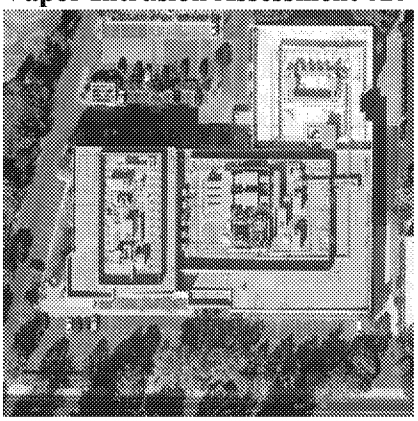
Vapor Intrusion Assessment 825 Stewart Drive, Sunnyvale



General

Passive subslab depressurization systems (SSDs) were installed on the three connected buildings at 825 Stewart Drive prior to installation of a building ventilation system. It appears that the mechanical design of the HVAC system applied the standard 10-foot distance between building exhaust vents and HVAC intakes to the SDD exhaust for the west and main buildings. The HVAC system upgrades also included features that limited air flow from the SSD vents on these buildings. It is recommended that these impacts to the SSD operations be mitigated.

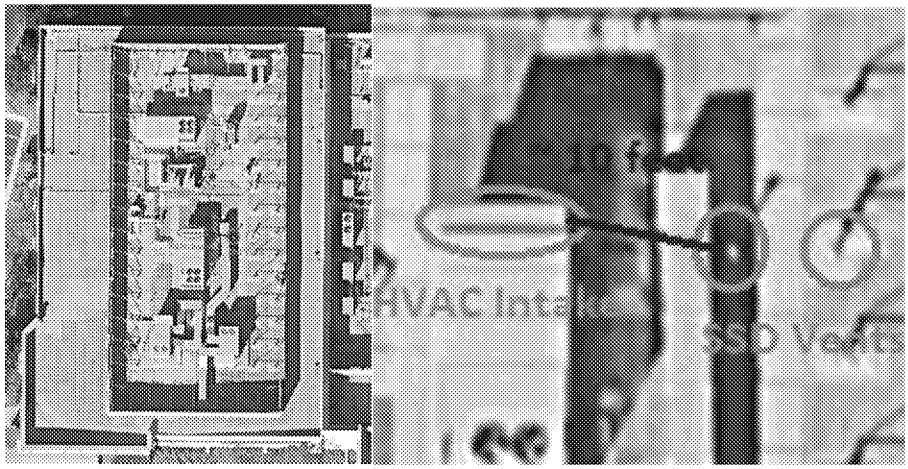
It was also generally noted that:

- SSD vent pipes are not accessible inside the buildings.
- Active, balanced ventilation systems were observed, and the buildings appear to maintain a positive pressure in regularly occupied spaces. Test and balance information for the HVAC systems is requested to confirm this.
- Exposed, sealed concrete was present throughout much of the buildings.
- Subslab sampling ports, left in place, have not been regularly sampled or maintained and several could not be located. It is recommended that these be located and maintained or decommissioned.

West Building

The west building is two stories with an approximately 15,000 square foot footprint. The west building houses the main entrance lobby for the building which is open to the second floor. The building elevator is also present towards to rear of the lobby area. The following were noted:

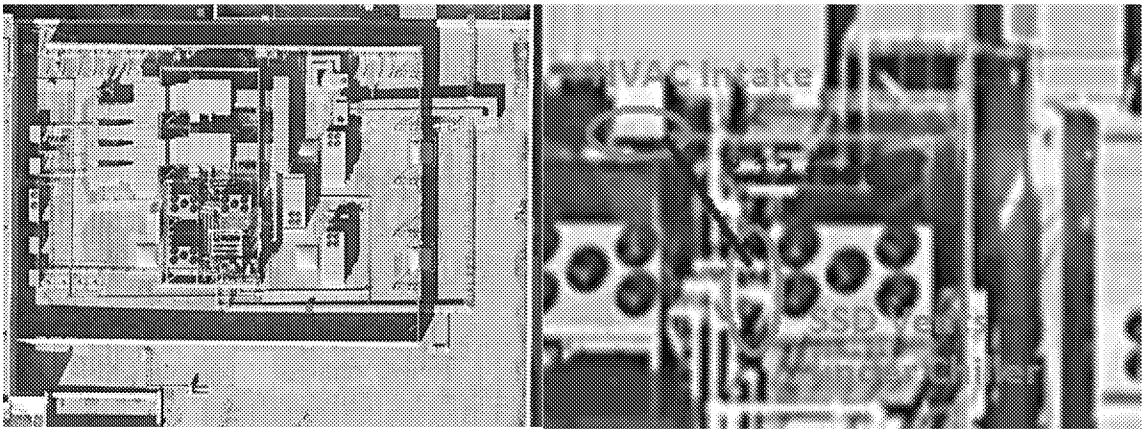
- Significant, visible slab cracks, gaps and penetrations had been sealed.
- There was positive pressure between the lobby and outside of approximately 1.5 pascal during the visit.
- The elevator pit and penetrations appear to be sealed from the subsurface. The elevator is a typical piston type low rise elevator. The piston housing remains a potential pathway for vapor entry, as it penetrates deep into the subsurface (typically these are twenty feet or more deep).
- The SSD vents on the roof are not significantly elevated above the roof (~ 3 feet) and are sheltered from wind.
- A main HVAC intake is approximately 10-feet from the western SSD vent. It is recommended that the vent stacks be reconfigured to avoid vapor intake from the HVAC.



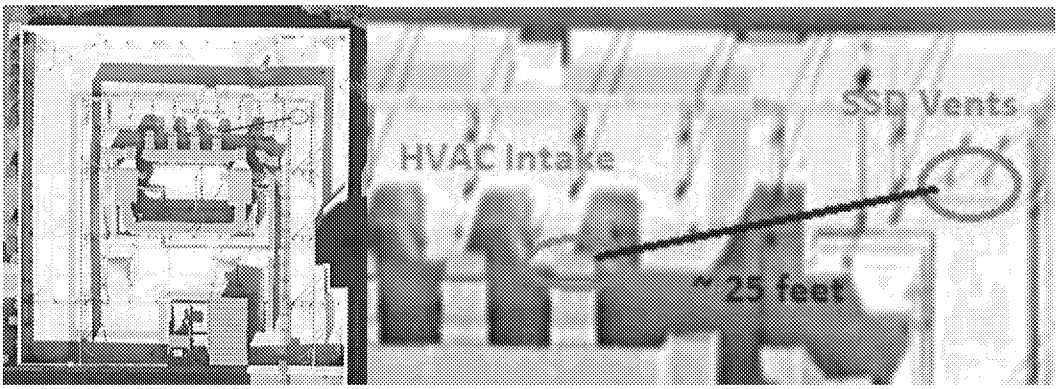
Main Building

The main building is one story with an approximately 30,000 square foot footprint. The building is divided into office spaces and test areas and the building pressure appear to have been balanced to accommodate the various building uses. The following were noted:

- There was positive pressure between the break room and outside of approximately 6 pascals during the visit. Office areas adjacent to this break area had pressures of approximately 2 to 3 pascals lower and the adjacent men's restroom had a pressure of 16 pascals lower than the break room area. It is recommended that sampling take place in both office spaces, where building pressure is lower than the break room area.
- The SSD vents on the roof are under the building chiller plant piping and are within 12-feet of a ventilation system intake. There is not significant air flow near the SSD vent stacks and it is likely that the SSD vents are not functioning as intended and vapors could be building up on the roof near the HVAC intake.
- Generally, the slab had been sealed, however some large test equipment is bolted to the slab and it is unclear if any of these installations penetrate the slab.



North Building

The north building is one story with an approximately 14,000 square foot footprint. The following were noted:

- There was positive pressure between the rear hall and the outside of 4 pascals.
- Several subslab ports could not be located.
- The SSD vents on the roof are approximately 25 feet from the nearest HVAC intake and they were relatively unobstructed by HVAC and roof structures.