

# County of Santa Clara

Department of Environmental Health

Hazardous Materials Compliance Division

Site Mitigation Program

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## Vapor Intrusion Mitigation Systems Guidance Document

This document lists the Site Mitigation Program's (SMP) general considerations and guidance for the installation of Vapor Intrusion Mitigation Systems (VIMS). **Please note that this is not a comprehensive list of all SMP requirements, and there may be additional requirements and/or submittals for your specific project.**

1. **Stronger preference for cleanup.** SMP typically requires cleanup (i.e., remediation) of the source of contamination, instead of mitigation (ex. VIMS). VIMS are considered short-term solutions to provide protection while active cleanup is ongoing. SMP may consider exceptions if contamination is from an off-site source or regional contaminant plume.
2. **Redundant VIMS designs.** SMP typically requires vapor barriers (liners) coupled with a sub-slab venting (passive) or depressurization (active) system to remove vapors that accumulate below a building. Depressurization systems that rely on powered fans to create a vacuum below a building's foundation are generally the most effective systems.
3. **Pre-occupancy verification.** Municipal building departments often rely on our input when granting occupancy for new buildings. Verification of VIMS installations by testing vapor below and above the slab is required before SMP can conclude that a VIMS is working as designed.
4. **Ongoing monitoring.** If SMP determines that vapor concentrations beneath the VIMS represent a potential risk to human health, monitoring will be required. Depressurization systems can be monitored with pressure sensors that can send real time notifications if the system fails. Sub-slab vapor and/or soil vapor are required to be sampled periodically to evaluate the need for and the effectiveness of the VIMS. Indoor air samples may also be required to verify VIMS effectiveness or if potential vapor intrusion is suspected.
5. **OM&M and contingency planning.** An operation, maintenance, and monitoring (OM&M) plan is required for all VIMS. This plan should also include a contingency plan in the event that monitoring shows that the VIMS is not working as designed. The contingency plan must include specific measures to correct the problem in a timely manner.
6. **Financial assurance.** VIMS may be needed for years to decades following installation. A mechanism to fund ongoing OM&M should be established before a system is installed, especially at redevelopment projects.
7. **Long-term SMP oversight.** Monitoring and case oversight will continue as long as soil gas measurements show that there is a vapor intrusion risk. Site closure will be driven by actual risk reduction at the Site. Active cleanup of source contamination can help reduce the project lifecycle.