

**Florida/Superior Plating**  
**2885 46<sup>th</sup> Avenue North**  
**St. Petersburg, FL**  
**County: Pinellas**  
**District: Southwest**  
**Site Lead: Waste Cleanup Program**  
**Site Accepted for Cleanup: May 22, 2015**  
**HWC # 196**

### Site Description and History

The former Florida/Superior Plating site is located in St. Petersburg, Florida. The site is an 80 × 190 ft parcel, located at 2885 46<sup>th</sup> Avenue North in a primarily commercial/industrial area (Joe's Creek Industrial Park) in Township 31S, Range 16E, Section 02, at 27° 48' 50.9842" N, 82° 40' 20.5288" W. The property was occupied by an electroplating facility, which provided other manufacturers with metal finishing (plating) services. The principal onsite structure is an 8,250 ft<sup>2</sup> building, built in 1972. The areas around the building are paved, except for a small rectangular area on the northern margin of the building and a small rectangular area near the front door. All surrounding properties are occupied by industrial entities, which include: Surface Engineering & Alloy, Inc. (a thermal spray-on protective coating application service located next door, on the west) and Omega Printed Circuits (located directly north of the site on 47<sup>th</sup> Avenue North).

Florida Plating (later named Superior Plating) operated at the facility from the early 1970s through the early 1990s. Specific onsite activities included copper, cadmium, nickel, black-chrome, chrome, electro-less nickel, acid and alkaline tin plating, as well as chemical conversion coating of aluminum, and phosphate and black oxide coatings. The operational regimen consisted of cleaning work objects in bases and strong acids, rinsing objects with water, plating the objects in designated metal baths, and rinsing the plated objects. The historical incidence of chlorinated solvents in the plating area also suggests that tetrachloroethene (PCE) had also been used to clean work objects prior to electroplating.

### **Threat**

The facility closed in 1992 and is currently used as a warehouse for the storage of building supplies. Several samples of soil and shallow ground water were collected from the site after the facility was closed. Analyses of the ground water samples collected on-site revealed concentrations of chromium (356 µg/L), PCE (5,900 µg/L), vinyl chloride (1,300 µg/L) and trichloroethene (TCE) (970 µg/L) in excess of the corresponding MCLs. Soil concentrations of bromomethane (0.077 mg/kg), cadmium (174 mg/kg), hexavalent chromium (120 mg/kg) cyanide (320 mg/kg) and PCE (0.79 mg/kg) exceeded Florida Soil Cleanup Levels (SCTLs) for leachability to ground water.

In 1997, the facility signed a Consent Order with Florida DEP addressing further investigation and cleanup. The following year waste containment structures and contaminated soils were removed. However, confirmatory post-removal soil samples exceeded leachability SCTLs and ground water samples continued to exceed MCLs. Further investigative work required by the Consent Order was canceled, after responsible parties reported financial insolvency.

Although no potable wells exist within four miles of the site, a nearby creek is located 350 feet south of the site. The creek provides habitat for federally-designated endangered and threatened species and presumably supports recreational and/or subsistence fisheries.

Metals, specifically known to have been plated onsite (i.e., cadmium and chromium); chlorinated solvents (i.e., PCE) commonly used by electroplaters to clean work objects before electroplating; and PCE breakdown products (TCE, *cis*-1,2-dichloroethene [CIS]) were identified in on-site soil and down-gradient ground water and creek-bed sediments at concentrations significantly above background. The principal source of the contamination appeared to be highly contaminated soil in the former plating area, where concentrations of cadmium, chromium, cyanide, PCE, TCE and CIS, were detected well above SCTLs for leachability. A contaminant plume, principally comprising high concentrations of PCE, TCE and CIS (far exceeding GCTLs), was documented, emanating southward from an area of contaminated surface and subsurface soil in the former plating area. Evidence of soil "smearing" by chlorinated solvents, via contact with the contaminant plume, was also indicated in soil samples collected down-gradient of the plating area. In addition, observed releases of chlorinated solvent to sediment in Joe's Creek, directly down-gradient of the contaminant plume, established that the influence of the plume extends into the creek. Furthermore, an observed release of cadmium to creek-bed sediment, concurrently collected at a site-related storm water outfall to the creek, strongly suggests that site runoff has also affected the creek.

#### **Response Strategy and Status (June 2016)**

The site was accepted for State-funded cleanup on May 22, 2015. The site was assigned to Chastain Skillman for assessment in March 2016.

#### **Schedule**

The site initiation process began March 16, 2016. The Site Access Agreement was signed by the Real Property Owner July 22, 2016. The Site Assessment Work Plan was tasked on July 26, 2016.