

T E C H N I C A L M E M O R A N D U M

TO: Janet Frentzel – Prologis, Inc. (by e-mail)

FROM: Scott Allin, Principal Environmental Scientist
Gary Hokkanen, Principal Hydrogeologist

DATE: May 10, 2016

RE: **VAPOR MIGRATION ANALYSIS
MORENO VALLEY LOGISTICS CENTER
INDIAN STREET AND KRAMERIA AVENUE
MORENO VALLEY, CALIFORNIA
FARALLON PN: 1071-011 (TASK 6)**

Farallon Consulting, L.L.C. (Farallon) has prepared this technical memorandum to provide a vapor migration analysis for the Moreno Valley Logistics Center property located along Indian Street and Krameria Avenue in Moreno Valley, California (herein referred to as the Site). The analysis was requested in a technical memorandum regarding Third Party Review of the Moreno Valley Logistics Center Second Screencheck EIR and Technical Studies dated April 6, 2016, prepared by PlaceWorks (PlaceWorks Memorandum). The PlaceWorks Memorandum requested the vapor migration analysis be incorporated into the *Phase I Environmental Site Assessment Report, Indian Business Park, Indian Street and Krameria Avenue, Moreno Valley, California* dated March 23, 2015, prepared by Farallon (Farallon Phase I ESA). However, according to Prologis, Inc., City of Moreno Valley representatives agreed a response in the form of a technical memorandum would be sufficient.

The Site consists of four undeveloped lots totaling approximately 96 acres that are planned for commercial development by Prologis, Inc. The City of Moreno Valley currently is evaluating the Environmental Impact Report prepared for the Site, and PlaceWorks is providing third party comments on the Environmental Impact Report and related portions, including the Farallon Phase I ESA. The PlaceWorks Memorandum indicated that a vapor migration analysis was appropriate for the Site based on the Site location east-adjacent to March Air Reserve Base (MARB) and the presence of a chemical plume in groundwater in the region. The Farallon Phase I ESA identified the presence of volatile organic compounds (VOCs) in groundwater originating from MARB as a recognized environmental condition in connection with the Site, but concluded vapor migration would not pose an unacceptable risk to Site occupants under the planned commercial use based on



the low concentrations of VOCs reported in documents reviewed, and the depth to groundwater of over 100 feet below ground surface. This technical memorandum provides further discussion and evidence to support that vapor migration does not pose an unacceptable risk to future Site occupants under a commercial use.

As part of the Farallon Phase I ESA, Farallon reviewed *Final Third Five-Year Review Report, Performance-Based Remediation at March Air Reserve Base and Former March Air Force Base, California* dated September 29, 2014, prepared by AECOM (2014 AECOM Report). The 2014 AECOM Report is the latest report available on the online database of the U.S. Environmental Protection Agency, the regulatory oversight agency for the cleanup actions at MARB. According to the 2014 AECOM Report, the most recent groundwater data proximate to the Site were collected in 2012. The constituent with the highest vapor intrusion risk to concentration ratio was trichloroethene (TCE). TCE was detected at a maximum concentration of 150 micrograms per liter ($\mu\text{g/l}$) in groundwater from an extraction well, designated EX05A located off-Site and west-adjacent to Heacock Street. The highest on-Site concentration of TCE was from well 5MW07 on the northern portion of the Site that contained 12 $\mu\text{g/l}$. The California Regional Water Quality Control Board, San Francisco Bay Region, has developed risk-based screening criteria for volatilization of chemicals from groundwater to indoor air known as Environmental Screening Levels (ESLs) (February 2016). ESLs are not cleanup guidelines but conservative screening levels to determine if further evaluation is warranted. The groundwater vapor intrusion ESL for TCE with a depth of 10 feet below ground surface or greater with a mixture of fine and coarse grained geology, which applies to the Site, is 170 and 1,500 $\mu\text{g/l}$ for residential and commercial use scenarios, respectively.

The highest concentrations of TCE on Site and off Site proximate to the Site are well below conservative screening levels for potential vapor intrusion to indoor air for both residential and commercial use scenarios. The responsible party continues to operate a groundwater cleanup remedy, and concentrations of VOCs in groundwater are anticipated to decrease over time. Based on this information, vapor migration beneath the Site does not pose an unacceptable risk to Site occupants under a future commercial use, and no further assessment is warranted.