

# Commercial Redevelopment in East Bay San Francisco: Managing Residual PCB-Contaminated Soil

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**Background/Objectives.** Reusing sites in the San Francisco Bay area often requires managing residual contamination from past activities or due to contaminated fill used at the site, as much of the land close to the bay was created from imported fill. Up until the 2000s the East Bay was an industrial center, housing industries such as paint manufacturing, metal works, rendering plants, transformer and electrical equipment manufacturing and refurbishment, to name a few. Since that time the East Bay has undergone transformation to largely multi-family residential and commercial buildings; there is very little industrial activity left in East Bay. Prior to implementation of environmental regulations such as the Clean Water Act, the Resource Conservation and Recovery Act, the Clean Air Act, etc., industrial practices tended to involve spills that were not contained, that resulted in residual contamination of soil and groundwater. This paper addresses a site where a five-story parking garage is being built where formerly PCB-containing transformers and electrical equipment were serviced between 1924 and 1992. Residual PCB-contaminated soil presented challenges in the construction, which were addressed through rigorous planning, oversight during construction, proper waste characterization and careful management of soils as they were stockpiled and eventually moved off site to ensure that there were no releases of PCB-contaminated soil. Additionally, this paper discusses the regulatory aspects of the project designed to provide protection to the public and site users, such as deed restrictions, air monitoring to assess construction controls, and stormwater management.

**Approach/Activities.** Residual PCB-contaminated soil concentrations were demarked as it existed below ground. Construction plans were transferred to the PCB soil contamination profile map so the amount of soil that would be removed and its concentrations could be estimated. Three main waste profiles were planned for excavated soil: reuse as fill (no PCB detections); municipal solid waste landfill (PCBs less than 50 parts per million (ppm)); and Toxic Substance Control Act (TSCA) landfill (PCBs greater than 50 ppm). A fourth category was established when it was determined that 1,000 cubic yards of soil was needed for construction of a ramp for the parking garage, so certain soils were used as fill for the concrete-enclosed ramp.

**Results/Lessons Learned.** During implementation (construction), the crowded site presented challenges in managing the soil piles, as did periods of high rainfall when open pits were exposed. Soil pile management was important so soil piles didn't have to be double handled (i.e., moved after placement), which is not only a cost issue but extends the opportunity for dust migration. Concerning regulatory aspects, it's important to interact with the agency representative so issues can be addressed quickly as they arise so not to delay construction, as certain aspects of the work require agency approval.