



**CITY OF CAMPBELL**  
Community Development Department

**MITIGATION MONITORING AND REPORTING PROGRAM**  
**ParkView Mixed-Use Development**

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Compliance Verification Date / Initials Remarks
<b>Air Quality - AIR</b>					
<p><b>Air Quality Mitigation Measure AQ-1:</b> The project shall implement all of the BAAQMD’s Basic Construction measures, as follows:</p> <p><b>AQ-1.1:</b> All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, unless otherwise directed by the Site Management Plan.</p> <p><b>AQ-1.2:</b> All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</p> <p><b>AQ-1.3:</b> All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</p> <p><b>AQ-1.4:</b> All vehicle speeds on unpaved roads shall be limited to 15 mph.</p> <p><b>AQ-1.5:</b> All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</p> <p><b>AQ-1.6:</b> Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</p>	Site Preparation and Construction	City of Campbell	Public Works Department and Building Division	Periodic Compliance Report	

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<p><b>AQ-1.7:</b> All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.</p> <p><b>AQ-1.8:</b> Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.</p> <p><b>AQ-2:</b> Prior to issuance of a demolition permit for any on-site structures, the Developer shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Community Development Director an asbestos and lead survey. It has already been determined that asbestos- and lead containing materials are present on the subject property. Therefore, the project applicant shall prepare a work plan, consistent with the requirements of the City. The work plan shall demonstrate how the on-site asbestos- and/or lead-containing materials will be removed in accordance with current California Occupational Health and Safety Administration (Cal-OSHA) regulations and disposed of in accordance with all California Environmental Protection Agency regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City for review and approval. Materials containing more than one percent asbestos that is friable are also subject to BAAQMD regulations. Removal of materials containing more than one percent friable asbestos shall be completed in accordance with BAAQMD Section 11-2-303.</p>					

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<b>Cultural Resources – CUL</b>					
<p><b>Cultural Resources Mitigation Measure CUL-1:</b> If archaeological or paleontological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the City and a licensed archeologist or paleontologist shall be contacted to evaluate the situation. A licensed archeologist or paleontologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA guidelines prior to the submittal of a resource mitigation plan and monitoring program to the City for review and approval prior to the continuation of any on-site construction activity.</p> <p><b>Cultural Resources Mitigation Measure CUL-2:</b> In the event a human burial or skeletal element is identified during excavation or construction, work in that location shall stop immediately until the find can be properly treated. The City and the Santa Clara County Coroner’s office shall be notified. If deemed prehistoric, the Coroner’s office would notify the Native American Heritage Commission who would identify a "Most Likely Descendant (MLD)." The archeological consultant and MLD, in conjunction with the project sponsor, shall formulate an appropriate treatment plan for the find, which might include, but not be limited to, respectful scientific recording and removal, being left in place, removal and reburial on site, or elsewhere. Associated grave goods are to be treated in the same manner.</p>	Site Preparation and Construction	City of Campbell	Building Division	Periodic Compliance Report	

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Compliance Verification Date / Initials Remarks
<b>Geology and Soils – GS</b>					
<p><b>Geology and Soils Mitigation Measure GS-1:</b> An updated Geotechnical Investigation Report shall be prepared by a licensed Geotechnical Engineer specializing in soils mechanics, and shall include recommendations for construction (e.g., earthwork, foundation, slab construction, retaining wall design, etc.). The updated Geotechnical Investigation Report shall be in substantial compliance with the City Council approved entitlements, project conditions of approval, and City required mitigation measures to address potentially significant environmental impacts. The Geotechnical Investigation Report shall be submitted to the Community Development Director for review and approval prior to application for a building permit.</p> <p><b>Geology and Soils Mitigation Measure GS-1.1:</b> The City approved (updated as necessary and date stamped) Geotechnical Investigation Report recommendations shall be incorporated into the project’s final engineering design and associated (date stamped) plans including but not limited to specific building details, grading, foundation, foundation loads, utility, demolition, etc.</p> <p><b>Geology and Soils Mitigation Measure GS-1.2:</b> The Geotechnical Engineer shall review the final engineering design and associated (date stamped) plans and shall provide a signed “clean” geotechnical plan review letter, stating that the (date stamped) plans are in substantial compliance with the City approved (updated as necessary and date stamped) Geotechnical Investigation Report. This final “clean” geotechnical plan review letter shall be required with or without project changes.</p> <p><b>Geology and Soils Mitigation Measure GS-1.3:</b> Prior to issuance of building permits to begin work, the plans and building permit applications shall be approved by the Community Development Director and shall be consistent with the City approved (updated as necessary and date stamped) Geotechnical Investigation Report and "clean" geotechnical plan review letter.</p>	<p>Site Preparation and Construction</p>	<p>City of Campbell</p>	<p>Public Works Department and Building Division</p>	<p>Periodic Compliance Report</p>	

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<p><b>Geology and Soils Mitigation Measure GS-1.4:</b> The plans submitted for a building permit shall include the following note which shall be adhered to: "Earthwork, slab subgrade and non-expansive fill preparation, foundation and slab construction, retaining wall drainage and backfilling, utility trench backfilling, tieback/soil nail installation and testing, shoring pier installation, pavement subgrade and aggregate base construction and site drainage shall be performed as recommended in the City approved (updated as necessary and date stamped) Geotechnical Investigation Report and "clean" geotechnical plan review letter.</p> <p><b>Geology and Soils Mitigation Measure GS-1.5:</b> Construction Observation and Testing: The earthwork, foundation, shoring, drainage, and slab construction phases of construction shall be observed and tested by the Geotechnical Consultant to 1) confirm that subsurface conditions are compatible with the City approved (updated as necessary and date stamped) Geotechnical Investigation Report and "clean" geotechnical plan review letter; 2) confirm compliance with the City approved Geotechnical Investigation Report and "clean" geotechnical plan review letter and plans including but not limited to concepts, specifications, and recommendations; and 3) allow design changes (upon City approval) in the event that site conditions differ from those anticipated.</p> <p><b>Geology and Soils Mitigation Measure GS-1.6:</b> In the event of changes in the nature, design, or location of the project as currently proposed, or if any future improvements are planned, the conclusions and recommendations presented in the geotechnical reports shall not be considered valid unless: 1) the project changes are reviewed by the licensed Geotechnical Engineer to confirm the accuracy and adequacy of the geotechnical reports including the conclusions and recommendations; and 2) the conclusions and recommendations presented in the geotechnical reports are verified in writing to still be satisfactory to the City of Campbell; or 3) the conclusions and recommendations have been amended as necessary to be satisfactory to the City of Campbell.</p>					

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<p><b>Geology and Soils Mitigation Measure GS-2</b> The project shall conform to the requirements of all applicable Building Codes (as determined by the City of Campbell) to reduce the potential for seismic damage and risk to future occupants, and to minimize damage from seismic shaking, unsuitable fill, and other geological deficiencies.</p>					
<p><b>Hazards and Hazardous Materials - HAZ</b></p>					
<p><b>Hazardous Materials Mitigation Measure HHM-1:</b> The applicant shall obtain all required permits, licenses, and/or other clearances, and shall comply with all orders, laws, regulations, and/or other requirements of all applicable regulatory and/or enforcement agencies, such as, but not limited to the Santa Clara County Department of Environmental Health, the California Highway Patrol, the California Department of Transportation, Water and Air Quality Control Boards, Valley Water, County Fire Department, the Department of Toxic Substances Control (if applicable), etc.</p>	<p>All phases of the Project</p>	<p>City of Campbell</p>	<p>City of Campbell</p>	<p>Periodic Compliance Memo</p>	
<p><b>Hazardous Materials Mitigation Measure HHM-2:</b> The applicant shall comply with all local, state, and federal requirements with regard to the transport of any clean soil, contaminated soil, hazardous waste/materials, or other regulated waste/materials.</p>	<p>During demolition, excavation, grading, shoring, construction and transport of contaminated materials</p>	<p>City of Campbell</p>	<p>Santa Clara County Department of Environmental Health</p>	<p>Periodic Compliance Memo from the DEH</p>	

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Compliance Verification Date / Initials Remarks
<p><b>Hazardous Materials Mitigation Measure HHM-3:</b> The applicant shall prepare an updated <i>Site Remedial Plan</i> for the excavation and proper disposal of contaminated soil off-site at the appropriate Class I and Class II landfills. The quantity of soil to be removed (preliminarily estimated to be approximately 5,800 cubic yards) shall be calculated and submitted to the City of Campbell Planning Division for acceptance prior to excavation. The updated <i>Site Remedial Plan</i> shall be approved by the Santa Clara County Department of Environmental Health, prior to the issuance of building permits.</p>	<p>Prior to excavation / the issuance of building permits, as stated</p>	<p>City of Campbell</p>	<p>Santa Clara County Department of Environmental Health (DEH)</p>	<p>Periodic Compliance Memo from the DEH</p>	
<p><b>Hazardous Materials Mitigation Measure HHM-4:</b> Prior to the construction of above grade structures, all contaminated soil, exceeding the regulatory thresholds, shall be excavated and disposed of off-site at the appropriate Class I and Class II landfills, in accordance with the <i>Site Remedial Plan</i> (as approved by the City and the Santa Clara County Department of Environmental Health).</p>	<p>Prior to the construction of above grade structures</p>	<p>City of Campbell</p>	<p>Santa Clara County Department of Environmental Health (DEH)</p>	<p>Periodic Compliance Memo from the DEH</p>	
<p><b>Hazardous Materials Mitigation Measure HHM-5:</b> Prior to issuance of the Certificate of Occupancy, the applicant shall obtain written confirmation via a Closure Letter from the DEH that certifies that the cleanup goals or mitigation measures have been accomplished and that no further action is required.</p>	<p>Prior to issuance of Certificate of Occupancy</p>	<p>Santa Clara County Department of Environmental Health</p>	<p>Santa Clara County Department of Environmental Health (DEH)</p>	<p>Closure Letter from the DEH</p>	

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<b>Noise - NOI</b>					
<p><b>Noise Mitigation Measure N-1:</b> All windows and glass doors shall be dual glazed with a minimum STC rating of 28 (or equivalent) in order to achieve an interior noise level standard of 45 dB CNEL.</p> <p><b>Noise Mitigation Measure N-2:</b> Residential units shall include air conditioning units to allow residents to close windows and doors for acoustical isolation.</p> <p><b>Noise Mitigation Measure N-3:</b> Construction activities shall comply with Campbell Municipal Code restrictions</p> <p><b>Noise Mitigation Measure N-4:</b> Mechanical equipment associated with commercial uses and used for air conditioning shall be mounted inside a mechanical room or shielded from adjacent residences. Deliveries shall be confined to the daytime hours between 7:00 a.m. and 7:00 p.m.</p> <p><b>Noise Mitigation Measure N-5:</b> The rooftop courtyard parapet shall be constructed of solid materials with a density of 2.5 lbs/square feet and a height of 5.5 feet, without gaps to allow flanking of the traffic noise.</p> <p><b>Noise Mitigation Measure N-6:</b> Use of the rooftop courtyard shall be restricted to the hours of 7:00 a.m. to 10:00 p.m. with restrictions on the use of amplified music and other loud noises such as elevated voices. Any special event planned in the courtyard shall require approval from the manager and notification of any residences within 200-feet.</p>	<p>Prior to Issuance of Building Permit</p>	<p>City of Campbell</p>	<p>Building Division</p>	<p>Assessment Report by Structural Engineer or Compliance Statement by Acoustical Consultant</p>	

## APPENDIX A – CHRONOLOGY RELATED TO HAZARDOUS MATERIALS

This Appendix includes a summary of the documents referenced in the Initial Study:

<b>TERRAPHASE ENGINEERING REPORTS AND MEMORANDUMS</b>	
<u>Title</u>	<u>Date</u>
Modified Recommendation Regarding Remedial Alternative	07/01/19
Second Addendum to Risk Evaluation Associated with Potential Vapor Intrusion memo	03/25/19
Addendum to Risk Evaluation Associated with Potential Vapor Intrusion memo	02/08/19
Risk Evaluation Associated With Potential Vapor Intrusion memo	11/29/18
Response to Peer Review (superseded)	08/14/18
Updated Phase I Environmental Site Assessment	03/16/18
Site Management Plan	02/08/18
Vapor Intrusion Risk Evaluation Report, Campbell Village Properties	02/08/18
Cover Letter and Site Investigation Summary Report	09/06/17
Remedial Alternatives Cost Analysis Memorandum	08/10/17
Voluntary Cleanup Agreement Application	08/02/17
Phase II Investigative Report	12/17/15
Phase I Environmental Site Assessment	10/23/15

<b>SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH REPORTS AND MEMORANDUMS</b>	
<u>Title</u>	<u>Date</u>
Response to 11-29-18 Risk Evaluation Associated With Potential Vapor Intrusion memo	03/15/19
Notice Regarding Revised Environmental Screening Levels	02/12/19
DEH Email Regarding Above Grade Parking as it Relates to Vapor Intrusion	08/03/18
Site Management Plan Request	11/21/17
Opening Letter	11/02/17
Agreement to Enter Voluntary Cleanup Program	09/20/17
HSC 101480 Notice	09/07/17

<b>CITY OF CAMPBELL COMMISSIONED PEER REVIEW</b>	
<u>Title</u>	<u>Date</u>
Updated Peer Review of Environmental Documents	05/01/19
Peer Review of Environmental Documents	03/08/18

On **October 23, 2015**, Terraphase Engineering on behalf of Cresleigh Homes (“the applicant”), prepared a *Phase I Environmental Site Assessment (ESA)* for the subject property. The Phase I Report was completed as part of the applicant’s pre-acquisition due diligence. The purpose of the Phase I ESA was to evaluate the potential for environmental contamination on the subject property, and to evaluate if contamination could potentially occur in the future because of activities or conditions on or near the subject property.

Recognized Environmental Conditions (REC)<sup>1</sup>: As provided in the *2015 Phase I ESA*, Terraphase identified the following RECs on the subject property: 1) potential petroleum hydrocarbons associated with five (5) underground storage tanks; 2) potential petroleum hydrocarbons, polychlorinated biphenyls (PCBs), and metals related to a potential oil/water separator (not observed) and one in-ground hydraulic lift; 3) potential subsurface impacts from the past use of petroleum hydrocarbons, solvent, and metals during machine shop and automotive repair activities; and 4) potential petroleum hydrocarbons and metals associated with automobile and car parts storage and excavated stockpiled soil.

Historical RECs<sup>2</sup>: Terraphase also identified the following HREC during their investigation: low concentrations of gasoline, diesel, oil and grease, benzene, toluene, ethylbenzene, and xylenes associated with the 1990 removal of five (5) underground storage tanks<sup>3</sup>.

Controlled RECs<sup>4</sup>: Terraphase did not identify any controlled CRECs during the Phase I investigation.

Asbestos-Containing Building Materials And Lead-Based Paint: The *Phase I ESA* also found the potential for lead-based paint and asbestos-containing building materials to be present at all structures on the subject property.

Soil Vapor: The *Phase I ESA* identified seven (7) nearby properties that have used or may have used volatile organic compounds that have the potential to migrate via soil gas. Soil vapor is one of the pathways of contamination to the subject property, along with groundwater, and soil. The soil-vapor contaminant pathway needs to be considered in evaluation of RECs or other environmental concerns.

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<sup>1</sup> A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

<sup>2</sup> HRECs are defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

<sup>3</sup> A Santa Clara County Fire Department inspection report dated July 1990 stated that the inspector had witnessed the removal of the five USTs by SEMCO and that the soil was either hauled off site to the Department of Public Works yard or was deposited behind the building at 540 E. Campbell Avenue.

<sup>4</sup> CRECs are RECs resulting from a past release of hazardous substances or petroleum products that have been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

On **December 17, 2015**, Terraphase Engineering on behalf of the applicant, prepared a *Phase II Investigative Report* for the subject property. The Phase II investigates the RECs identified in the *Phase I ESA*. The *Phase II Report* identified whether a release of hazardous substances exists at the subject property from the former gas station; former machine shop, auto parts and supply, and auto repair shop; potential oil/water separator and existing in-ground hydraulic lift; former automobile and car parts storage; and excavated soil stockpiled when the underground storage tanks (USTs) were removed.

The *Phase II Report* included a Hazardous Materials Survey of the commercial and residential structures at the subject property that identified the following:

Asbestos: Materials (e.g., roofing, siding, floor tiles, etc.) containing asbestos were identified at the subject property. The types of asbestos identified include chrysotile and amosite.

Lead-Based Paint (LBP) and Lead-Containing Paint (LCP): LBP and LCP were identified on the subject property (e.g., window wood, doors, walls, etc.).

PCB-Containing Materials: No PCB-containing materials were identified at the subject property.

Suspect Hazardous Materials-Containing Equipment: According the Phase II Report, the following equipment is suspected to contain hazardous materials at the subject property: ballasts (PCBs), tubes (mercury), and exterior light (mercury).

Terraphase also conducted soil investigative activities to characterize lead and total petroleum hydrocarbon (TPH) concentrations in surface and subsurface soil and tetrachloroethylene (PCE) concentrations detected in soil gas. Soil borings identified the following:

TPH-g, PCBs, VOCs, and metals: Concentrations of Total Petroleum Hydrocarbons (TPH) as Gasoline (TPH-g), PCBs, Volatile Organic Compounds (VOCs), and metals (except lead and arsenic), were not detected above their respective San Francisco Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for residential site uses.

TPH-d and TPH-mo: TPH as diesel (TPH-d) and TPH as motor oil (TPH-mo) were detected at concentrations exceeding both the residential and commercial screening criteria. Arsenic was detected; however Terraphase's interpretation is that the arsenic concentration is representative of ambient concentrations in the soil. Lead was detected at concentrations over the evaluation criteria for California regulated hazardous waste and the federal hazardous waste leaching criterion. Soluble threshold limit concentration (STLC) and toxicity characteristic leaching procedure (TCLP) analysis show that based on lead leaching, portions of the soil if excavated and disposed of would be a California-regulated Non-RCRA hazardous waste.

Tetrachloroethylene (PCE): One out of 14 soil-gas samples (SV-5, adjacent to the hydraulic lift), detected chlorinated solvent PCE at a concentration which exceeded residential

environmental screening levels. Soil gas data indicate that PCE is present at concentrations very close to the residential screening level at a shallow depth (approximately 5 feet below the ground surface). PCE was either not detected, or detected at much lower concentrations below 5 feet. The Phase II Report indicated that the PCE contaminated soil would likely be removed in accordance with the redevelopment plans.

Conclusions: As further provided in the *Phase II Report*, elevated concentrations of VOCs, PCBs, termiticides, and metals (except lead) were not detected at concentrations that would require special soil management or remediation. The contaminants of concern (COCs) identified at the subject property are elevated concentrations of lead and TPH-d and TPH-mo in the soil. The source of lead is believe to be lead-based paint (LBP) from the existing and prior historical structures at the subject property and the source of the petroleum hydrocarbons is past use as a gasoline station, auto service and repair, and a machine shop facility.

Soil Management Approach: The *Phase II Report* acknowledged that reuse of the subject property as a residential parcel with a [then assumed] basement would require the lead and petroleum contaminated soil to be managed appropriately. Terraphase estimated that between 1,200 and 1,900 cubic yards of the soil contains elevated concentrations of lead exceeding the regulatory thresholds making it California-regulated non-RCRA hazardous waste if it is excavated. Terraphase also acknowledged that if excavated, this material would have to be disposed of an appropriate Class I facility or out of the State of California. Additionally, Terraphase estimated that there is another 900 to 1,900 cubic yards of contaminated soil that could not be used as clean fill on other sites because of petroleum constituents, and would likely have to be disposed of at a Class II landfill if excavated.

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On **May 3, 2016**, the City Council held a study session to review conceptual plans to redevelop the property with a four story mixed-use building with subterranean parking. A similar conceptual proposal was reviewed by the Planning Commission at a study session on June 28, 2016. While Phase I and Phase II reports were completed prior to these meetings, the results of those reports were not provided to, or disclosed to, the City at that time. As previously discussed in this Initial Study, the Phase I and Phase II reports assumed a four story mixed-use building with subterranean parking, and disposal of the contaminated dirt at Class I and Class II landfills, in accordance with law.

At one time, the applicant was considering consolidating two adjacent parcels with the subject property to create a larger development. In the **summer of 2016**, Phase I and II investigations (including shallow soil sampling, sub-slab vapor sampling, and soil gas sampling) were performed on the adjacent properties as part of the applicant's due diligence<sup>5</sup>. A comprehensive soil gas investigation was also performed along the property line to rule out vapor intrusion concerns between the adjacent property and the subject property. Terraphase, the applicant's environmental consultant has indicated that VOCs were detected in soil gas samples collected on

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<sup>5</sup> These reports, commissioned by the applicant, have not been provided to the City. The applicant has stated that they do not have permission from the adjacent property owner to disclose these reports to the City or the public.

the adjacent property<sup>6</sup>. Concentrations of some of the VOCs increased with depth and were found at depths deeper than five (5) feet below grade near the subject property's property line. Additionally, VOC levels on the adjacent parcel were found to be above environmental screening levels for residential uses.

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On **November 30, 2016**, a formal application was submitted to the City that eliminated the subterranean parking and added a fifth floor to the building to accommodate podium parking. The stated reason for relocating the parking above grade was due to "environmental concerns". However, these concerns were not disclosed at the time of project submittal to the City due to the applicant's concerns over "sensitivities" of publicizing information about an adjacent parcel, not associated with the application. The application was deemed incomplete by the City, pending additional required information, including but not limited to the environmental review.

When revised plans were received in **June 2017**, the application remained incomplete. Given the environmental uncertainty of the appropriate environmental remediation at that time, staff requested a Remediation Plan, including costs and alternatives, to disclose why soil remediation was considered to be infeasible by the applicant. The City also requested an updated ESA since the initial Phase I ESA, dated October/December 2015, was only good for 180-days.

On **August 1, 2017**, City staff spoke with Aaron Costa from the Santa Clara County Department of Environmental Health (DEH) regarding the Proposed Project. Staff informed Mr. Costa that the City of Campbell City Council members expressed a desire that the contaminated dirt be completely disposed of off-site.

On **August 2, 2017**, the applicant met with Mr. Costa from the DEH, to discuss the proposed project and the applicant's desired outcomes. The applicant submitted a Voluntary Cleanup Agreement Application requesting regulatory oversight through the County's Voluntary Cleanup Program for the associated discharge of waste which may require further characterization, remediation, and/or mitigation.

On **August 10, 2017**, Terraphase Engineering, on behalf of the applicant, prepared a Remedial Alternatives Cost Analysis Memorandum to analyze the costs associated with three alternatives to mitigate the environmental contaminants identified in the ESA and subsequent reports. While there are a variety of ways to mitigate soil contamination, the applicant prefers the less costly remediation plan of capping the affected soil with "clean" soil for structural fill.

The three remedial alternatives included:

- 1) Excavating the shallow soil to construct the podium building with ground-level parking and disposing the impacted soil at approved off-site landfill disposal sites;
- 2) Excavating impacted soil and stockpiling it on-site; then over-excavating deeper "clean soil" to make room to relocate the impacted soil below the footings and planned infrastructure of the currently planned building with ground-level parking; and

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<sup>6</sup> The adjacent property is currently occupied by Etched Media, although it is not apparent who the original pollutant is/was.

- 3) Excavating additional deeper “clean” soil to allow for subterranean parking and relocating the impacted soil below the lower footing elevations required to add subterranean parking to the plan.

The Remedial Alternatives Cost Analysis acknowledged that none of the three remedial alternatives include the cost of shoring the excavations, likely required in remedial alternatives 2 or 3, or the added construction costs for the additional foundations and retaining walls needed to provide subterranean parking. In addition, none of the cost estimates include the price of environmental oversight, air monitoring, sampling and testing, and environmental reporting. Each remedial alternative will require these environmental monitoring steps; however the applicant contends that the relative difference in costs between the three alternatives is anticipated to be minimal.

The applicant prefers Alternative #2 (primarily for cost reasons) which includes on-site relocation of shallow lead- and TPH-impacted soil to areas beneath the future buildings’ foundations and parking areas. However the City, as the lead agency, has a duty to protect the public and the environment by requiring feasible alternatives or mitigation measures that would substantially lessen the significant environmental effects of the proposed Project.

On **September 5 2017** staff provided the City Council with a status update in a public meeting that was attended by the applicant. Following that meeting, staff prepared a Request for Proposals in **November 2017** for a peer review of the Phase I and Phase II Reports, supplemental information, and the preferable alternative to mitigate the environmental impacts to the maximum extent feasible. The RFP also requested an analysis of the applicant’s estimated costs to implement the three alternatives. As discussed further in this Initial Study, an environmental consultant was hired in January 2018.

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On **September 6, 2017**, Terraphase Engineering on behalf of the applicant submitted a *Site Investigation Summary Report* to the DEH as part of their Voluntary Cleanup Agreement Application. While the applicant does not have permission from the adjacent property owner to disclose the 2016 Phase I and Phase II reports for the adjacent Antoun Trustees Properties (i.e., “Etch Media” located at 101 Gilman Avenue), the *Site Investigation Summary Report* includes some of the results of that site investigation as they relate to potential remedial considerations affecting redevelopment of the subject property. The September 2017 *Site Investigation Summary Report* provided background information on the Phase I and Phase II Reports for the subject property and the investigative analysis for the Antoun Trustees property.

Lead and hydrocarbons: The September 2017 Site Investigation Summary Report indicated that metal (primarily lead) and hydrocarbon concentrations in shallow soil, found on the subject property, were above current Environmental Screening Levels (ESL)s for direct exposure at residential sites. The Report also found that the depth of lead and hydrocarbon impacted soil varied from as little as 1.5 feet below ground surface (bgs) over the majority of the subject property, to approximately six (6) feet bgs at several smaller areas. Similar concentrations of metals were also found in shallow soil at the Antoun Trustees Properties.

Tetrachloroethene (PCE): Soil gas data collected at the subject property indicate that PCEs was detected at concentrations very close to the residential ESL at a single shallow (approximately 5 ft bgs) depth. PCE was either not detected or detected below ESLs in the remaining samples except on the Antoun Trustees property.

Carbon tetrachloride: Carbon tetrachloride was detected above the ESL at the subject property and Antoun Trustees Properties. The maximum sub-surface soil gas concentration for carbon tetrachloride was identified in the center of the Antoun Trustees property. Soil gas samples showed that the concentration of carbon tetrachloride increased with depth, and the maximum concentration of deep carbon tetrachloride was detected outside the Antoun Trustees building at 85 Gilman Avenue and along the Antoun Trustees and subject property boundary. However, carbon tetrachloride was not detected above ESLs in the shallow 5 ft bgs soil gas samples on the subject property boundary. Terraphase therefore concluded that the source of the carbon tetrachloride is not on the subject property. Terraphase further concluded that this indicates that vapor intrusion is not a significant risk to future redevelopment of the subject property.

Volatile organic compounds (VOC): The September 2017 Site Investigation Summary Report indicated that “relatively high concentrations of VOCs were detected in sub slab and deeper soil gas samples at the Antoun Trustees property. Terraphase concluded that the increasing concentrations of some of the VOCs with depth suggest the possible presence of a deep VOC source either beneath the Antoun Trustees site or an unknown source located farther upgradient.

Terraphase Conclusions: Terraphase concluded that while vapor intrusion would likely require mitigation on the adjacent Antoun Trustees property, the soil gas testing results for the subject property does not suggest a need for vapor intrusion mitigation measures for a podium development with ground-level or subterranean ventilated parking. Terraphase also stated that in their opinion, “nothing was identified on the third property that would affect redevelopment of the [subject] property”. Thus, Terraphase recommends that the shallow lead and hydrocarbon affected soils be relocated on-site to locations beneath building foundations and/or parking areas to prevent exposure to humans or the environment, following a Site Management Plan that will document the final location of the affected soils, and describe proper soil handling, dust control, and air monitoring procedures to be followed during construction.

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On **September 7, 2017**, pursuant to Health and Safety Code, Section 101487, the DEH provided written notification to the Department of Toxic Substances Control (DTSC) and the San Francisco Regional Water Quality Control Board (RWQCB) of the planned involvement by the DEH to oversee additional investigative activities, assess the need for mitigation measures necessary to protect human health, and satisfy the redevelopment and land use requirements.

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On **September 20, 2017**, Mr. Costa from the DEH, acknowledged the applicant’s request for regulatory oversight through the County’s Voluntary Cleanup Program.

On **November 2, 2017**, Mr. Costa from the DEH notified the applicant that the DEH has created a project file in the State Water Resources Control Board's online GeoTracker database which will be used to review and store all relevant documents related to the project. The GeoTracker file can be found at <http://geotracker.waterboards.ca.gov/> under the case name "Campbell Village". The GeoTracker Global ID number is T10000011061.

On **November 21, 2017**, following review of the September 2017 *Site Investigation Summary Report*, the DEH acknowledged the applicant's proposal to manage contaminated soils on-site through encapsulation beneath the new building foundation. This memo noted the reported elevated levels of Carbon Tetrachloride in soil vapor on the "Antoun Trustees" properties immediately south of the subject property and the elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg) in soil vapor on the southern boundary of the subject property. While the DEH determined that "surface soils have been adequately assessed" and that "the soil vapor plume appears to be adequately assessed at this time", the DEH acknowledged concerns about soil vapor migrating from the "Antoun Trustees" property to the subject property in the future. The DEH further stated that if contaminated soil above the appropriate risk-based screening level is retained on-site, the DEH will require the applicant to file a Deed Restriction/Environmental Covenant on the subject property prior to building occupancy.

The DEH requested a Soil Management Plan which describes, in detail, how the contaminated soil will be managed throughout the construction process in a manner that will be protective of construction workers and the public. The DEH also requested a Soil Vapor Risk Evaluation Report to support the applicant's conclusion that soil vapor mitigation will not be necessary. Each report shall include conclusions and recommendations for the next phases of work required to protect water resources, human health and safety, and the environment at the subject property.

In **January 2018**, the City hired Ramboll U.S. Corporation, an environmental consultant, to prepare the peer review, in response to the RFP previously discussed in this Initial Study. Understanding the feasibility to mitigate the environmental conditions at the subject property that present a risk to human health or the environment was the primary objective of the peer review.

On **March 8, 2018**, the Peer Review was completed and a Memorandum was provided to the City and subsequently provided to the applicant. Ramboll (the peer review consultant) generally agreed with the findings in the documents that were provided to the City, but provided an opposing recommendation with regard to site remediation, as follows:

1. All contaminated soil should be removed and disposed off-site. Reburial and capping of contaminated soil onsite (under Remedial Alternatives 2 or 3), although feasible, requires implementation of a deed restriction and soil management plan to protect subject property occupants and workers. Even though the contaminated soil would be capped and the potential risk of exposure very low, there is always the possibility of future exposure to subject property occupants if the deed restriction and soil management plan are not implemented properly and/or effectively enforced by the City (the agency responsible for issuing grading/building permits). For these reasons, Ramboll recommends that all contaminated soil be disposed of off-site.

2. Implementation of an alternative that includes subterranean parking results in a greater reduction in risk to future subject property occupants from exposure to soil contamination compared to ground-level parking alternatives assuming that all contaminated soil is removed and disposed of off-site. Therefore, Remedial Alternative 3 is recommended for implementation assuming all contaminated soil is removed and disposed of off-site.

Staff forwarded Ramboll's Peer Review letter to the applicant on March 27, 2018. However, the applicant did not provide a response to the peer review letter until August 2018, as discussed later in this Initial Study.

As discussed later in this Hazardous Materials section of the Initial Study, this peer review memorandum was updated in May 2019.

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On **February 8, 2018**, Terraphase Engineering on behalf of the applicant completed a *Vapor Intrusion Risk Evaluation Report* as requested by the DEH as part of their Voluntary Cleanup Agreement. The City received a copy of this report in March 2019.

This report supplements the investigation results presented in the *Site Investigation Summary Report* (dated September 6, 2017) and includes further analysis of the soil-gas data and assessment of potential vapor intrusion risk to the future subject property development as a multi-story podium building with residential condominiums located above ventilated ground-level parking. Soil-gas samples were collected from different depths to assess the presence and extent of VOCs in soil gas at the subject property. Soil-gas data were compared to the residential RWQCB ESLs for Sub-slab/Soil Gas for protection of vapor (soil gas) intrusion. These ESLs are conservative values that represent concentrations of VOCs that would not pose a significant risk to residential occupants in a typical single-family home with a concrete foundation located directly on top of the soil. Based on a review of the soil-gas analytical results collected at depths of 5, 15, and 30 feet bgs, three (3) VOCs were detected above residential ESLs. These include carbon tetrachloride, trichloroethene (TCE), and PCE. Additional VOCs were analyzed but were not detected above their respective ESLs. The vapor intrusion assessment therefore focuses on carbon tetrachloride, TCE, and PCE.

Subject Property Soil-Gas Results: Carbon tetrachloride was detected above the ESL with the concentration of carbon tetrachloride increasing with depth. TCE was not detected above laboratory reporting limits. PCE was detected above the ESL in the sample collected from inside the automobile repair garage alongside the hydraulic lift. Samples were collected to evaluate the lateral and vertical extent of PCE at one location where PCE was detected at a depth of 15 feet bgs with concentrations below the residential ESL. PCE was not detected above the reporting limit. PCE was non-detected above the ESL in the remainder of the subject property but was detected in low concentrations in the northern portion of the subject property and at trace concentrations in the southern corner of the subject property.

Antoun Trustees Property Soil-Gas Results: Carbon tetrachloride was detected above the residential ESL, with the concentrations increasing with depth. PCE and TCE exceeded the respective residential ESLs at two depths (15 feet bgs and 30 feet bgs). PCE was detected at

5 feet bgs and 15 feet bgs. PCE and TCE were both non-detectable in other samples collected at the Antoun property. No other VOCs were detected above ESLs in the deep soil-gas results from the Antoun Trustees property.

Antoun Trustees Sub-Slab Soil-Gas Results: Carbon tetrachloride and Ethylbenzene was detected above the residential ESL. However, the extent of VOCs in sub-slab samples collected at the Antoun Trustees property are not discussed because Terraphase states that migration of sub-slab vapor from the adjacent building are too shallow to pose a migration concern onto the subject property.

Conclusions: While PCE and carbon tetrachloride were detected above conservative residential ESL in one location of the site (255  $\mu\text{g}/\text{m}^3$  versus the ESL of 240  $\mu\text{g}/\text{m}^3$ ), Terraphase has concluded that no significant risk exists at the subject property from vapor intrusion under the planned podium-style construction with fully ventilated ground-level parking. In the southern portion of the site, carbon tetrachloride concentrations increased with depth, indicating the presence of a source of carbon tetrachloride at depth to the south of the site. The Report also notes that future sampling events could show slightly higher concentrations in shallow samples, given how soil-gas data can exhibit variations over time in response to seasonal conditions. The construction of the new parking garage could also result in capping effects that may result in slightly higher concentrations underneath it in the future.

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On **February 8, 2018**, Terraphase Engineering on behalf of the applicant completed a *Site Management Plan* as requested by the DEH as part of their Voluntary Cleanup Agreement. The City received a copy of this report in March 2019.

The purpose of the Site Management Plan (SMP) is to describe proper soil handling, dust control, worker health and safety, and air monitoring procedures to be followed under the applicant's preference to relocate the lead- and petroleum hydrocarbon-affected soils beneath the building foundations and/or parking areas. The SMP also includes post-construction soil handling procedures in the event of future subsurface work that requires disturbing the impacted soils under the capped area. The SMP also describes the safe handling procedures for soils encountered during ground-disturbing activities at the subject property and how the subject property can be developed to eliminate exposure pathways for subject property users. The SMP includes the following:

- Site preparation requirements;
- Training requirements to ensure employees are properly trained for handling soils generated during intrusive activities in site soil;
- Proper soil stockpiling and handling procedures;
- Procedures for waste characterization for disposal at an appropriate off-site disposal facility in the event affected soil must be disposed off-site;
- Procedures for controlling fugitive emissions (i.e., dust); and

- Measures to mitigate direct exposure of soil to future subject property users by capping the site.

Surface Soil Impacts: Total petroleum hydrocarbons – diesel fuel range (TPH-d), arsenic, and lead were detected at concentrations exceeding the respective RWQCB residential ESLs in surface soils (i.e., at sample depths of 1.5 feet or less). However, the arsenic detections did not exceed the regional background concentration. Only one (1) of 10 soil samples collected from surface soils exceeded the TPH-d ESL. Lead exceedances were highest in the area used for vehicle storage by the Auto Parts & Supply and Service Center (i.e., the southern portion of the subject property). Of the 28 discrete surface soil samples that were submitted for lead analysis, a total of 12 exceeded the residential ESL. Additionally, five (5) composite surface soil samples were collected and submitted for lead analysis, each of which exceeded the residential ESL.

Soil Impacts: TPH was not detected above ESLs in soils collected from depths greater than 1.5 feet. Of the metal analytical results for the soils at depths greater than 1.5 feet, lead was detected at concentrations exceeding the RWQCB residential ESL in two (2) of 21 samples.

Proposed Remedial Action and Goals: The lead- and petroleum-impacted soil will be excavated to a depth of approximately 3 feet and temporarily stockpiled on the subject property. An additional 3 feet of unimpacted “clean” soils that underlie the lead- and petroleum-impacted soils will be excavated to accommodate the emplacement of the stockpiled soils beneath the building footings and parking areas. Additional clean soil may be excavated from the subject property to accommodate the buildings foundation as necessary. Once the “clean” soil is removed, the stockpiled impacted soils will be placed beneath the planned podium parking and building foundations. Impacted soil will not be placed around subsurface utilities, but may be placed beneath utility corridors. Shoring may be required while the excavation is performed. The total volume of lead-impacted soil and petroleum-impacted soil to be removed will be approximately 5,800 cubic yards. An additional approximately 5,800 cubic yards of “clean” soil will be generated for off-site use as clean fill (e.g., at a nearby construction site). According to Terraphase, relocating the impacted soil beneath the building footings, subsurface utility corridors and ground floor, will eliminate the potential for direct contact with lead and petroleum and will thus prevent exposure to future users of the subject property. The remedial action will also mitigate off-site transport of lead-impacted soil via stormwater or wind.

The SMP provides additional guidelines for: site management (site preparation, a health and safety plan, employee training, pre-field notifications, waste characterization, and site set-up); excavation activities including excavation volume and limits; dust control measures (construction traffic, excavation activities material stockpiles, cleanup and grading, and wind); soil stockpiling and handling; soil confirmation sampling plan; off-site soil disposal; backfill materials and methods; and long-term cover requirements. The SMP provides guidelines for dust monitoring action levels, air monitoring plan, air monitoring equipment, meteorological monitoring, air monitoring station locations, background air monitoring, and monitoring schedule. The SMP also addresses recordkeeping and reporting.

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On **March 16, 2018**, Terraphase Engineering Inc., on behalf of the applicant, completed an updated Phase I Environmental Site Assessment (ESA) for the subject property. The City received a copy of this report in March 2019.

Recognized Environmental Conditions (RECs): In contrast to the 2015 Phase I ESA, the RECs identified on the subject property were listed by type rather than location, as summarized below:

Former Underground Storage Tanks (USTs): Five USTs were formerly present at 540 E. Campbell Avenue and were removed in 1990. Soil samples collected at the time of the UST removal contained gasoline constituents and some of the tanks had visible holes in them. No documentation was identified to verify that underground piping was removed and that no contamination was left in place at the pump island. There is the potential for petroleum hydrocarbons to be present in soil beneath the former USTs and pump island.

Oil-Water Separators: Two oil-water separators were observed inside the building at 558 E. Campbell Avenue. A third likely oil-water separator was observed inside the building at 566 E. Campbell Avenue. It was the same size and shape as the other two but was filled with oily sediment. Oil-water separators can be a source of release of petroleum hydrocarbons, PCBs, volatile organic compounds (VOCs), and metals to the sub-surface.

Hydraulic Lift & Maintenance Pit: An in-ground hydraulic lift was observed inside the garage at 540 E. Campbell Avenue, installed over what appears to have been a formerly-used maintenance pit. These could be sources of release of petroleum hydrocarbons, PCBs, VOC, and metals to the sub-surface.

Heavy Oil Staining: Heavy oil staining was observed in several areas on the concrete floor of the building at 566/600 E. Campbell Avenue. At the eastern corner of the former machine shop, heavy oil-staining on the concrete floor was observed. Records show that solvents, cutting and lubricating oils, and caustics were used in the machining and cleaning of automobile parts. The stained areas pose a potential for subsurface impacts from the past use of petroleum hydrocarbons, solvent, and metals during machine shop and automotive repair activities.

Unknown Piping: At 34 Dillon Avenue, a cast iron pipe was observed on the exterior of the eastern garage wall. A second pipe is present inside the northwestern corner of the building at 566/600 E. Campbell Avenue. It is connected to a pipe leading to a small adjacent room where it runs into the ground. The uses of these pipes are unknown. They could be a source of release of petroleum hydrocarbons, PCBs, VOCs, and metals to the sub-surface.

Controlled RECs: Similar to the 2015 Phase I ESA, Terraphase did not identify any CRECs during its investigation.

Historical RECs: The historical RECs identified in the 2018 ESA were similar to the 2015 ESA.

The 2018 Phase I ESA acknowledged the December 17, 2015 Draft Phase II Investigation Report for the subject property, the September 6, 2017 Site Investigation Summary Report, and the February 8, 2018 Vapor Intrusion Risk Evaluation Report.

The 2018 Phase I ESA also discussed the Phase I and II investigations that were performed at the Antoun Trustees property (Etched Media) located at 60 Dillon Avenue and 85 and 101 Gilman Avenue. While these reports were not provided to the City, the 2018 Phase I ESA indicated that the relatively high concentrations of VOCs in soil gas found at the Antoun Trustees property and the increasing concentrations of some of the VOCs with depth suggest the possible presence of a deep VOC source either beneath the Antoun Trustees site or an unknown source located farther upgradient.

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On **August 3, 2018**, Mr. Costa from the DEH sent an email to the applicant concurring that their additional soil gas testing and risk assessment work for the site will allow the DEH to conclude that no vapor mitigation system will be required for the proposed development provided that the property is developed with surface level parking; the soil gas analytical results from two additional locations downgradient from the presumed source site show no worse concentrations of a chemical of concern than currently known; and that an updated site specific risk assessment model concludes that there is less than  $1 \times 10^{-6}$  cancer risk to future site occupants (residential scenario).

Note: It is anticipated that the DEH will review all relevant documents and findings prior to certifying, via a *DEH Closure Letter*, that the cleanup goals and/or mitigation measures have been accomplished and that no further action is required.

On **August 14, 2018**, Terraphase, on behalf of the applicant, provided a response to the May 2018 Peer Review memorandum, indicating that there were additional documents that needed to be reviewed by the Peer Review consultant. However, the documents referenced in the response letter had not yet been provided to the City prior to receiving Terraphase's response letter. It was not until March 2019 that all the documents were received by the City.

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On **November 29, 2018**, ToxStrategies, Inc., on behalf of Terraphase Engineering and the applicant completed a *Risk Evaluation Associated with Potential Vapor Intrusion Report*. The City received a copy of this report in March 2019.

This report presents the results of a risk evaluation of potential human health risks associated with the presence of volatile chemicals in soil gas, and vapor intrusion into the planned mixed commercial/residential building. The risk evaluation was divided into two parts: (1) a screening risk evaluation entailing comparison of maximum detected concentrations to generic screening levels; and (2) a site-specific risk evaluation entailing site-specific vapor intrusion modeling for chemicals of potential concern (COPC)s identified by the screening evaluation. The purpose of the report is to present the results of their evaluation of potential human health risks associated with the presence of volatile organic compounds (VOCs) in soil gas samples collected since 2015 at the subject property. This evaluation was limited to inhalation of vapors in indoor air as a

result of vapor intrusion. The Report discusses the proposed foundation with perimeter footing, moisture barrier, subsurface utility penetrations, load-bearing column footings overlain by a concrete slab under occupied spaces, and either concrete or asphalt concrete over the parking garage, elevator, and parking garage ventilation.

Screening Human Health Risk Evaluation Methods: The potential human health risks associated with inhalation of vapors in indoor air by future subject property occupants were evaluated in general accordance with the approach described in the RWQCB's User's Guide for deriving and applying environmental screening levels (ESLs). All chemicals detected in one or more samples were included in this screening level evaluation. Noncancer hazard quotients (HQs) and incremental lifetime cancer risks (ILCRs) are estimated using the maximum detected concentration for each detected chemical and a regulatory human health risk-based screening level. ToxStrategies states that screening levels based on residential land use are conservative for this evaluation, because the proposed ground floor of the proposed building is primarily a garage and commercial space, with the exception of two residences. Above the ground-level floor, there is an additional parking floor, and then three floors of residential units. ToxStrategies also states that while it is possible that vapors intruding into the ground floor could infiltrate into the residential space above, the concentrations in the residential space would be substantially lower than those on the ground floor, if not eliminated, because: (1) the parking garage will be actively ventilated to prevent the buildup of carbon monoxide concentrations from vehicle exhaust; and (2) it has been shown that vapor concentrations attenuate between floors of multi-story buildings, with the concentrations on the floor above being on the order of 2% to 3% of the concentrations on the floor below. Therefore, as long as the indoor air concentrations predicted on the ground floor are below residential screening levels, the indoor air concentrations on the floors above will be well below residential screening levels.

Screening Evaluation Results: Based on the results of this screening evaluation, five chemicals (benzene, 1,3-butadiene, carbon tetrachloride, chloroform, and tetrachloroethene) were identified as COPCs, because each had maximum ILCRs based on generic screening levels. The maximum concentrations of all COPCs were not found at the same location. In addition, the maximum concentration of tetrachloroethene was shallow (5 feet bgs), while the maximum concentrations of the remaining COPCs were much deeper (28 to 30 feet bgs). Carbon tetrachloride contributed most significantly to the total ILCR. The concentration of chloroform used in the screening evaluation was based on an elevated detection limit. The maximum detected concentration was 10 times lower, which indicates that chloroform at the maximum detected concentration would not contribute significantly to ILCR. However, to be conservative, chloroform was retained for the site-specific risk evaluation using one-half the maximum detection limit.

Site-Specific Risk Evaluation: To further evaluate the concentrations of COPCs discussed above, modeling was used to develop attenuation factors for each COPC for three depths relevant to the general sampling depths (5 feet, 15 feet, and 30 feet bgs). These chemical-specific and depth-specific attenuation factors were used to estimate concentrations in air and potential exposures and risks on a location-by-location basis. The Johnson & Ettinger model was developed to estimate concentrations of chemicals in indoor air using chemical properties, soil properties, and building conditions. The model was run assuming that residential living space was located on the ground floor throughout the building, although the only sample near the limited residential living

space was DSG-16. Terraphase collected soil samples to analyze for soil properties relevant to vapor intrusion, specifically soil type and moisture content. Building and exposure conditions were set to regulatory defaults appropriate for a residential receptor, including an exposure duration of 26 years, exposure frequency of 350 days per year, and exposure time of 24 hours per day. At each sample location and depth, the relevant attenuation factor and soil gas concentration were used to predict future indoor air concentrations, potential exposure, and ILCR. The predicted risks at all locations of the Project were less than the *de minimis* level. Moreover, the only location with a predicted risk slightly greater than the *de minimis* level was on the adjacent property. These results are considered protective of human health, because they do not consider the ventilation in the ground-floor garage, which will prevent buildup of car exhaust, and the ventilation in the residential portion of the building, which will maintain positive pressure.

Summary: The Report findings indicate that potential exposure of future subject property occupants via inhalation of vapors in indoor air would not result in a public health risk under the conditions evaluated. The estimated total screening hazard index (HI) and site-specific ILCRs by location are below generally accepted levels under the conditions evaluated. Therefore, according to the applicant's consultant, no vapor mitigation measures should be required with regard to chemicals present in soil gas for construction of the planned building at the property.

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In **January 2019**, the application was deemed complete, pending completion of the environmental review of the potentially significant impacts that must be mitigated to avoid an Environmental Impact Report.

On **January 24, 2019**, the ESLs were updated by the San Francisco Bay Regional Water Quality Control Board (RWQCB). ESLs are conservative screening levels for over 100 chemical contaminants in soil, groundwater, and soil gas. The DEH relies on ESLs to evaluate risk to human health and the environment at sites enrolled in their Site Cleanup Program (SCP) / Voluntary Cleanup Program. The applicant was notified that the DEH requires immediate use of the revised ESLs as part of the Site Cleanup Program (SCP) / Voluntary Cleanup Program. Subsequently, the DEH requested an update to the Risk Evaluation utilizing the most recent ESLs to screen out chemicals that did not significantly contribute to potential human health risk.

On **February 8, 2019**, an Addendum to Risk Evaluation Associated with Potential Vapor Intrusion (Addendum) was prepared by ToxStrategies, Inc. for the subject property on behalf of the applicant. The addendum was necessary because the November 2018 Risk Evaluation used the February 2016 Environmental Screening Levels (ESLs). ToxStrategies, Inc. found that while the 2019 ESL update would change the number of chemicals of potential concern (COPCs), the 2019 ESLs do not result in a change to the conclusions of their November 2018 analysis that the volatile organic compounds found in soil vapor beneath the subject property do not require mitigation measures under the [podium-parking] planned development scenario. Therefore, ToxStrategies, Inc. further concluded that no vapor mitigation measures should be required for construction of the planned building at the property.

The Risk Evaluation Report and the Addendum were received by the City in March 2019.

On **February 12, 2019**, following the applicant's February 8, 2019 submittal of the Risk Evaluation Addendum with an update regarding the San Francisco Bay Regional Water Quality Control Board (RWQCB)'s environmental screening levels (ESLs), the DEH sent out a notice regarding the revised ESLs.

On **March 15, 2019**, the DEH acknowledged their review of the *Risk Evaluation Associated with Potential Vapor Intrusion* (Risk Evaluation), dated November 29, 2018, and the *Addendum to Risk Evaluation Associated with Potential Vapor Intrusion* (Addendum), dated February 8, 2019. DEH concurred with the Risk Evaluation and Addendum, which concluded that the risk of vapor intrusion into the planned podium-style building is low, and that no vapor mitigation should be required for the construction of the podium-style building with a slab on-grade foundation without subterranean parking. Therefore, according to the March 15<sup>th</sup> DEH letter, vapor mitigation beneath the planned building will not be required by the DEH as long as the above-grade podium-style building design is constructed. The DEH will require post construction vapor sampling to confirm the conclusions in the Risk Evaluation and Addendum.

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On **March 25, 2019**, ToxStrategies, Inc. ToxStrategies, Inc., on behalf of Terraphase Engineering and the applicant completed a *Second Addendum to Risk Evaluation Associated with Potential Vapor* as an additional follow-up activity to support their vapor intrusion evaluation for the proposed Project. ToxStrategies, Inc. compared concentrations of the five key chemicals (benzene, 1,3-butadiene, carbon tetrachloride, chloroform, and tetrachloroethene.<sup>2</sup>) predicted to be present in indoor air from soil vapor to ambient air measurements collected by the Bay Area Air Quality Management District (BAAQMD) at the San Jose monitoring station. To make a comparison across all chemicals, predicted cancer risk was calculated using the air concentrations, unit risk values, and adjustments for exposure frequency and duration applicable to residential exposure scenarios (350 of 365 days per year, and 26 years of a 70-year lifetime). As provided in the ToxStrategies, Inc. memo, the predicted risks associated with site-specific ambient and BAAQMD measurements were consistently higher than those associated with the predicted indoor air concentrations. Therefore, ToxStrategies, Inc. concluded that it would not be possible to evaluate potential vapor intrusion using indoor air measurements for the five key chemicals detected in soil vapor, because the contribution from ambient air would be greater than the levels predicted for indoor air and there would be no way to definitively measure the contribution from vapor intrusion by measuring indoor air.

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On **March 26, 2019**, the applicant sent an email with a link to "all the pertinent environmental documents for [the City] and [the City's Peer Review] consultant to review." Staff then reengaged the Peer Review consultant to review the additional documentation.

On **April 10, 2019**, City staff met with Aaron Costa from the Santa Clara County Department of Environmental Health. The purpose of the meeting was to understand the role of the DEH as it relates to the Proposed Project in the City of Campbell. City staff also wanted to understand the purpose and outcomes of the communications between the Applicant and the DEH, since the City did not participate in those communications. Staff's also voiced concerns over the applicant's influence regarding the proposed mitigation given that on August 1, 2017, City staff

informed Mr. Costa that the City of Campbell City Council members have previously stated their preference that the contaminated dirt be completely disposed of off-site.

At this meeting, Mr. Costa confirmed that removing the soil is a viable option to address soil contamination which is contrary to the applicant's statement that leaving the contaminated soil on-site is the appropriate remediation method. Mr. Costa responded that while the Applicant (Cresleigh Homes Corporation) is the Responsible Party and may request DEH oversight of the remediation and site management, the DEH has only "accepted" (not approved) the applicant's proposed remediation plan based on an above-grade, podium-style construction. Mr. Costa further responded that DEH approval would only come after the final CEQA document has been adopted and the Proposed Project entitlements have received approval by the City of Campbell, given that the City may not approve the project as proposed, or may impose Conditions of Approval that require further analysis to ensure that the environmental risk is adequately addressed and mitigated. The Applicant may also be required to submit an updated *Site Management Plan*, *Vapor Intrusion Risk Evaluation Report*, or other documents as needed if the applicant's proposal is rejected by the City since many of the existing reports are based on retention of the contaminated soil onsite, below a podium-style building.

Mr. Costa further informed City staff that construction shall include "vapor probes" for future testing (via on-site monitoring and reporting as directed by DEH) of any potential vapor intrusion following construction. If vapor intrusion is found, the applicant will have to perform after-the-fact mitigation with the building in place, which will be challenging post development. Furthermore, the Deed Restriction would only be needed if the project includes a Vapor Mitigation System to protect against vapor intrusion via a vapor barrier. In such case, annual sampling would also be required. However, the System is not needed for above-grade podium construction per the *Vapor Intrusion Risk Evaluation Report*, based on RWQCB ESL thresholds.

On **April 17, 2019**, staff held a conference call with the Peer Review Consultant to kick-off the subsequent review of the *Second Addendum to Risk Evaluation Associated with Potential Vapor Intrusion*, dated March 25<sup>th</sup> and received on April 5, 2019.

On **May 1, 2019**, the City received an updated Peer Review Report, prepared by Ramboll U.S. Corporation, the City's Peer Review consultant. Based on their findings and analysis of the new and revised reports, Ramboll recommended the following:

1. All contaminated soil should be removed and disposed off-site. Reburial and capping of contaminated soil onsite (under Remedial Alternatives 2 or 3), although feasible, may require implementation of a Deed Restriction and Soil Management Plan to protect subject property occupants and workers, and also would likely require double-handling (at a minimum) of contaminated material during construction. Even though the contaminated soil would be capped and the potential risk of exposure very low, the risks are mitigated but not eliminated (which removal would accomplish). With contaminated material left in place (even below the foundation), there is always a possibility of future exposure to subject property occupants or construction workers in the event the deed restriction and soil management plan are not implemented properly and/or effectively enforced by the City (the agency responsible for issuing grading/building permits). For these reasons, Ramboll recommends that all contaminated soil be disposed of off-site.

2. If contaminated soil is left onsite, the City should require implementation of a Deed Restriction and Soil Management Plan to protect future subject property occupants and workers.
3. Implementation of an alternative that includes subterranean parking likely results in a greater reduction in risk to future subject property occupants from exposure to soil contamination compared to ground-level parking alternatives assuming that all contaminated soil is removed and disposed of off-site<sup>7</sup>.
4. Ramboll recommends that the applicant obtain written confirmation of no further action from the County with regards to vapor intrusion risk.

On **June 13, 2019**, the City of Campbell hosted a meeting with Paul Kermoyan (Community Development Director), Cindy McCormick (Project Manager), Aaron Costa from the County DEH, the applicant (Cresleigh Homes representatives), Terraphase (Applicant's Project Engineer), ToxStrategies (Applicant's environmental consultant), and Ramboll (the City's peer review consultant). The purpose of this meeting was to discuss the environmental remediation of the former subject property. During this meeting, it was acknowledged by the applicant that they would remove the contaminated soil and dispose of it at the appropriate facility.

On **July 1, 2019**, Terraphase, on behalf of the applicant, submitted a letter regarding the proposed change in scope for remediation of on-site contaminants. In the letter, Terraphase recommended complete removal of soil contamination, including the deeper PCE, to the satisfaction of DEH. Terraphase also recommended off-haul of contaminated soil necessary to obtain a *No Further Action* approval from DEH. The letter acknowledged that while it would be more costly to implement the revised recommendation, it "is not so cost prohibitive as to be infeasible". The letter also acknowledged that elimination of below-grade parking avoids "unnecessary off-haul of a significant amount of clean soil", and "avoids placing the building foundation close enough to the deeper soil gas plume as to trigger the need for a vapor mitigation system and its associated deed restriction and Site Management and Monitoring Plan". The letter further acknowledged that "installation of a vapor mitigation system and associated deed restriction would nonetheless be required if the building foundation is deepened and therefore located closer to the deep soil gas plume present in the southern portion of the Site".

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<sup>7</sup> City of Campbell clarification: Regardless of the construction type proposed by the applicant, the City will require removal and proper disposal of contaminated soil in a manner that minimizes exposure to site occupants, to the greatest extent possible.