Jason Atwood
Field Services Manager
781-413-5625
JAtwood@triumvirate.com

Case Study:

Multi-Phase PCB Remediation

Highlights:

- 3 layers of PCB-impacted wood flooring removed across a 100,000 square-foot area
- 1,250 cubic yards of impacted debris transported off-site to a TSCA-permitted disposal facility
- Culvert exposed and stabilized; 500 yards of sediment & debris removed
- Brick walls, wooden beams, floors, and ceiling all exposed and decontaminated for renovation

Situation

A real estate developer purchased a property that was previously used as a shoe-manufacturing facility. Since this building had been renovated between the 1950s and 1970s – the target time frame in which polychlorinated biphenyls (PCBs) were used in building materials – the developer had a consultant test for PCBs within the building. When the test results came back positive, the developer was required to notify the federal Environmental Protection Agency (EPA) as well as to develop a remediation plan approved by a regional PCB coordinator. The consultant hired Triumvirate Environmental to remediate the building and surrounding landscape with a site-specific, two-phase work plan.

Action

Phase I: Decking Removal

Triumvirate first created full containment in each of the four floors of the building with plastic sheeting, as well as installing negative air flow with a hepa-filter to force free-floating dust and contamination from the room. Next, Triumvirate's field service crew used dremels and ladders to remove several layers of PCB-impacted wood flooring across a 100,000 square foot area. This resulted in approximately 1250 cubic yards of impacted debris, which was then transported to a TSCA-permitted disposal facility. As an additional precaution, ceilings and walls were hand cleaned to remove residual paint.

Phase II: Culvert Remediation

Since the underground drainage structure adjacent to the building stood in the footprint of the developer's plan for the new residential building, Triumvirate was asked to remediate the culvert of any contaminants and fill it in with soil. Triumvirate's field technicians first removed the top of the culvert – steel crossbeams with concrete, covered by 1.5 feet of dirt. When samples of the rubbery surface revealed the presence of PCBs, Triumvirate took measures to remediate. After installing a 2,600 gallon/minute storm-water bypass to circumvent the culvert, field service technicians stabilized the sludge in the culvert – rubber, soil, and sediment – by adding Portland Cement. The team then used an excavator to remove the 500 yards of both TSCA- and non-TSCA-regulated sediment and debris that remained. After removal of the bulk material, the rock walls of the culvert were scraped to remove any additional material, and the entire structure was power washed.

Result

In order to prepare the building itself for renovation, Triumvirate exposed the brick walls and wooden beams of the interior and cleaned the walls, floors, and ceilings of each of the four floors. This process was accomplished in a 3-month time frame, with a 30-man working crew and 2 daily shifts. The second stage of the project was completed within a 2-month time frame. Triumvirate's close communication with the EPA allowed for us to act as a connection between the TSCA-regulator and the developer, causing the remediation process to run smoothly, and allowing the developer to maintain his schedule for building development.