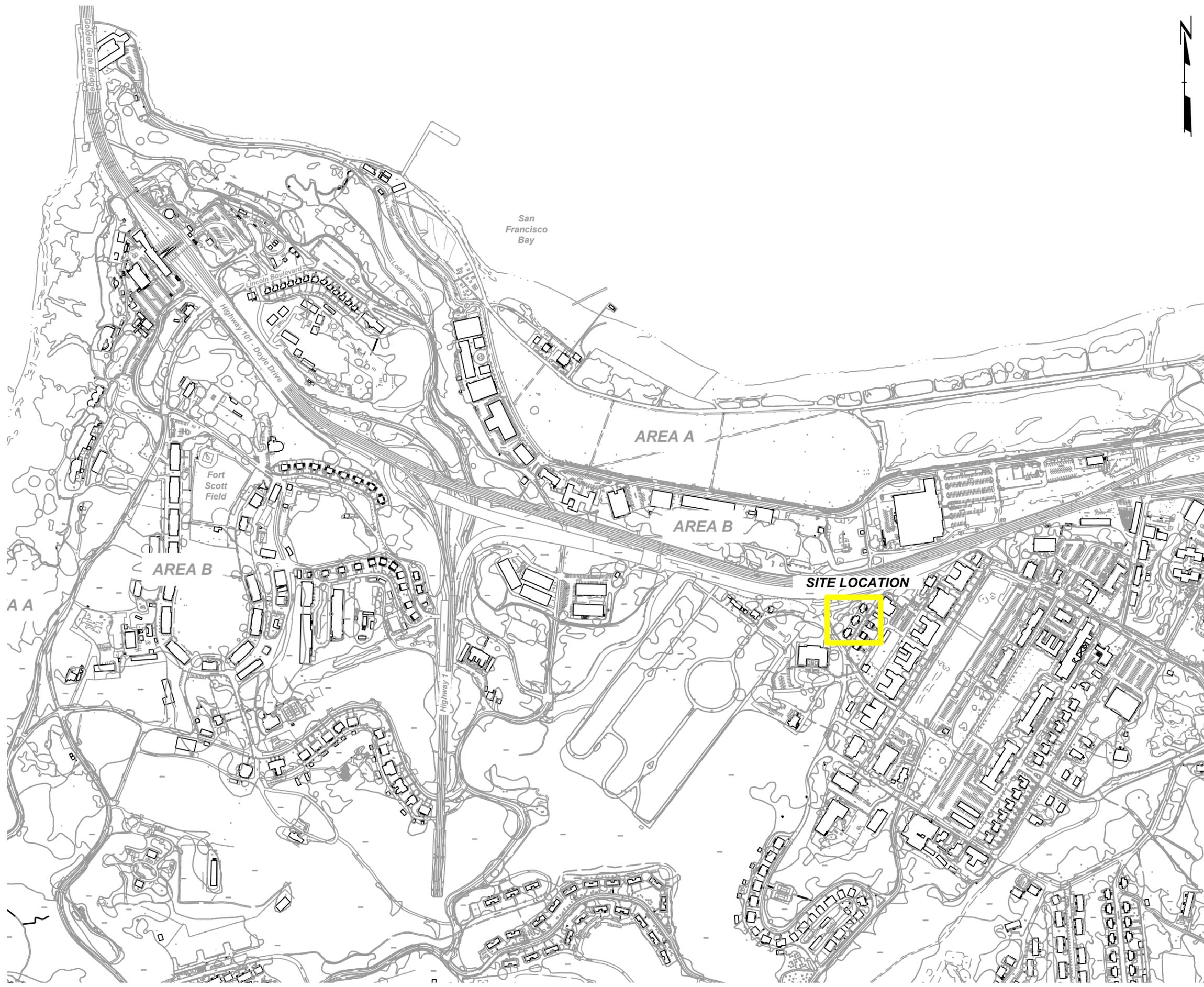
June 2020

---

TRC, 2020. *Revised Feasibility Study and Corrective Action Plan, Fuel Distribution System, Section BR11-1, Buildings 127A, 127B, and 128A, Presidio of San Francisco, San Francisco, California.* January 17.

## **FIGURES**

1x17 - USER: kornell - ATTACHED: REFS - Presidio, Plans, Roads, BLDGS ONLY, REV: Landon G. - ATTACHED: IMAGES  
DRAWING NAME: N:\Shared\CAD - DRAW\Current\Presidio - Riley Ave Supplemental Site Investigation July 19\Fig1 Vicinity Map\_REV JULY 19.dwg --- PLOT DATE: July 16, 2019 - 8:29AM --- LAYOUT: 11X17L  
Version: 2017-10-21



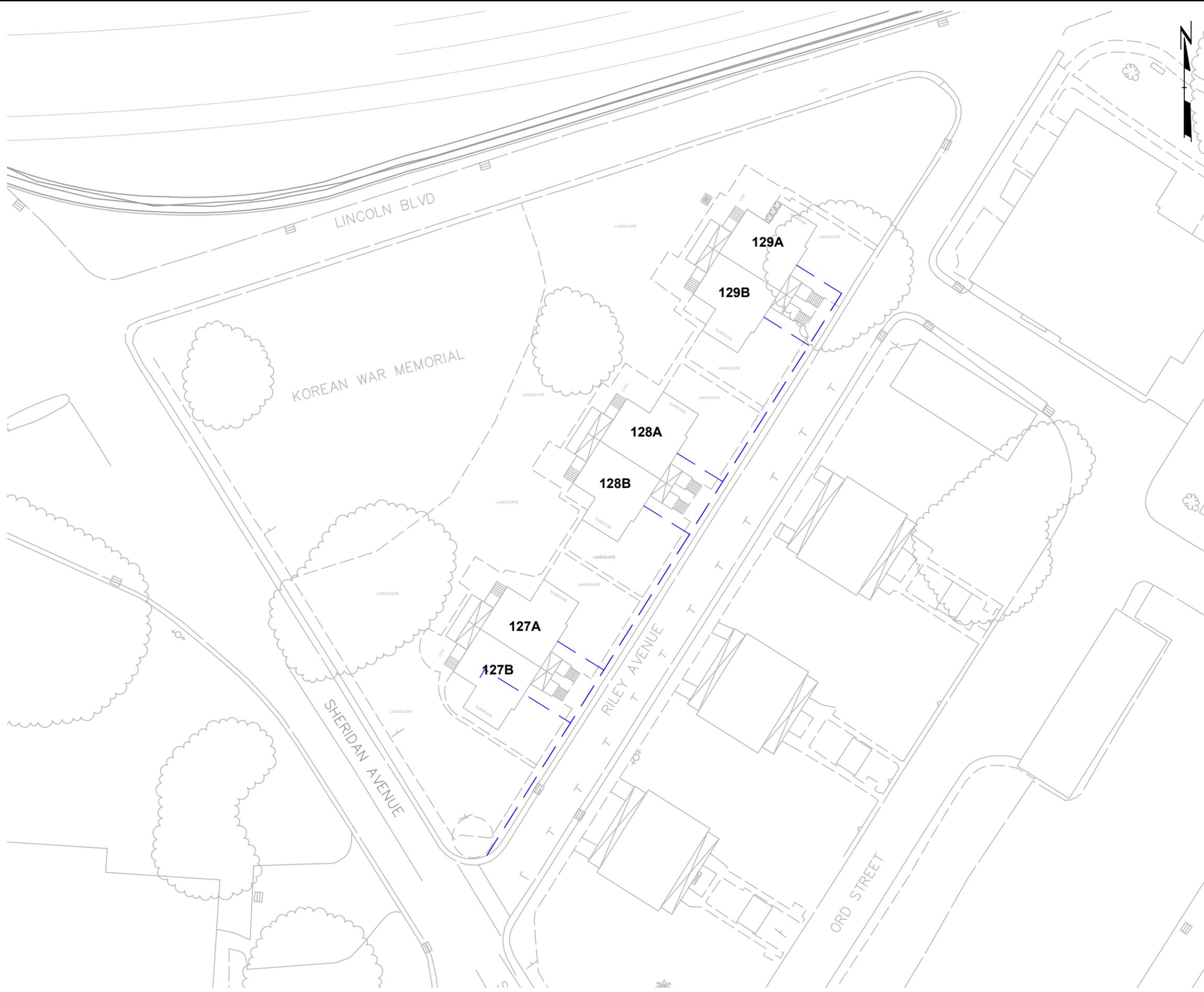
**LEGEND**

 SITE LOCATION



PROJECT:		<b>THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE:		<b>VICINITY MAP</b>	
DRAWN BY:	K. LI	PROJ NO.:	285830.000002.TASK04
CHECKED BY:	A. ANG	<b>FIGURE 1</b>	
APPROVED BY:	A. ANG		
DATE:	AUGUST 2018		
		505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
FILE NO.:	Fig1 Vicinity Map.dwg		

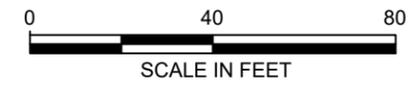
1x17 - USER: kquamell - ATTACHED: XREFS: MASTER Presidio Planimetrics, New Dots Alignment - ATTACHED IMAGES:  
 DRAWING NAME: N:\Shared\CAD\_DRAWING\Current\Presidio - Riley Ave Supplemental Site Investigation\_July 19\Fig2 Site Map\_REV JULY19.dwg --- PLOT DATE: July 16, 2019 - 8:34AM --- LAYOUT: 11X17L  
 Version: 2017-10-21



**LEGEND**

-  FORMER BR11-1 FDS LINE
-  RESIDENTIAL UNITS
-  LOCATION OF HISTORIC UNDERGROUND FUEL TANK PSF-127 (REMOVED 1978 - WES, 1990; MW, 1992)

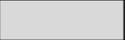
- NOTES**
1. REFERENCES
    - 1.1. US ARMY ENGINEERS WATERWAYS EXPERIMENT STATION (WES), 1990. PHASE II PRELIMINARY ASSESSMENT UST DATA SHEETS, UST LOCATIONS AND STATUS ASSESSMENT UST/FDS 162. MARCH 1990.
    - 1.2. MONTGOMERY WATSON (MW), 1992. UST MANAGEMENT PLAN.

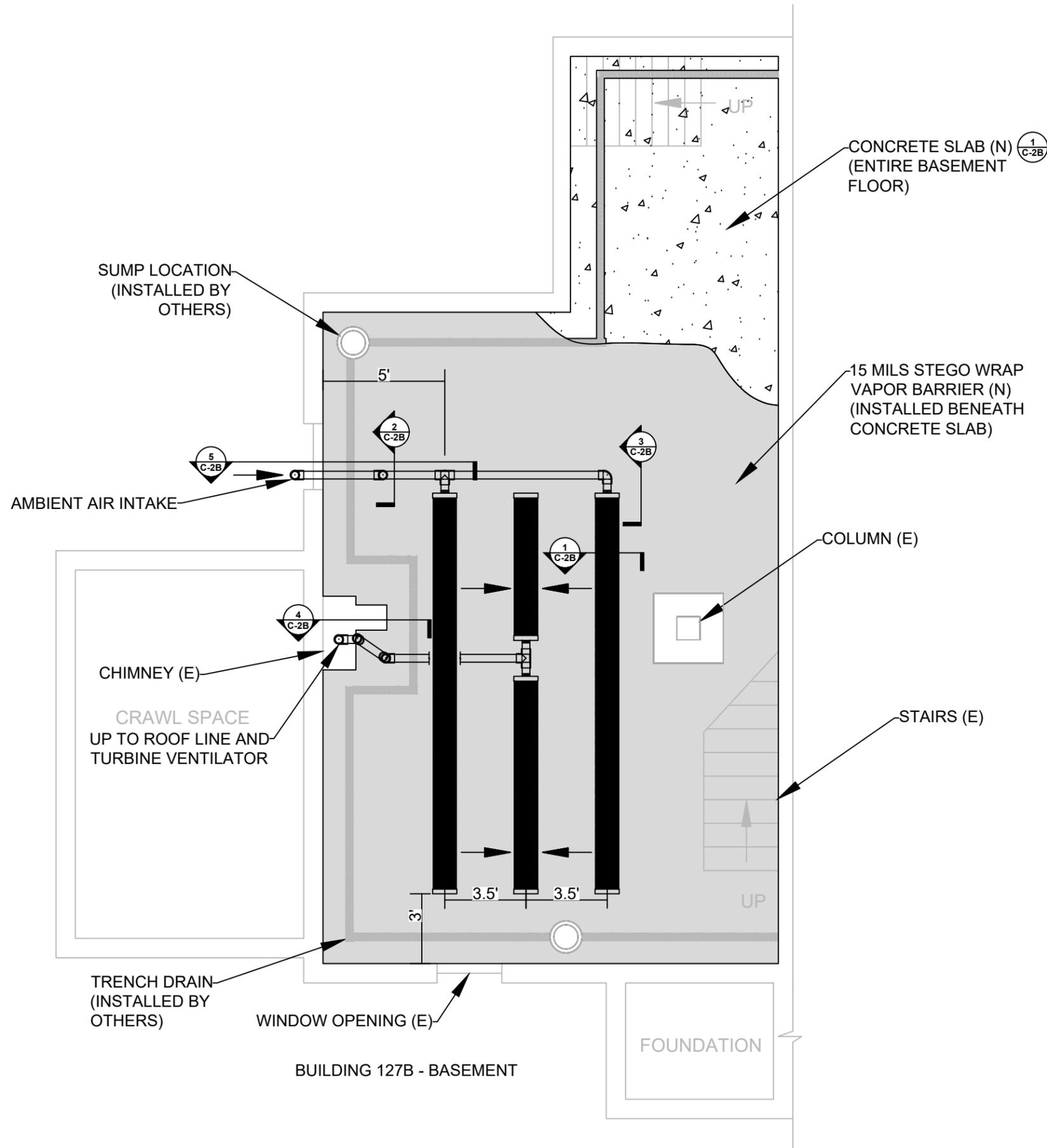


<b>PROJECT:</b> THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA	
<b>TITLE:</b> SITE MAP	
DRAWN BY: K. LI CHECKED BY: A. ANG APPROVED BY: A. ANG DATE: JULY 2019	PROJ NO.: 285830.04A.02  <b>FIGURE 2</b>
	
505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
FILE NO.: Fig2 Site Map_REV JULY19.dwg	

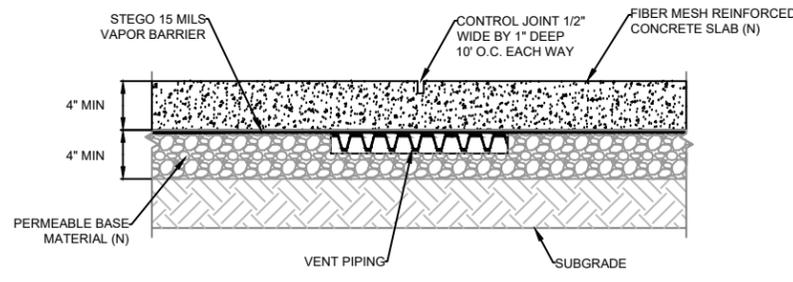
1x17 - USER: KLI - ATTACHED XREFS: SFAMP-ANG-RE-08-30-19 - ATTACHED IMAGES: DRAWING NAME: N:\PROJECTS\CAD\Presidio - Riley Ave\Remedial Design\Fig3A 127B Sub-Slab Venting System Plan.dwg -- PLOT DATE: May 16, 2019 - 5:29PM -- LAYOUT: 11X17L

**LEGEND**

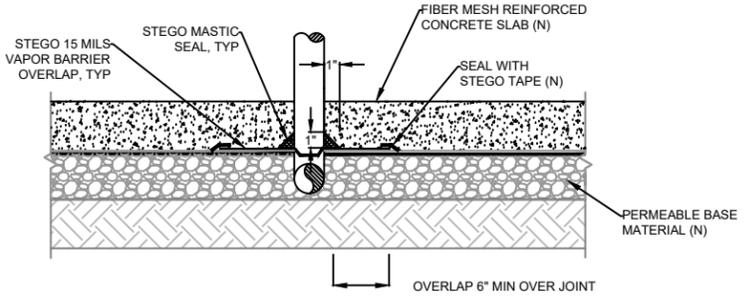
-  SUB-SLAB VAPOR VENT PIPING
-  STEGO SOIL VAPOR BARRIER
-  AIR FLOW



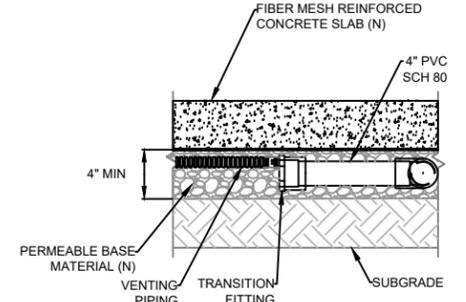
PROJECT:		THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA	
TITLE:		127B SUB-SLAB VENTING SYSTEM PLAN	
DRAWN BY:	K. LI	PROJ NO.:	285830.04A.02
CHECKED BY:	A. ANG	<b>FIGURE 3A</b>	
APPROVED BY:	A. ANG		
DATE:	MAY 2019		
		505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
		FILE NO.:	Fig3A 127B Sub-Slab Venting System Plan.dwg



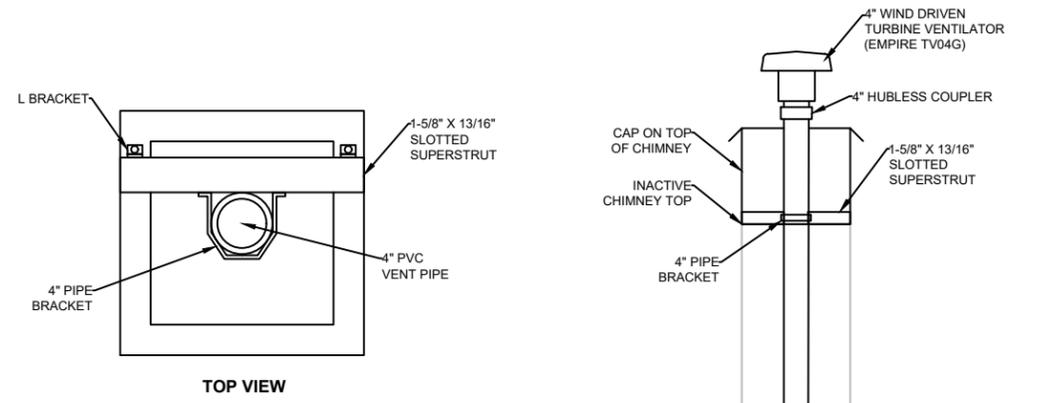
**1**  
C-2A **TYPICAL VENT PIPE AND CONCRETE SLAB**  
(NOT TO SCALE)



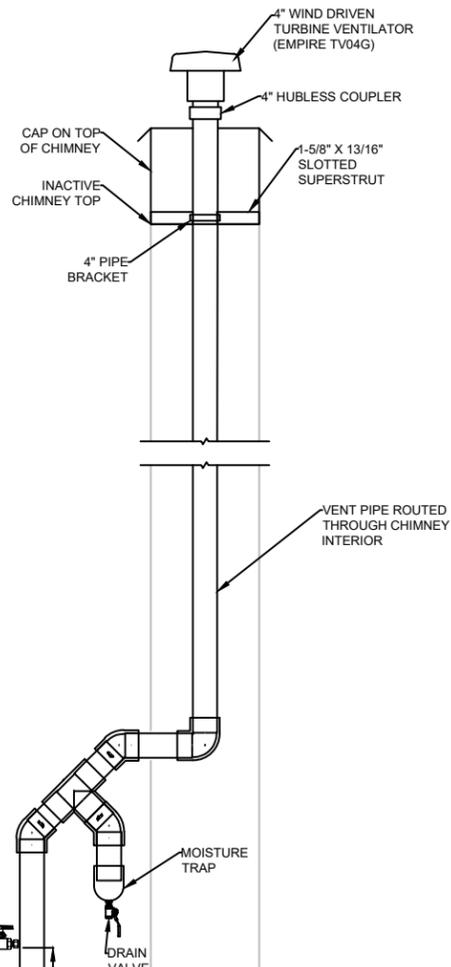
**2**  
C-2A **TYPICAL VENT PIPE SLAB PENETRATION**  
(NOT TO SCALE)



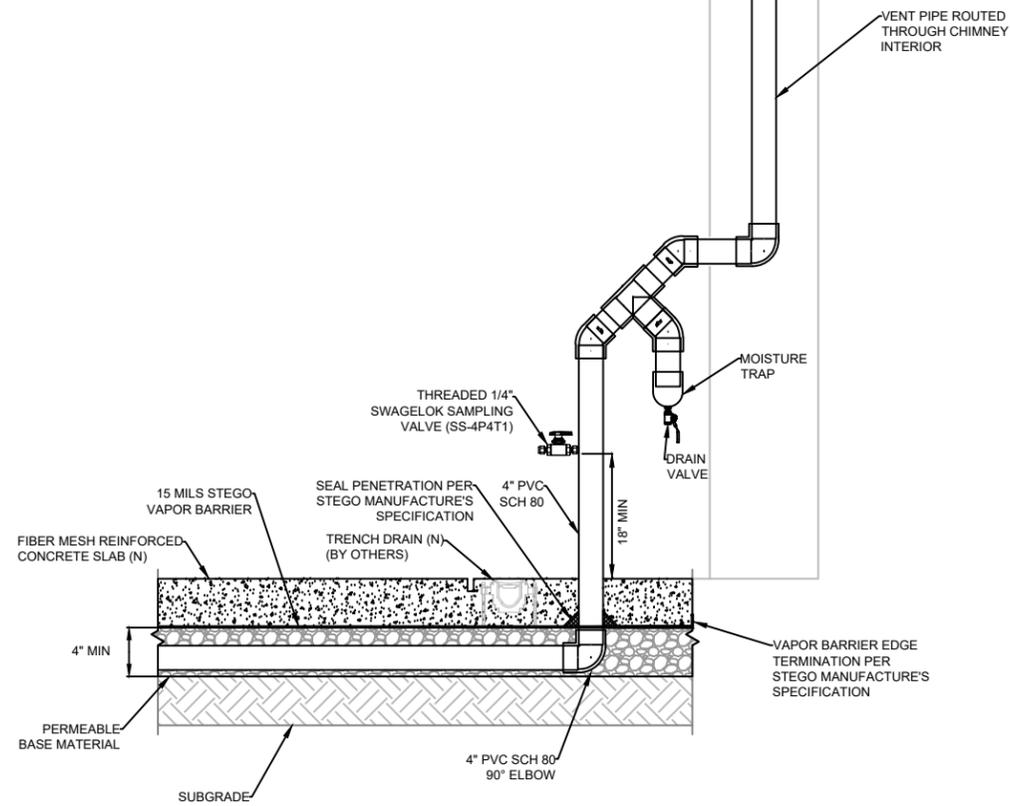
**3**  
C-2A **SUB-SLAB PIPING TRANSITION**  
(NOT TO SCALE)



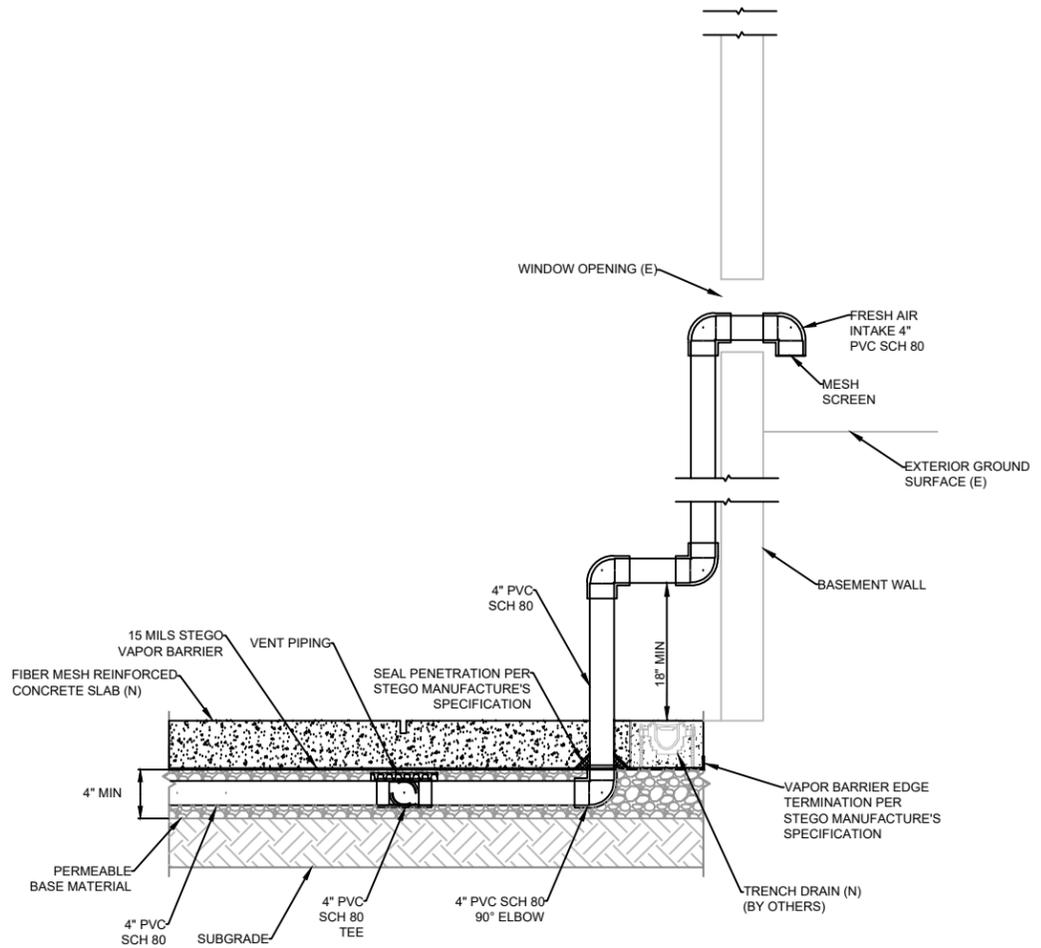
**TOP VIEW**



VENT PIPE ROUTED THROUGH CHIMNEY INTERIOR



**4**  
C-2A **VENT PIPING**  
(NOT TO SCALE)



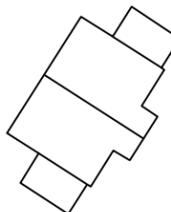
**5**  
C-2A **AIR INTAKE PIPING**  
(NOT TO SCALE)

PROJECT:		<b>THE PRESIDIO TRUST</b>	
		<b>BR11-1 FUEL DISTRIBUTION SYSTEM</b>	
		<b>RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE:			
<b>127B SUB-SLAB VENTING SYSTEM DETAILS</b>			
DRAWN BY:	K. LI	PROJ NO.:	285830.04A.02
CHECKED BY:	A. ANG	<b>FIGURE 3B</b>	
APPROVED BY:	A. ANG		
DATE:	MAY 2019		
DRAWING NAME: N:\PROJECTS\CAD\Presidio - Riley Ave\Remedial Design\Fig3B 127B Sub-Slab Venting System Details.dwg		FILE NO.:	
DRAWING DATE: May 16, 2019 - 5:27PM		Fig3B 127B Sub-Slab Venting System Details.dwg	

1x17 - USER: KLI - ATTACHED REFS: STAMP-ANG-RE-08-30-19 - ATTACHED IMAGES: DRAWING NAME: N:\PROJECTS\CAD\Presidio - Riley Ave\Remedial Design\Fig3B 127B Sub-Slab Venting System Details.dwg --- PLOT DATE: May 16, 2019 - 5:27PM --- LAYOUT: 11X17L  
 Version: 2017-10-21

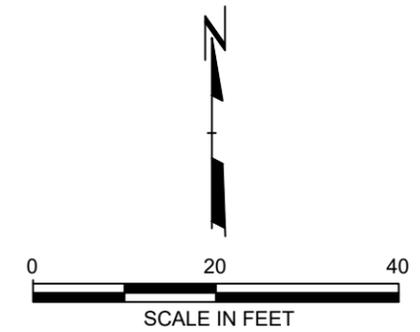
KOREAN WAR MEMORIAL

**LEGEND**

-  FORMER BR11-1 FDS LINE
-  RESIDENTIAL UNITS BOUNDARY
-  HARDSCAPE AREA
-  NON-IMPACTED SOIL COVER AREA (2 FT. MINIMUM DEPTH)
-  LAND USE CONTROL BOUNDARY

**NOTES**

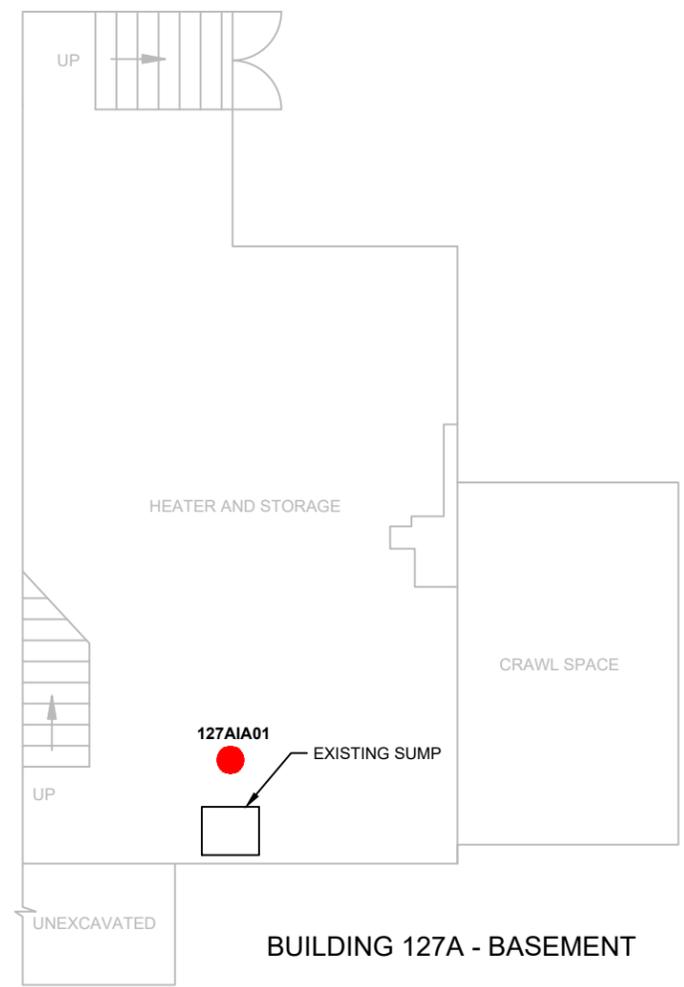
1. THE 2-FT. MINIMUM DEPTH FOR NON-IMPACTED SOIL COVER CONFIRMED VIA SOIL BORING LOGS FROM LOCATIONS ACROSS THE SITE AND WAS DOCUMENTED IN THE 2019 SUPPLEMENTAL SITE INVESTIGATION REPORT.



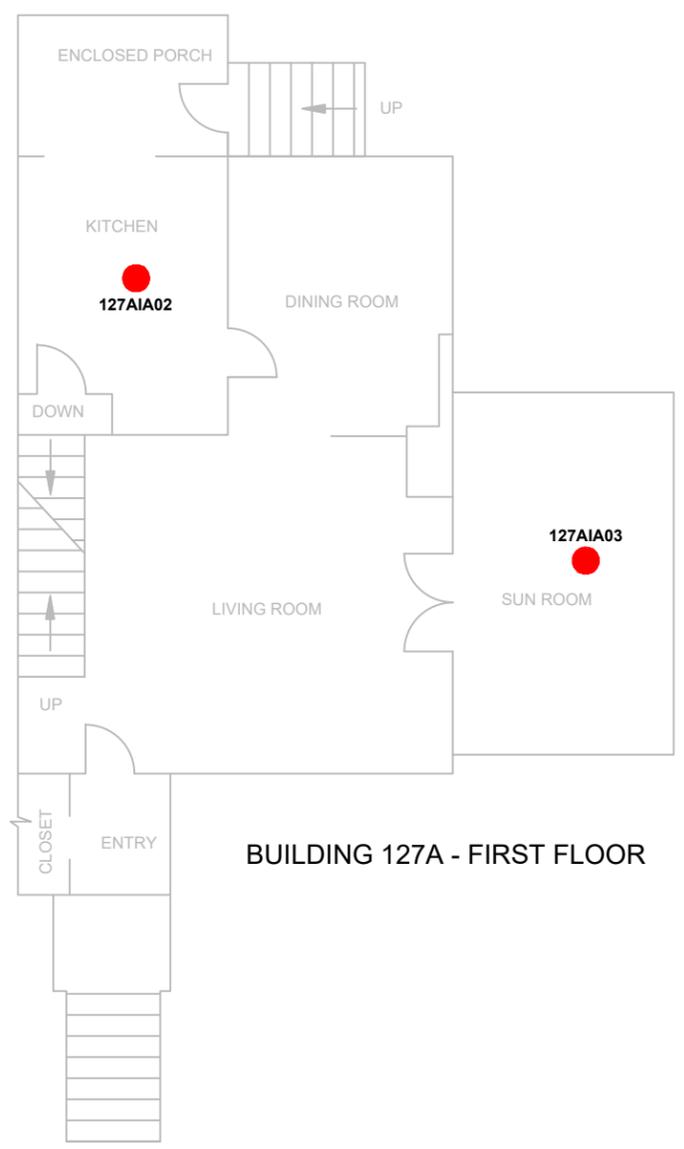
<b>PROJECT:</b>	
THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA	
<b>TITLE:</b>	
EXISTING CAPPING	
DRAWN BY: KQ	PROJ NO.: 285830.00001A.TASK07
CHECKED BY: L. SHANNON	<b>FIGURE 4</b>
APPROVED BY: L. SHANNON	
DATE: DECEMBER 2019	
	
505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
FILE NO.:	Fig4 Existing Capping.dwg

1x17 - USER: KJ - ATTACHED XREFS: MASTER Presidio, Parametrix, New Dwyer Alignment - - PLOT DATE: April 01, 2020 - 12:28PM - LAYOUT: 11X17L  
 DRAWING NAME: X:\Current\Presidio - Riley Ave\IFS\_CAP\_REV AUG19\Fig4\_Existing Capping.dwg

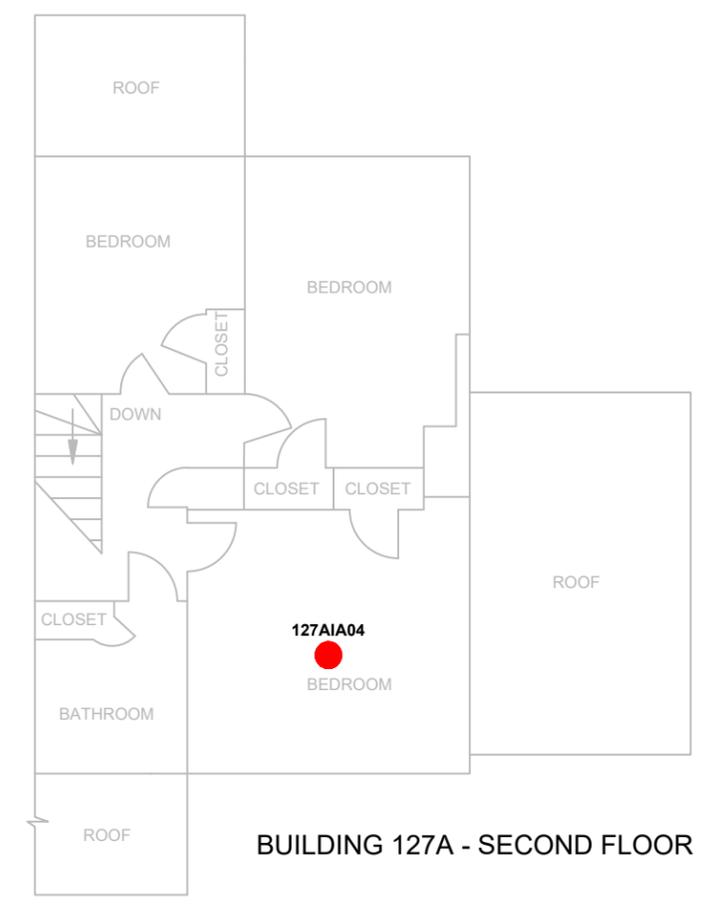
11x17 - USER: D:\parsons - ATTACHED IMAGES - DRAWING NAME: I:\SANFRAN\PROJECTS\CAD\Presidio - Riley Ave\Indoor & Ambient Air Sampling\No SVI Request\Figs 127A Indoor Air Sampling Locations.dwg --- PLOT DATE: October 02, 2019 - 3:44PM --- LAYOUT: Layout1-11X17L  
 Version: 2017-10-21



**BUILDING 127A - BASEMENT**



**BUILDING 127A - FIRST FLOOR**



**BUILDING 127A - SECOND FLOOR**

**LEGEND**

- 127AIA01 INDOOR AIR SAMPLING LOCATIONS

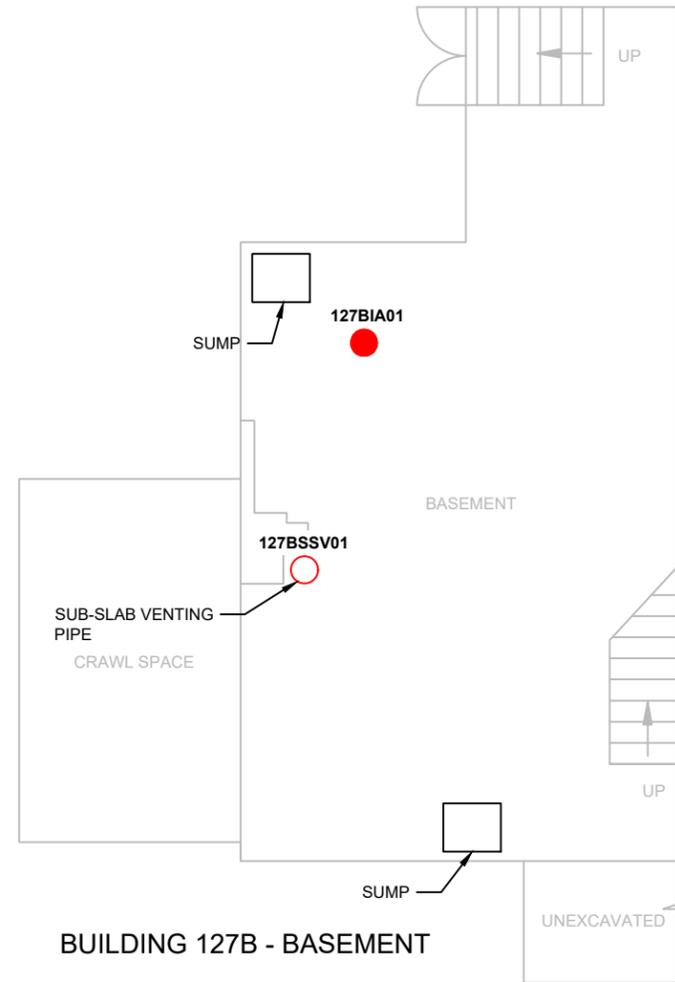
**NOTES AND ABBREVIATIONS**

1. DRAWING NOT TO SCALE

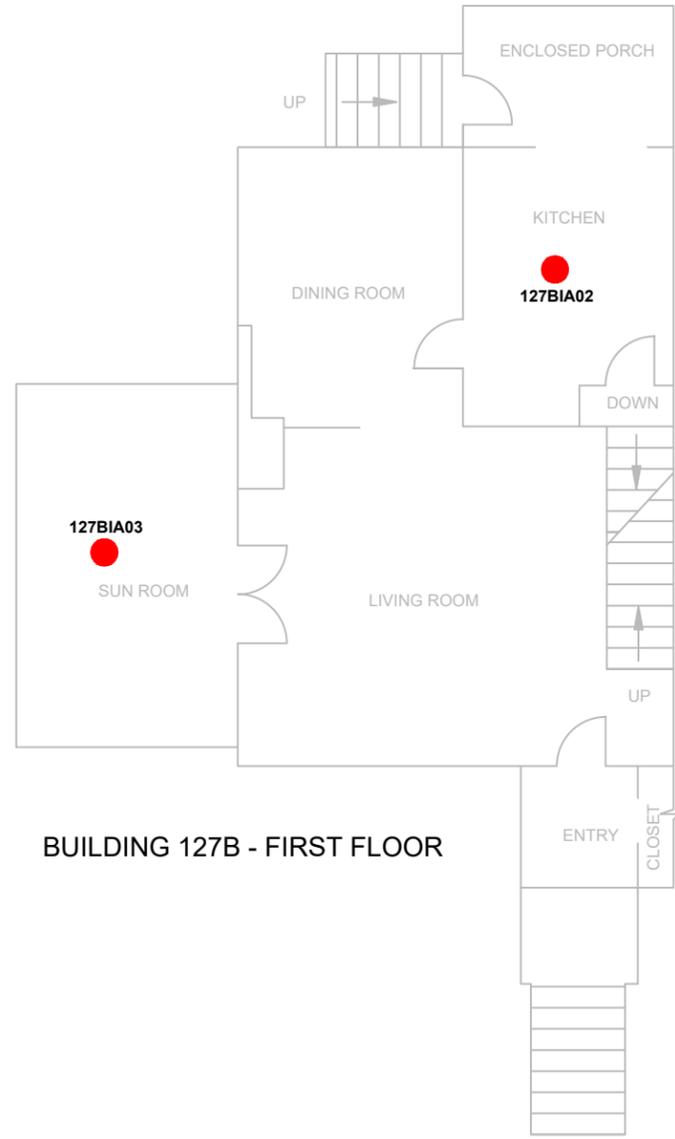
PROJECT: <b>THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE: <b>127A INDOOR AIR SAMPLING LOCATIONS</b>	
DRAWN BY: K. LI/D. PARSONS	PROJ NO.: 285830.02.04
CHECKED BY: A. ANG	<b>FIGURE 5</b>
APPROVED BY: A. ANG	
DATE: OCTOBER 2019	
FILE NO.:	Fig5 127A Indoor Air Sampling Locations.dwg

505 Sansome Street  
 Suite 1600  
 San Francisco, CA 94111  
 Phone: 415.434.2600

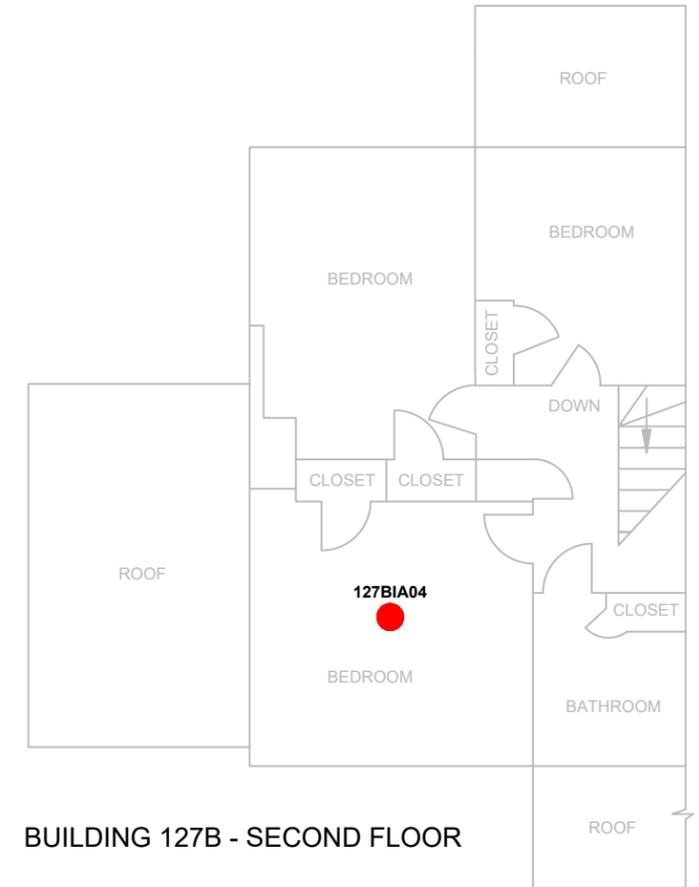
11x17 - USER: D:\parsons - ATTACHED IMAGES - SANFRAN\PROJECTS\CAD\Presidio - Riley Ave\Remedial Design\Fig6 127B Indoor Air and Vent Riser Sampling Locations.dwg - PLOT DATE: October 02, 2019 - 3:44PM -- LAYOUT: Layout1-11X17L  
 DRAWING NAME: \SANFRAN\PROJECTS\CAD\Presidio - Riley Ave\Remedial Design\Fig6 127B Indoor Air and Vent Riser Sampling Locations.dwg



BUILDING 127B - BASEMENT



BUILDING 127B - FIRST FLOOR



BUILDING 127B - SECOND FLOOR

**LEGEND**

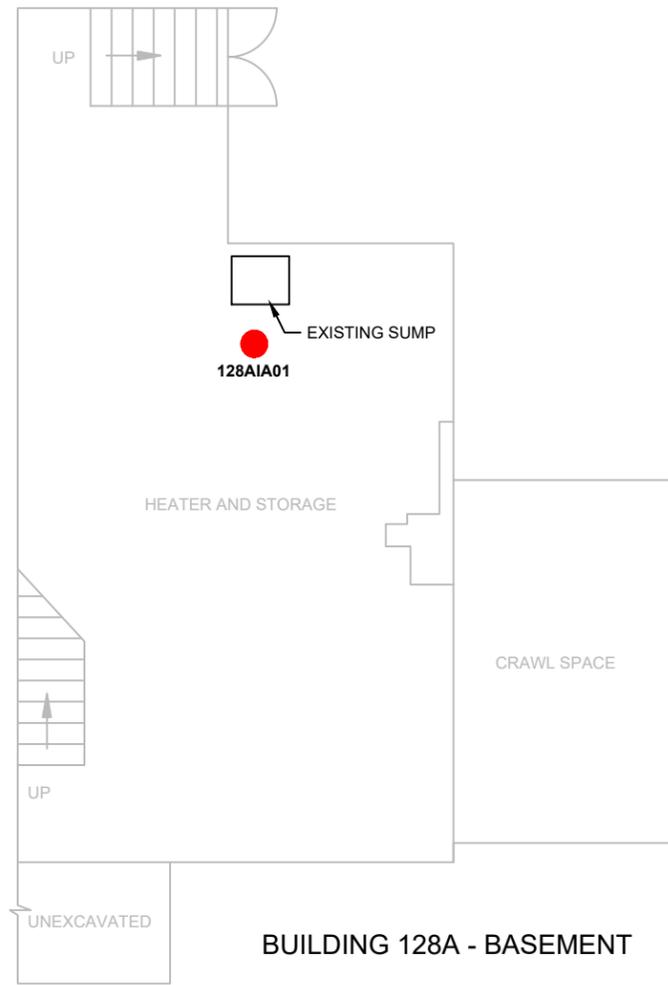
- 127BIA01 ● INDOOR AIR SAMPLING LOCATIONS
- 127BSSV01 ○ SUB-SLAB VENTING SYSTEM SAMPLING LOCATION

**NOTES**

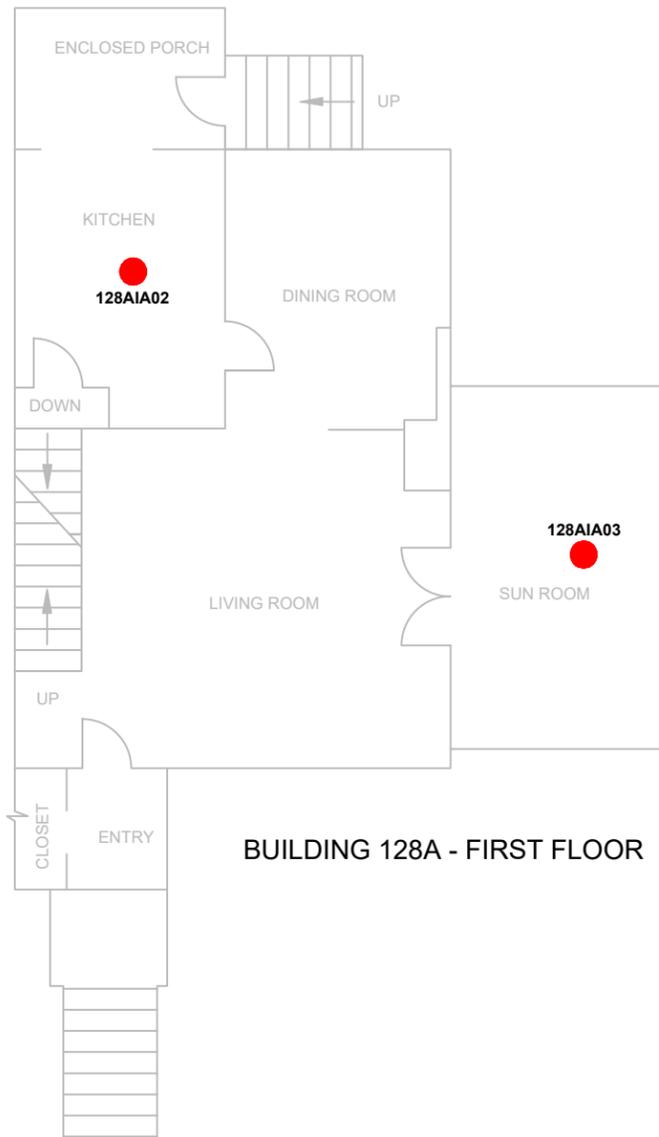
1. DRAWING NOT TO SCALE

PROJECT: <b>THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE: <b>127B INDOOR AIR AND VENT RISER SAMPLING LOCATIONS</b>	
DRAWN BY: K.L.I/D. PARSONS	PROJ NO.: 285830.02.04
CHECKED BY: A. ANG	<b>FIGURE 6</b>
APPROVED BY: A. ANG	
DATE: OCTOBER 2019	
505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
FILE NO.:	Fig6 127B Indoor Air and Vent Riser Sampling Locations.dwg

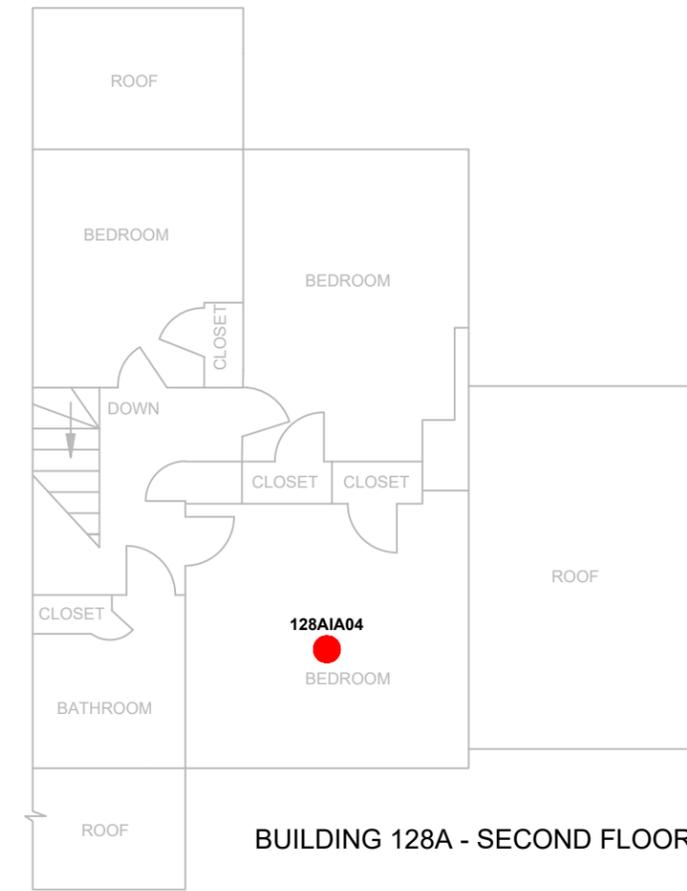
1x17 - USER: KJ - ATTACHED XREFS: - ATTACHED IMAGES: - RILEY AVENUE INDOOR & AMBIENT AIR SAMPLING (NO SVI REQUEST) - FIG 128A INDOOR SAMPLE LOCATIONS.dwg -- PLOT DATE: April 01, 2020 - 2:52PM -- LAYOUT: 11X17L  
 DRAWING NAME: N:\PROJECTS\CAD\Presidio - Riley Ave\Indoor & Ambient Air Sampling\No SVI Request\Fig 128A Indoor Sample Locations.dwg



**BUILDING 128A - BASEMENT**



**BUILDING 128A - FIRST FLOOR**



**BUILDING 128A - SECOND FLOOR**

**LEGEND**

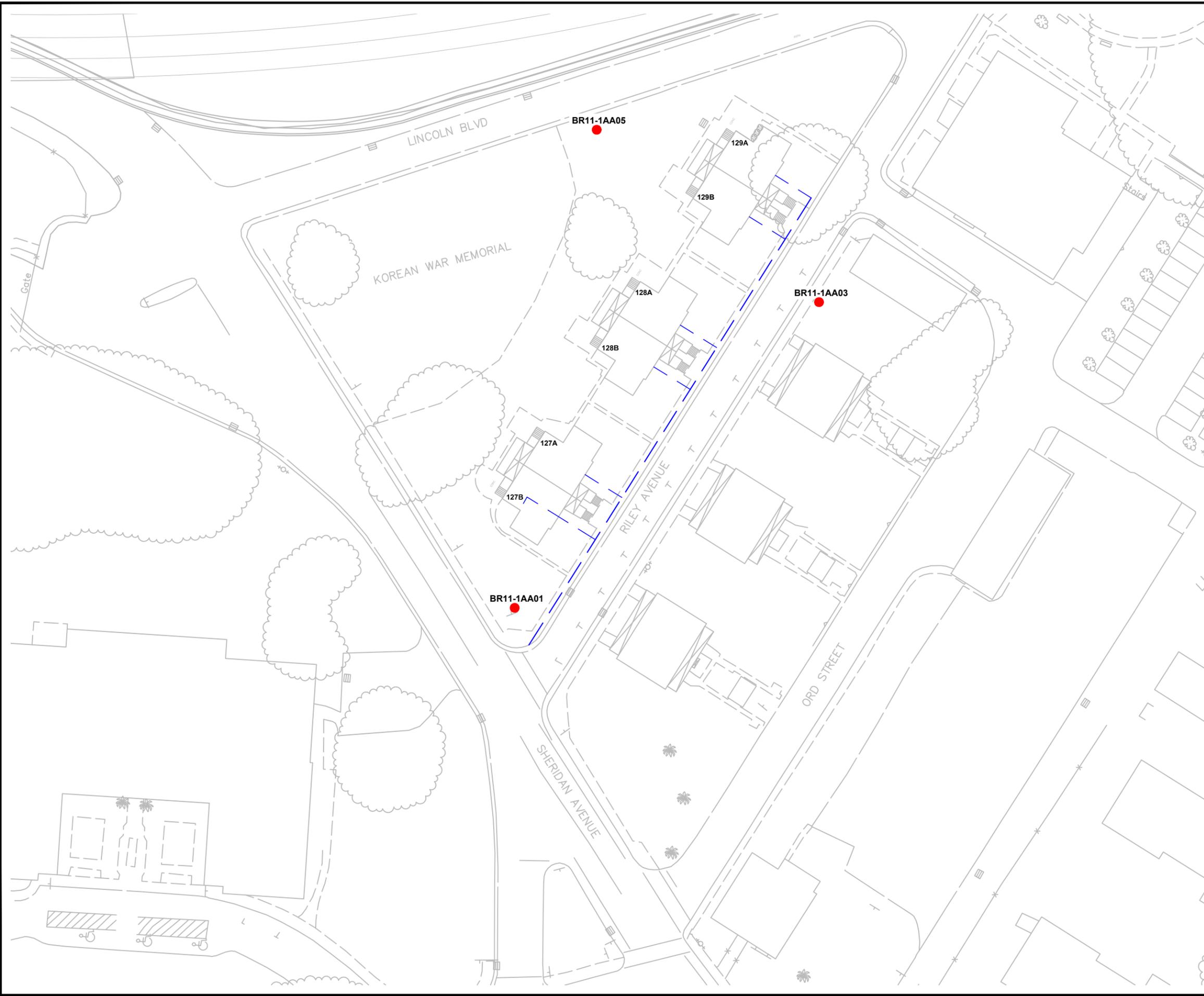
- 128AIA01 ● INDOOR AIR SAMPLING LOCATIONS

**NOTES**

1. DRAWING NOT TO SCALE

PROJECT:		<b>THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE:		<b>128A INDOOR SAMPLING LOCATIONS</b>	
DRAWN BY:	K. LI/D. PARSONS	PROJ NO.:	285830.000002.TASK04
CHECKED BY:	A. ANG	<b>FIGURE 7</b>	
APPROVED BY:	A. ANG		
DATE:	JANUARY 2020		
		505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
FILE NO.:		Fig7 128A Indoor Sample Locations.dwg	

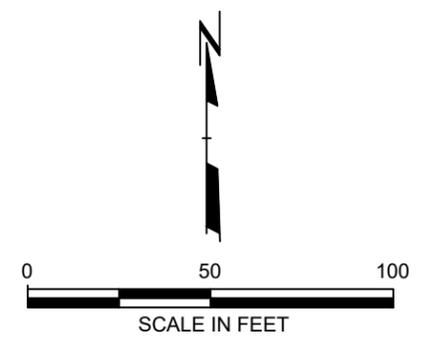
11x17 --- USER: RJ --- ATTACHED/REFS: MASTER Presidio, Plannings, New Dyle Aligment --- ATTACHED IMAGES: ---  
 DRAWING NAME: N:\PROJECTS\CIS\041\Presidio - Riley Ave\Remedial Design\Fig8 Post-Construction Ambient Air Sampling Locations.dwg --- PLOT DATE: April 01, 2020 - 12:27PM --- LAYOUT: 11X17L  
 Version: 2017-10-21



**LEGEND**

--- BR11-1 FDS LINE

● BR11-1AA01 AMBIENT AIR SAMPLING LOCATIONS



SOURCE: Base map by Towill, Oct.- Nov. 2015, Apr. 2016, May 2017, and Jan. 2018

PROJECT:		<b>THE PRESIDIO TRUST BR11-1 FUEL DISTRIBUTION SYSTEM RILEY AVENUE, SAN FRANCISCO, CALIFORNIA</b>	
TITLE:		<b>AMBIENT AIR SAMPLING LOCATIONS</b>	
DRAWN BY:	D. PARSONS	PROJ NO.:	285830.000002.TASK04
CHECKED BY:	A. ANG	<b>FIGURE 8</b>	
APPROVED BY:	A. ANG		
DATE:	OCTOBER 2019		
		505 Sansome Street Suite 1600 San Francisco, CA 94111 Phone: 415.434.2600	
		FILE NO.:	Fig8 Post-Construction Ambient Air Sampling Locations.dwg

## **TABLES**

**Table 1**  
**Soil Cleanup & Screening Levels**  
**Section BR11-1 Fuel Distribution System**  
**Presidio of San Francisco, San Francisco, California**

Chemicals of Concern	Soil Cleanup Level: Human Health Residential <sup>a</sup>	RWQCB ESLs (Tier 1, 2019) <sup>b</sup>	RWQCB ESLs (Residential, 2019) <sup>b</sup>
<b>Soil (mg/kg)</b>			
<b>Total Petroleum Hydrocarbons</b>			
Gasoline	1,030	100	430
Diesel	1,380	260	260
Motor Oil	1,900	1,600	12,000
<b>Volatile Organic Compounds</b>			
Benzene	0.6	0.025	0.33
Ethylbenzene	840	0.43	5.9
Toluene	530	3.2	1100
o-Xylene	1,080	2.1	580
<b>Polycyclic Aromatic Hydrocarbons</b>			
Acenaphthene	2,700	12	3,600
Acenaphthylene	--	6.4	--
Anthracene	5,900	1.9	18,000
Benz(a)anthracene	0.43	0.63	1.10
Benzo(a)pyrene	0.04	0.11	0.110
Benzo(b)fluoranthene	0.43	1.1	1.1
Benzo(g,h,i)perylene	620	2.5	--
Benzo(k)fluoranthene	0.43	2.8	11.0
Chrysene	4.3	2.2	110
Dibenz(a,h)anthracene	0.078	0.11	0.110
Fluoranthene	820	0.69	2,400
Fluorene	770	6.0	2,400
Indeno(1,2,3-cd) pyrene	0.27	0.48	1.1
Naphthalene	480	0.042	3.8
Phenanthrene	600	7.8	--
Pyrene	620	45	1,800

**Abbreviations:**

-- = not available

mg/kg = milligrams per kilogram

ESL = Environmental Screening Level

RWQCB = Regional Water Quality Control Board

**Footnotes:**

<sup>a</sup> Soil cleanup levels from Tables 7-2 and 7-5 and groundwater cleanup levels from Table 7-6 from EKI's 2002 (with updates through 2013) Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water. Presidio of San Francisco.

<sup>b</sup> RWQCB ESLs are from RWQCB's 2019 (Rev. 2) Summary Table of Soil ESLs ([http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml)).

**Table 2**  
**Soil Vapor & Sub-Slab Vapor Screening Levels**  
**Section BR11-1 Fuel Distribution System**  
**Presidio of San Francisco, San Francisco, California**

Chemicals of Concern	RWQCB ESLs (Tier 1, Subslab/Soil Vapor, 2019) <sup>a</sup>	RWQCB ESLs (Residential, Subslab/Soil Vapor, 2019) <sup>a</sup>
	Soil Vapor ( $\mu\text{g}/\text{m}^3$ )	Soil Vapor ( $\mu\text{g}/\text{m}^3$ )
<b>Total Petroleum Hydrocarbons</b>		
Gasoline	3,333	20,000
Diesel	8,900	8,900
<b>Volatile Organic Compounds</b>		
Benzene	3.2	3.2
Ethylbenzene	37	37
Toluene	10,000	10,000
o-Xylene	3,500	3,500
p/m-Xylene	3,500	3,500
<b>Polycyclic Aromatic Hydrocarbons</b>		
Naphthalene	2.8	2.8
<b>Fixed Gases</b>	Screening Level	
Methane	1.25% by volume	

**Abbreviations:**

-- = not available  
 $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter  
 AF = Attenuation Factor  
 Com/Ind = Commercial/Industrial  
 ESL = Environmental Screening Level  
 LEL = Lower Explosive Limit  
 RWQCB = Regional Water Quality Control Board

**Footnotes:**

<sup>a</sup> RWQCB ESLs are from RWQCB's 2019 (Rev. 02) Summary Table of Vapor ESLs ([http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml)).

**Table 3**  
**Indoor Air Screening Levels**  
**Section BR11-1 Fuel Distribution System**  
**Presidio of San Francisco, San Francisco, California**

Chemicals of Concern	RWQCB ESLs (Tier 1, Indoor Air, 2019) <sup>a</sup>	RWQCB ESLs (Residential, Indoor Air, 2019) <sup>a</sup>
<b>Indoor Air (<math>\mu\text{g}/\text{m}^3</math>)</b>		
<b>Total Petroleum Hydrocarbons</b>		
Gasoline	100	600
Diesel	270	270
<b>Volatile Organic Compounds</b>		
Benzene	0.097	0.097
Ethylbenzene	1.1	1.1
Toluene	310	310
o-Xylene	100	100
p/m-Xylene	100	100
<b>Polycyclic Aromatic Hydrocarbons</b>		
Naphthalene	0.083	0.083
<b>Fixed Gases</b>		
	Screening Level	Action Level
Methane	0.75%	1.25%

**Abbreviations:**

-- = not available

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

ESL = Environmental Screening Level

RWQCB = Regional Water Quality Control Board

**Footnotes:**

<sup>a</sup> RWQCB ESLs are from RWQCB's 2019 (Rev. 02) Summary Table of Vapor ESLs  
([http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml)).

**Table 4. Inspection and Monitoring Schedule  
 Building 127B VMS and Buildings 127A and 127B Cap  
 FDS Section BR11-1  
 Riley Avenue  
 Presidio of San Francisco, California**

Inspection/Monitoring Requirement	Site Area			Frequency	Description	Maintenance/Repair	Reporting
	127B Riley	127A Riley	128A Riley				
<b>Vapor Mitigation System (VMS) Inspection</b>	X			Semiannual during Post-Construction Confirmation Sampling; annually thereafter and after qualifying seismic events	<b>Vent and Fresh Air Piping</b> <ul style="list-style-type: none"> <li>· Damage to vent piping;</li> <li>· Condition of Flexible Joints;</li> <li>· Pipe Support Condition;</li> <li>· Sampling Valve Condition</li> <li>· Concrete slab condition around pipe penetrations;</li> <li>· Fresh Air Intake Mesh Screen; and</li> <li>· Turbine ventilator operation</li> </ul>	<b>Vent and Fresh Air Piping</b> <ul style="list-style-type: none"> <li>· Repair damaged section with similar material;</li> <li>· Replace worn out flex joint with similar equipment;</li> <li>· Replace damaged pipe support, tighten loose support;</li> <li>· Replace damaged or missing valve</li> <li>· Report cracks or unexpected penetrations</li> <li>· Coordinate repairs to cracks and sealing of penetrations</li> <li>· Repair or replace damaged/missing mesh screen</li> <li>· Lubricate ventilator bearings</li> <li>· Replace damaged or missing ventilator fan</li> </ul>	Annual inspections and maintenance/repairs are to be documented on Site Inspection Forms (Appendix A) and submitted with the Presidio's Annual O&M Report.
<b>Concrete Basement Floor</b>	X	X	X	Annually; after qualifying seismic events	<ul style="list-style-type: none"> <li>· Cracks or unexpected penetrations in concrete slab;</li> <li>· Concrete slab condition around existing pipe penetrations;</li> </ul>	<ul style="list-style-type: none"> <li>· Report cracks or unexpected penetrations</li> <li>· Coordinate repairs to cracks and sealing of penetrations</li> </ul>	
<b>Exterior Surroundings</b>	X	X		Annually	<ul style="list-style-type: none"> <li>· Distressed or dead vegetation;</li> <li>· Areas of slower plant growth; and</li> <li>· Patches of bare earth or inadequate coverage where vegetation is the primary form of erosion control.</li> </ul>	<ul style="list-style-type: none"> <li>· Providing nutrients to enhance tree or plant establishment;</li> <li>· Adding erosion control measures to newly seeded areas or of exposed soil (see Section 2.2);</li> <li>· Checking performance of the irrigation system and performing necessary repairs to ensure adequate watering (see Section</li> </ul>	
<b>VMS Sampling</b>	X			Annually and Inter-Occupancy Period	VMS vent riser sampling	<ul style="list-style-type: none"> <li>· Conduct VMS vent riser sampling in accordance with Appendix C</li> </ul>	
<b>Indoor Air and Outdoor Air Sampling</b>	X	X	X	Inter-Occupancy Period	Indoor, and outdoor air sampling	<ul style="list-style-type: none"> <li>· Conduct indoor and ambient air sampling in accordance with Appendix C</li> </ul>	
<b>LUC Inspection</b>	X	X	X	Annually	Sitewide inspection for all of the above elements of the Site that affect the Site's LUC.	Maintenance or repairs for any of the above elements shall be made as soon as feasible and documented.	

**APPENDIX A**  
**SITE INSPECTION LOG**

**Appendix A**  
 Site Inspection Log  
 Vapor Mitigation System and Cap  
 Buildings 127A, 127B, and 128A  
 Operation, Monitoring, and Maintenance Plan  
 Presidio of San Francisco, California

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Weather: \_\_\_\_\_

Inspector: \_\_\_\_\_ Signature: \_\_\_\_\_

Occupancy Status During Inspection (Circle one):    Occupied        Unoccupied

<b>127B Vapor Mitigation System Piping (Vent and Fresh Air Intake)</b>
General Piping Condition (cracking, discoloration, etc.):
Vent Riser Sampling Valve Condition:
Fresh Air Intake Metal Mesh Protection:
Recommended Actions/Maintenance:
<b>Basement Concrete Floor (127B)</b>
Concrete Floor Condition (cracking, edge conditions, discoloration, etc.):
Utility Penetrations (any new penetrations, utilities, etc.):
Recommended Actions/Maintenance:

**Appendix A**  
 Site Inspection Log  
 Vapor Mitigation System and Cap  
 Buildings 127A, 127B, and 128A  
 Operation, Monitoring, and Maintenance Plan  
 Presidio of San Francisco, California

<b>Basement Concrete Floor (127A)</b>
Concrete Floor Condition (cracking, edge conditions, discoloration, etc.):
Utility Penetrations (any new penetrations, utilities, etc.):
Recommended Actions/Maintenance:
<b>127A and 127B Exterior Surroundings</b>
<ul style="list-style-type: none"> <li style="width: 50%; margin-right: 50%;">• Concrete patios, sidewalks, and stairs</li> <li style="width: 50%;">• Landscape Areas</li> <li style="width: 50%; margin-right: 50%;">• Asphalt paths</li> <li style="width: 50%;">• Existing paved roadways/parking areas</li> </ul>
General Hardscape Condition (cracking, erosion, etc.):
Surface Water Ponding:
Erosion around Hardscape Edges:
Indication of Subsurface Work Penetrating the Basement Walls:

**Appendix A**  
Site Inspection Log  
Vapor Mitigation System and Cap  
Buildings 127A, 127B, and 128A  
Operation, Monitoring, and Maintenance Plan  
Presidio of San Francisco, California

Recommended Actions/Maintenance:
<b>Basement Concrete Floor (128A)</b>
Concrete Floor Condition (cracking, edge conditions, discoloration, etc.):
Utility Penetrations (any new penetrations, utilities, etc.):
Recommended Actions/Maintenance:
<b>Overall Observations/Recommendations</b>

Inspection End Time: \_\_\_\_\_

**Appendix A**  
 Site Inspection Log  
 Vapor Mitigation System and Cap  
 Buildings 127A, 127B, and 128A  
 Operation, Monitoring, and Maintenance Plan  
 Presidio of San Francisco, California

**Occupancy Report:** Building occupancy status between annual inspections

Occupancy Report												
Year 2019	Month											
Building	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
127A												
127B												
128A												

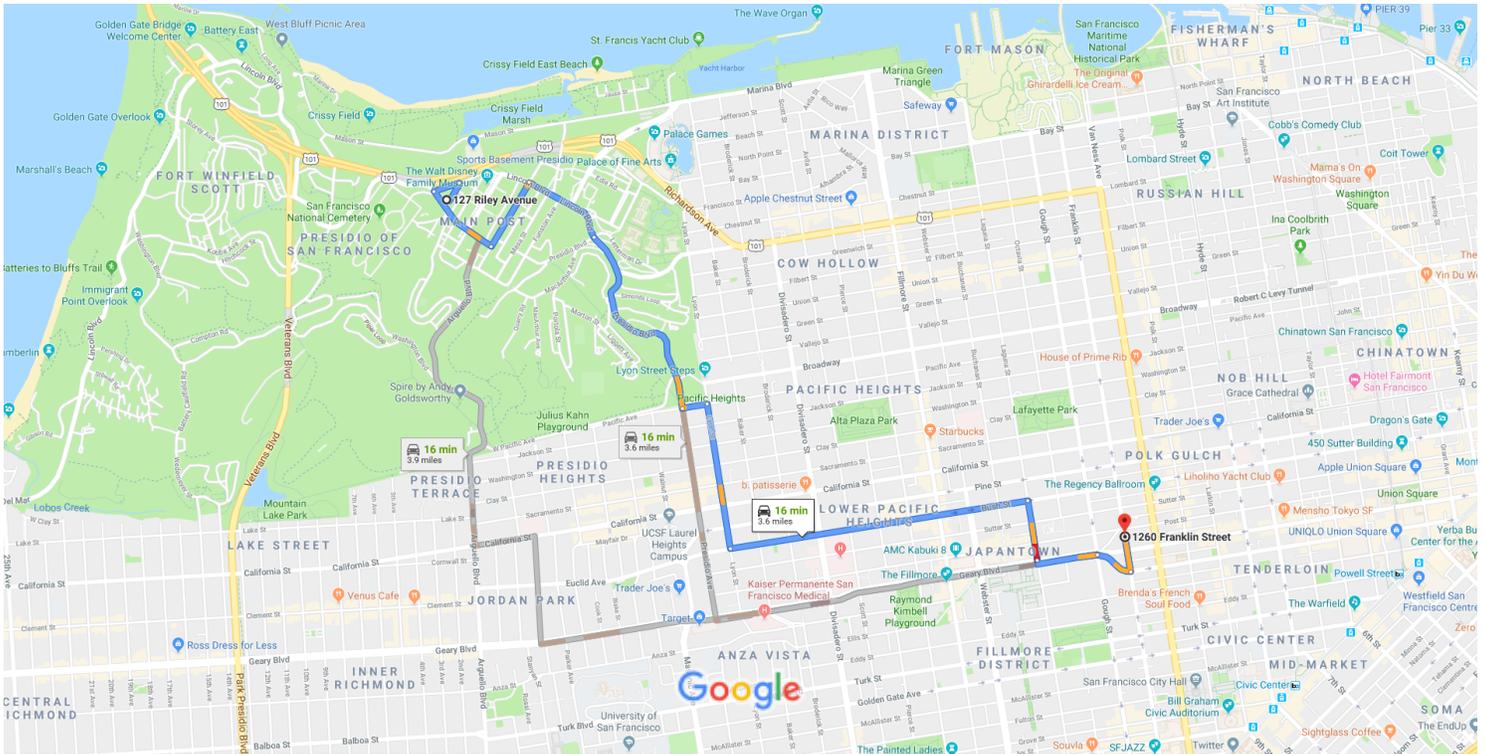
Occupancy Report												
Year 2020	Month											
Building	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
127A												
127B												
128A												

X = indicates building was occupied during the indicated month for a minimum of 15 consecutive days

**APPENDIX B**  
**HOSPITAL MAP AND DIRECTIONS**



127 Riley Avenue, San Francisco, CA to 1260 Franklin St, San Francisco, CA 94109 Drive 3.6 miles, 16 min



Map data ©2019 Google 1000 ft

### 127 Riley Ave

San Francisco, CA 94129

#### Take Lincoln Blvd to Sheridan Ave

- 55 s (0.1 mi)
- ↑ 1. Head northeast on Riley Ave toward Ord St
- 335 ft
- ↶ 2. Turn left onto Lincoln Blvd
- 427 ft
- ↶ 3. Turn left onto Sheridan Ave
- 1 min (0.2 mi)
- ↶ 4. Turn left onto Graham St
- 46 s (0.2 mi)

#### Take Presidio Blvd to Pacific Ave

- 3 min (0.9 mi)
- ↷ 5. Turn right onto Lincoln Blvd
- 0.3 mi
- ↑ 6. Continue onto Presidio Blvd
- 0.7 mi

**Take Lyon St to Bush St**

- 
- 3 min (0.5 mi)
- ↩ 7. Turn left onto Pacific Ave
- 
- 407 ft
- ➡ 8. Turn right at the 1st cross street onto Lyon St
- 
- 0.4 mi
- ↩ 9. Turn left onto Bush St
- 
- 3 min (0.9 mi)
- ➡ 10. Turn right onto Laguna St
- 
- 1 min (0.2 mi)

**Continue on Geary Blvd. Drive to Franklin St**

- 
- 2 min (0.4 mi)
- ↩ 11. Turn left onto Geary Blvd
- 
- 0.2 mi
- ↑ 12. Continue onto Starr King Way
- 
- 0.1 mi
- ↩ 13. Turn left onto Franklin St
- 
- 0.1 mi

**1260 Franklin St**

San Francisco, CA 94109

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

**APPENDIX C**

**VAPOR MITIGATION SYSTEM (VMS), INDOOR AIR, AND AMBIENT AIR  
SAMPLING PROTOCOLS**

## Appendix C

### Vapor Mitigation System (VMS), Indoor Air, and Ambient Air Sampling Protocols Section BR11-1 – Fuel Distribution System Riley Avenue Presidio of San Francisco, San Francisco, California

#### Introduction

The following describes protocols for monitoring soil vapor intrusion (SVI) in Buildings 127A and 127B located on Riley Avenue in the Presidio of San Francisco. Specifically, the protocols described sampling procedures conducted as part of the Operation and Maintenance (O&M) of the vapor mitigation system (VMS) installed in Building 127B and evaluation of SVI via sampling and analysis of 127B VMS vent riser, indoor, and outdoor air. This document serves as an Appendix to the Operations, Maintenance, and Monitoring Plan (OMMP).

#### O&M Activities and Frequency

The proposed activities consist of the following:

1. Annual and inter-occupancy sampling of 127B VMS vent riser
2. Inter-occupancy sampling of indoor air at 127A and/or 127B and outdoor

The following sections describe the presents protocols for conducting listed activities.

#### VMS Vent Riser Sampling (Annual and Inter-Occupancy)

VMS riser vent sampling shall be conducted via the sampling port installed in the above-ground portion of the sub-slab venting system in the basement of Building 127B. The location on the vent riser is shown in Figure 4 of the OMMP. The sampling will consist of a grab sample using laboratory provided vacuum (Summa®) canisters and sorbent tubes. Both Summa® canister and thermal desorption tube will be connected to the sampling port via ¼-inch tubing and compression fittings. Samples collected using Summa® canister shall be conducted using laboratory provided 6-liter Summa® canisters and flow controllers set for a maximum flow rate of 200 milliliters per minute. Sample shall be drawn until a vacuum of approximately 5 inches of mercury remain in the canister. Summa® canisters and sorbent tube sampling set up photographs are included as an attachment.

Sorbent tube samples will be collected using manual syringe to draw approximately 150 milliliters of air through the sorbent tube. The 150 milliliter sample volume is based on a 1,000 nanograms (ng) reporting limit and minimum reporting limit of 8,900 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) for total petroleum hydrocarbons as diesel (TPH-d). For different analytical and reporting limit objectives, the minimum sample volume can be and calculated as show on the following example.

- **Reporting Limit Objectives:** The sample reporting limit is calculated by dividing the laboratory analytical reporting limit by volume collected. As a result, the sample reporting limit decreases with increasing sample volume. To achieve a sample reporting limit (RL) of  $1 \mu\text{g}/\text{m}^3$  ( $1 \text{ ng}/\text{L}$ ) with a laboratory reporting limit of 5 nanograms (ng), the volume required can be calculated as follows:

$$\text{Volume (L)} = \frac{\text{Analytical RL (ng)}}{\text{Sample RL } \left(\frac{\mu\text{g}}{\text{m}^3}\right)} \times \frac{1000\text{L}}{\text{m}^3} \times \frac{\mu\text{g}}{1000 \text{ ng}}$$

$$\text{Volume (L)} = \frac{5}{1} \times \frac{1000}{1000} = 5 \text{ L}$$

Collected vent riser samples will be analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and naphthalene by Environmental Protection Agency (EPA) Test Method TO-15, total petroleum hydrocarbons as diesel (TPH-d) by TO-17, TPH as gasoline (TPH-g) by EPA Test Method TO-03M Low Level (LL), and fixed gases (carbon dioxide, carbon monoxide, methane, nitrogen, and oxygen) by ASTM D-1946.

### Indoor Air Sampling (Inter-Occupancy)

The investigation includes collecting indoor air samples for laboratory analysis from buildings 127A and 127B during periods of inter-occupancy. Indoor air sampling locations will match those of previously conducted investigations and include:

- Basement – close to the existing sump
- Kitchen (first floor)– center of the room
- Sunroom (first floor) – center of the room
- Bedroom (second floor) adjacent to the bathroom – center of the room

Sampling devices will be located in the breathing zone, approximately 3 to 5 feet off the ground, in the center of the room, and away from exterior openings. Samples collected using Summa® canisters shall be conducted using laboratory provided 6-liter Summa® canisters and flow controllers set for a maximum flow rate of 200 milliliters per minute. Samples shall be drawn until a vacuum of approximately 5 inches of mercury remain in the canister. Sorbent tube samples will be collected using battery powered sampling pumps set for a flow rate that will allow a 6 to 8-hour sampling interval. Collected samples will be analyzed as follows:

- 1) Collect integrated 24-hour indoor air samples using laboratory provided 6-liter vacuum canisters (i.e., Summa® canister) and flow controllers and analyze the samples for BTEX and naphthalene by EPA Test Method TO-15 Selective Ion Mode (SIM) and TPH-g by EPA Test Method TO-15 Low Level (LL). The use of SIM and LL analysis is required to meet required RWQCB ESLs for residential indoor air.
- 2) Collect integrated 5 to 6-hour indoor air samples using laboratory provided thermal desorption sampling tubes and sampling pumps and analyze the samples for TPH-d using EPA Test Method TO-17. A minimum throughput volume of four (4) liters (based

on a 1,000 ng analytical reporting limit and current 270 µg/m<sup>3</sup> ESL for TPH-d) per sample is required to meet the sample reporting limit.

Natural gas service to the residential buildings identified for sampling will be shut off the morning of sampling. Both Summa® canisters and thermal desorption tubes will be setup in the morning at the designated sampling locations and allowed to collect indoor air samples uninterrupted. Thermal desorption sampling tubes will be collected the same day and shipped to the laboratory while Summa® canisters will be collected the following morning.

### **Ambient/Outdoor Air Sampling (Inter-Occupancy)**

Ambient<sup>1</sup> (outdoor) air sampling will be conducted concurrent with indoor air as recommended by the Department of Toxic Substances Control *2011 Vapor Intrusion Guidance*<sup>2</sup>. Three designated ambient air sampling locations are shown in Figure XX of the OMMP and are:

- BR11-1AA01 – south of Building 127B
- BR11-1AA03 – east of Building 128A and across Riley Avenue
- BR11-1AA05 – north of 128A and south of Lincoln Boulevard

The sampling devices will be located approximately 6 feet off the ground at least 10 feet beyond any tree's drip line, and a distance equal to twice the height (60 feet) of the building where the concurrent indoor air is being conducted. Variations to the sampling locations will require RWQCB approval.

The collected ambient air data will be used as a quantitative tool to provide information regarding outside influences on indoor air quality. Ambient air samples will be collected and analyzed as follows:

- 1) Collect integrated 24-hour ambient air samples at each designated location using laboratory provided 6-liter Summa® canisters and flow controllers and analyze the samples for BTEX and naphthalene by EPA Test Method TO-15 SIM and TPH-g by EPA Test Method TO-15 Low Level (LL).
- 2) Collect integrated 5 to 6-hour ambient air samples using laboratory provided thermal desorption sampling tubes and sampling pumps and analyze the samples for TPH-d using EPA Test Method TO-17.

### **Data Evaluation and Response Actions**

Laboratory reported VMS vent riser and indoor air concentrations compared against current residential sub-slab and indoor air RWQCB ESLs and previously reported concentrations. Ambient air concentrations will be compared against previously reported concentrations to continue to evaluate ambient air influence on detected indoor air concentrations. In addition,

---

<sup>1</sup> For the purpose of this document, the term “ambient” refers to “outdoor” and used interchangeably throughout the text

<sup>2</sup> Department of Toxic Substances Control (DTSC), 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

long-term inter-occupancy data will be evaluated using statistical methods (i.e. Mann-Kendall or equivalent) to determine trends in indoor air COC concentrations.

In the event the inter-occupancy results indicates a statistically significant increase in indoor air concentrations, the Trust will immediately notify the RWQCB and implement interim response actions to address the risk which might include the following:

- 1) Interim Ventilation System - An active ventilation system can be installed to exhaust basement air to the outside of the building. The installed ventilation fan will be capable of providing a minimum of 10 basement volume exchange rates per day. The ventilation fan will be set to automatically turn on and off to provide the required daily volume exchange rate.
- 2) Interim Vapor Barrier – A temporary vapor barrier can be placed over portions of the existing concrete floor and floor penetrations. The vapor barrier would consist of a 15-mil, Stego® vapor barrier (or equivalent) placed over the basement floor with overlapping and sealed seams. As necessary, the vapor barrier can be extended one to two feet up the basement wall and the edges seal with tape against the foundation wall. Sand bags might be placed at the perimeter of the basement and on top of the vapor barrier to further set the barrier against the basement floor.
- 3) Sealing Conduit Penetrations and Door Access to the Upper Floor – conduit penetrations in the basement ceiling can be sealed to mitigate vapor migration to the living area of the residence. Sealing materials can include expandable sealing foams, mechanical, compression rubber seals, or non-shrinking, waterstop grout.
- 4) Basement Access Restrictions – In coordination with the Trust and Tenants, access to the basement might be restricted while the interim remedial measures are in place.
- 5) Post Interim Measure Implementation Indoor Air Monitoring – once interim measures have been implemented and active for a minimum period of time (e.g., one week), additional indoor air sampling can be conducted to assess the effectiveness of the interim remedial measures. Further indoor air testing would focus on the contaminants that exceeded screening levels during the initial sampling.
- 6) Administrative controls – The Trust can maintain vacant buildings until final remedial measures are identified and implemented. Access to the vacant buildings will be controlled.

Interim measures will remain in place until the final remedy addressing potential vapor intrusion is approved by the RWQCB.

Attachment – Sampling Set Up Photographs

**Attachment – Sampling Set Up Photographs**



Photo 1: VMS Riser Summa Canister



Photo 2: VMS Riser Sorbent Tube



Photo 3: Indoor Air – Sun Room



Photo 4: Indoor Air with Duplicate – Basement



Photo 5 – Ambient Air BR11-1AA01



Photo 6 – Ambient Air BR11-1AA01



Photo 7 – Ambient Air BR11-1AA03



**Ambient Air Sampling**  
in Progress  
Please Do Not Disturb  
For Question, Please Call  
Presidio Trust Environmental  
Department at  
415-561-5421

Photo 8 – Ambient Air Sampling Notice

**APPENDIX D**  
**RWQCB COMMENTS**

---

San Francisco Bay Regional Water Quality Control Board

December 13, 2019  
File No. SL0607548721 (jdw)

Presidio Trust  
Attn. Ms. Nina Larssen  
Remediation Program Manager  
103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129-0052  
Via email: nlarssen@presidiotrust.gov

Subject: **Water Board Review of the November 2, 2019 Operations, Monitoring, and Maintenance Plan, Building 127B Vapor Mitigation System and Buildings 127A and 127B Cap  
Riley Avenue Site  
Fuel Distribution System Section BR11-1  
Presidio of San Francisco, San Francisco, California**

Dear Ms. Larssen:

I reviewed the Presidio Trust's November 2, 2018, Operations, Monitoring, and Maintenance Plan (OMMP) for the subject Site. The OMMP presents protocols for operating, monitoring, and maintaining the remedy for subsurface petroleum contamination at the Site. Based on my review, the OMMP is not acceptable must be revised to address the comments that follow the background section below.

## **BACKGROUND**

The remedy for petroleum contamination at the Site is summarized below.

**Riley Avenue Unit 127B.** The installed VMS consists of the subslab venting system, vapor barrier, and new basement slab. The VMS mitigates soil vapor intrusion (VI) into Unit 127B. An integrated cap of the basement slab, existing exterior hardscape, and at least two feet of clean surface soil prevents exposure of residents and workers to contaminated subsurface soil. Groundwater will be monitored at existing monitoring well GW01 in the front yard.

**Riley Avenue Unit 127A.** The existing basement slab mitigates soil VI into Unit 127A. An integrated cap of the basement slab, existing exterior hardscape, and at least two feet of clean surface soil prevents direct exposure to contaminated subsurface soil. Groundwater will be monitored at existing monitoring well GW03 in the back yard.

**Riley Avenue Unit 128A.** The existing basement slab mitigates soil VI into Unit 128A, and it prevents direct exposure to the contaminated soil beneath it. Because subsurface contamination does not extend beyond the building footprint, no exterior cap is proposed. Groundwater will be monitored at existing monitoring well GW02 in the front yard.

To ensure the continuing protection of the residents of Units 127A and 127B, the Trust will implement land use controls (LUCs) including, but not limited to:

- Annual inspection, maintenance, and repair of any damage to the remedy;
- Sampling of indoor air and analysis for constituents of concern (COC) during periods when Unit 127A or 127B is unoccupied (i.e., between tenants) and/or after completion of any work that affects the integrity of the basement slab of 127A or the VIMS of 127B (e.g., trenching for utility installations, basement drainage improvements, heating and ventilation equipment upgrades, etc.);
- Statistical trend analysis of indoor air data to determine whether soil VI into a residence may be occurring; and
- Timely completion of responses to mitigate exposure prior to re-occupancy, if an inspection, trend analysis of indoor air data, or other source of information indicates soil VI into a residence.

A Land Use Notification (LUN) area is proposed for Unit 128A, requiring that property users are notified of the presence and location of the contamination. Importantly, a LUN designation would *not* require annual inspections of the basement slab or inter-occupancy indoor air sampling and laboratory analysis to verify acceptable indoor air quality.

## COMMENTS

1. The OMMP title does not reflect that the remedy addresses subslab contamination at Unit 128A.

**Comment 1:** Revise the OMMP title to reflect that the remedy addresses subslab contamination at 128A.

2. **Section 1.1.3, Vapor Intrusion and Impacted Soil Mitigation Objectives and Screening Levels** – See comment below.

**Comment 2:** The OMMP does not define the COC concentrations in indoor air that represent unacceptable air quality and trigger response actions to restore indoor air quality prior to re-occupancy. The OMMP must define the COC concentrations in indoor air that trigger response actions prior to re-occupancy.

3. **Section 1.1.3, Vapor Intrusion and Impacted Soil Mitigation Objectives and Screening Levels** – See comment below.

**Comment 3:** Revise the OMMP to describe in the text and delineate on a map a LUC area for the basement slab at Unit 128A. Additionally, revise the OMMP to describe the LUCs to be implemented including, but not limited to: annual slab inspection, inter-occupancy air sampling, trend analysis of indoor air data to determine whether or not soil VI to indoor air is occurring, and timely completion of responses to mitigate any potential exposure prior to re-occupancy.

Based on review of the boring log for SB008 and laboratory analytical results for co-located soil vapor sample 128ASVP01 [5.5], the potential exists for soil VI to the indoor air of Unit 128A. The boring log noted elevated photo-ionization detector readings from three to six feet below the bottom of the slab. October 2017 analytical results indicated a diesel-range organics (TPHd) concentration of 210,000  $\mu\text{g}/\text{m}^3$  in soil vapor. Notwithstanding the high vacuum experienced while collecting the sample, significant potential non-cancer hazard due to soil VI exists (i.e., the TPHd hazard quotient is approximately 24). Therefore, the above-described LUCs are necessary to confirm that the slab continues to effectively mitigate the soil VI pathway to indoor air.

4. **Section 3.3.2, Indoor and Ambient Air Sampling** – See comment below.

**Comment 4:** The OMMP must adequately describe the methods by which COC concentrations trends in indoor air will be evaluated. It is important that trend analysis be promptly completed after receipt of sample analytical results and prior to re-occupancy, to identify and avoid any potential exposure to petroleum vapors in indoor air that may exist.

The OMMP does not adequately describe the methods by which a “statistically significant increase in indoor air concentrations” may be identified, triggering Regional Water Board notification and response actions to restore indoor air quality prior to re-occupancy.

1. **Section 3.3.4, Documentation and Analysis** – See comment below.

**Comment 5:** It is not clear that the content included in Annual Operation and Maintenance Reports for Units 127A, 127B, and 128A will include status of occupancy, the results of indoor air sampling and trend evaluation, and timely responses to indications of VI. Revise the OMMP to describe that the content of the Annual Report will include:

- a. Occupancy status for Units 127A, 127B, and 128A throughout the year (e.g., dates occupied/unoccupied, relet/let periods for an existing/new tenant, etc.);
- b. Laboratory analytical results for any and all air and subslab soil gas samples collected in Units 127A, 127B, or 128A;
- c. Results of statistical trend analysis of the COC concentrations in the indoor air of Units 127A, 127B, and 128A; and
- d. Timely completion of responses to mitigate exposure prior to re-occupancy, if an inspection, trend analysis of indoor air data, or other source of information indicates soil VI into a residence.

Please resubmit the revised OMMP for our review.

If you have any questions, contact me at (510) 622-2375 or at [jeff.white@waterboards.ca.gov](mailto:jeff.white@waterboards.ca.gov).

Sincerely,



Jeffrey D. White  
Water Resource Control Engineer

**From:** [White, Jeff@Waterboards](mailto:White_Jeff@Waterboards)  
**To:** [Ang, Alfonso; Larssen, Nina](mailto:Ang,Alfonso;Larssen,Nina)  
**Cc:** [Hanzel-Durbin, Justin](mailto:Hanzel-Durbin,Justin)  
**Subject:** RE: [EXTERNAL] Re: Riley Ave/BR11-1 OMMP Response-triggering metric  
**Date:** Friday, June 12, 2020 4:35:48 PM

---

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

Hi All,

What I'm proposing, to align the criteria for a significant increase in indoor air concentrations with acceptable risk/hazard (approx.  $1 \times 10^{-5}/10$ ):

- Use the midpoint of the 50<sup>th</sup> percentile range for background benzene in indoor air (2.35 instead of 4.7); and
- Use 1.5 x the Upper Confidence Limit (95%) on the mean of ambient air concentrations.

I think this lowers the threshold for a response, but balances protectiveness and false positive avoidance. Otherwise, I'm okay with using the four criteria as our response-triggering metrics until there's enough data for trend analysis (the new primary metric). Let me know what you think.

Regards,  
Jeff

---

**From:** Ang, Alfonso <AAng@trccompanies.com>  
**Sent:** Tuesday, June 9, 2020 2:35 PM  
**To:** White, Jeff@Waterboards <Jeff.White@Waterboards.ca.gov>; Larssen, Nina <nlarssen@presidiotrust.gov>  
**Cc:** Hanzel-Durbin, Justin <JHanzel-Durbin@trccompanies.com>  
**Subject:** RE: [EXTERNAL] Re: Riley Ave/BR11-1 OMMP Response-triggering metric

**EXTERNAL:**

Hello Jeff,

Just a follow up to the question you sent to Nina with regards to the primary response-triggering metric:

The four criteria would be used in the near term until enough data to begin a Mann-Kendall trend analysis. Once sufficient data points are available (at least four data points), the Mann-Kendall trend analysis would be used as the primary response-triggering metric with the four criteria metric as secondary analysis. We would still evaluate against the four criteria metric since it takes into account external factors that are known to affect the indoor air concentrations concentration (ambient/outdoor air and background concentrations).

Hope the above answers your question and we look forward to your comments on the Draft Revised OMMP.

**Alfonso Ang, PE**  
Senior Engineer/Project Manager  
T: 415.644.3003 | C: 415.786.7830  
[aang@trccompanies.com](mailto:aang@trccompanies.com)

---

**From:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Sent:** Tuesday, June 9, 2020 2:12 PM  
**To:** Ang, Alfonso <[AAng@trccompanies.com](mailto:AAng@trccompanies.com)>  
**Cc:** Hanzel-Durbin, Justin <[JHanzel-Durbin@trccompanies.com](mailto:JHanzel-Durbin@trccompanies.com)>  
**Subject:** FW: [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

Alfonso,  
Can you provide a response to Jeff's question below?

Thanks,

**Nina Larssen**  
Remediation Program Manager

Presidio Trust  
103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129  
W: (415) 561-5421  
[www.presidio.gov](http://www.presidio.gov)  
[Facebook](#) | [Twitter](#)

---

**From:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Sent:** Tuesday, June 9, 2020 2:02 PM  
**To:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Subject:** Re: [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

I'll send you an email by the end of the week. I want to bring down the concentrations for the response-triggering criteria to approximate a cancer risk of about  $1 \times 10^{-5}$  and noncancer hazard about 10. One question I'm not sure if I got an answer to: will you apply the four response-triggering criteria long-term, or will Mann-Kendall trend analysis be the sole response-triggering metric, as soon as there are enough data points? Thanks

Get [Outlook for iOS](#)

---

**From:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Sent:** Tuesday, June 9, 2020 1:36:56 PM  
**To:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Subject:** RE: [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

EXTERNAL:

Hi Jeff,  
I hope all is well with you. Can you give me an update of when we can expect a response to the Riley OMMP?

Thank you,

**Nina Larssen**  
Remediation Program Manager

Presidio Trust  
103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129  
W: (415) 561-5421  
[www.presidio.gov](http://www.presidio.gov)  
[Facebook](#) | [Twitter](#)

---

**From:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Sent:** Thursday, May 21, 2020 2:25 PM  
**To:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Subject:** RE: [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

I'll have some comments on the criteria for determining whether or not VI may be occurring. I'll try to type them up and send in an email next week. Thanks.

---

**From:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Sent:** Thursday, May 21, 2020 2:21 PM  
**To:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Cc:** Ang, Alfonso <[AAng@trccompanies.com](mailto:AAng@trccompanies.com)>; Hanzel-Durbin, Justin <[JHanzel-Durbin@trccompanies.com](mailto:JHanzel-Durbin@trccompanies.com)>  
**Subject:** RE: [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

EXTERNAL:

Hi Jeff,  
This is to inform you that we're scheduled to perform annual groundwater well sampling at Riley Ave next Thursday, May 28. We've sent notice to the residents and the work will be completed in one day.

On a separate topic, was there anything more that you needed from us to complete your review of the OMMP? Please let us know.

Thanks,

**Nina Larssen**

Remediation Program Manager

Presidio Trust  
103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129  
W: (415) 561-5421  
[www.presidio.gov](http://www.presidio.gov)  
[Facebook](#) | [Twitter](#)

---

**From:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Sent:** Thursday, April 9, 2020 11:59 AM  
**To:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Cc:** Ang, Alfonso <[AAng@trccompanies.com](mailto:AAng@trccompanies.com)>; Hanzel-Durbin, Justin <[JHanzel-Durbin@trccompanies.com](mailto:JHanzel-Durbin@trccompanies.com)>  
**Subject:** [EXTERNAL] Re: Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

Hi Nina,

Hanging in there, thanks. I'm only now realizing how challenging it must be for folks with younger kids at home from school. Our kids are college age and self sufficient but it must be frustrating for them (though they don't complain, yet).

Unless I am compelled by others to write a letter granting regulatory relief for cases like this, as I've done at sites with large, active remediation systems, your email should be enough. In other words, no worries and no reason to sample at this time.

Take care,

Jeff

---

**From:** Larssen, Nina <[nlarssen@presidiotrust.gov](mailto:nlarssen@presidiotrust.gov)>  
**Sent:** Tuesday, April 7, 2020 3:03 PM  
**To:** White, Jeff@Waterboards <[Jeff.White@Waterboards.ca.gov](mailto:Jeff.White@Waterboards.ca.gov)>  
**Cc:** Ang, Alfonso <[AAng@trccompanies.com](mailto:AAng@trccompanies.com)>; Hanzel-Durbin, Justin <[JHanzel-Durbin@trccompanies.com](mailto:JHanzel-Durbin@trccompanies.com)>  
**Subject:** Riley Ave/BR11-1 Annual Groundwater Monitoring Delay

EXTERNAL:

Hi Jeff,

Hope all is well with you and your family. The Presidio Trust (Trust) would like to notify RWQCB of a delay in the Riley Avenue/FDS Sect. BR11-1 annual groundwater monitoring event due to current state-wide and San Francisco County shelter-in-place orders. In observance of the orders, the Trust has placed a moratorium on non-essential field activities which includes the groundwater sampling. Per the approved FS/CAP, the first annual groundwater monitoring event was scheduled for April 2020, which was based on the last sampling event that took place on April 18, 2019. However, the Trust plans to delay the sampling until such time the orders are lifted (possibly May or June) or regulatory directive is received that the sampling is considered essential.

If you have any questions, please do not hesitate to reach out.

Thanks,

**Nina Larssen**

Remediation Program Manager

Presidio Trust  
103 Montgomery Street  
P.O. Box 29052  
San Francisco, CA 94129  
W: (415) 561-5421  
[www.presidio.gov](http://www.presidio.gov)  
[Facebook](#) | [Twitter](#)