Apex Remediates Old Secondary Lead Smelting Facility

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Apex Companies LLC is heading a unique project in Jacksonville, Fla. It involves the remediation of a former secondary lead smelting facility. The purpose of the project is to improve the environment, repair unused land to productive use and remove a Resource Conservation and Recovery Act (RCRA) permit, which is a first in the state of Florida.

The project began in May 2009 and is scheduled for completion in December 2010.

According to Miles Bolton, director of Apex, the former secondary lead smelting facility ceased all operations in 1982. At that time, equipment and materials were scrapped, and the facility was prepared for environmental closure under the RCRA as administered by the U.S. Environmental Protection Agency, Region 4, and the Florida Department of Environmental Protection.

Work was conducted in 1989 through 1990 to isolate the property from the environment. This entailed installing a subsurface slurry (clay) wall around the perimeter of the site to a depth of 50 ft. (15 m) and covering the surface with a concrete cap.

“Between 1989 and 2008, there has been no significant activity at the facility,” Bolton explained. “Our current remediation work, which began this year, consists of removing and recycling the concrete cover, excavating soils under the concrete that exhibit hazardous characteristics, treating the excavated soils in the pugmill system to remove the hazardous characteristics, disposing of the treated soils off-site at an approved landfill and then replacing the excavated soils with clean soil. Groundwater is also being addressed through our remediation efforts.”

According to Bolton, the owner of the property is Exide Group Inc.

“This is a voluntary action by the owner because they felt it was the right thing to do,” he said. “Florida Department of Environmental Protection is working with us to make this happen, and they have been an excellent partner on the project.”

The site covers an area of about eight acres. The concrete cap is being cut into 7 ft. by 7 ft. (2.1 by 2.1 m) sections.
Ae to Return Contaminated Site to Productive Use

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2.1 m) slabs, and a concrete recycler will pick up the slabs for recycling after they have been cleaned. Approximately 131,000 ton (118,841 m) of soil in total will be excavated using two 70,000 lb. class excavators. A three-dimensional profile and a Trinitec S6 Series Total Station purchased from Southern Precision are being used to guide the excavators to the target depths.

According to Bolton, the average depth of excavation with be 6 ft. (1.8 m), with a maximum depth of 12 ft (3.6 m). Off-road dump trucks are being used to haul the material to the pugmill plant for stabilization, with the longest haul measuring approximately 1,000 ft. (304.8 m).

Equipment for the stabilization portion of the project includes a KPI-JCI Model 52 Pugmill, a 30 in. (76 cm) by 100 ft. (30.4 m) Kolberg stacker, and a 550-barrel silo. The plant was purchased from U.S. Shoring & Equipment Company.

At the pugmill plant, a stabilization agent is being mixed with excavated soil to remove the hazardous characteristics. Stabilization agents vary with soil type and were identified through bench-scale treatability studies conducted by Apex. Production is planned to average about 75 ton (68 t) per hour, and the plant has the capacity for 200 ton (181 t) per hour. The treated soils are being disposed of at a licensed landfill.

Bolton noted that a two-step process will be used in handling the project.

“We have started with the soils that contain some slag first,” he said. “The soil is in three areas of the site and includes approximately 20,000 tons of material. The material is being stabilized with an agent involving a chemical reaction that removes the hazardous characteristics of lead and arsenic. Once we have finished with those areas, we will start at one corner of the site and work to the end, excavating soils and treating them with another stabilization agent.”

Jeff Lish is the site superintendent and John Gandee is the engineer for the project.

According to Jim Brett, Apex business development manager, Apex Companies has been a solution-oriented provider of environmental services since it was established in 1988.

“Apex provides a broad platform of services besides this site remediation, including ports and waterways services, due diligence, environmental assessment, regulatory compliance, water resource management, utility operations, storm water management, and land planning, to name a few,” he said.

The company employs more than 300 individuals who operate from more than 30 offices throughout the United States. Staff members include professional engineers, licensed water and wastewater treatment plant operators, construction managers, professional geologists, certified safety professionals, certified hazardous material managers, storm water professionals, certified industrial hygienists and a complete ports and waterways harbor management team.

“I’ll sum up Apex with the following,” Brett said, “We specialize in developing creative solutions that balance business objectives with environmentally responsible results, ensuring high-quality results at a competitive price.”

(This story also can be found on Construction Equipment Guide's Web site at www.constructionequipmentguide.com.)