



Globally Proven
Construction Solutions

HILLSBOROUGH COUNTY NORTHWEST TRANSFER STATION

Collaboration between J. Kokolakis and Cornerstone Construction Services



Situation

The Hillsborough County Northwest Transfer station is a recently-completed, SWANA award-winning waste transfer expansion project. One of the unique characteristics about this project is that its owners, Hillsborough County (Florida), kept the facility open while the expansion construction went on. The project site selected was a sensitive issue as it was built directly over an old landfill.

J. Kokolakis, the general contractor specializing in the construction of waste transfer stations, had teamed with Orlando-based Cornerstone Construction Services (CCS) to place the tunnel's emery-based topping called L&M™ EMERYTOP 400™. King Engineering was responsible for the floor's design.



Challenge

The project consisted of building a new waste transfer station over an operational waste transfer facility, adding a new electrical building, a new fire pump building, and placing a new asphalt road leading to the transfer station. The two-phase project started with the western half of the transfer station first and then transitioned over to the eastern half to complete the project.

When construction began on the western-half of the building and tipping floor, operations shifted to the east side of the tipping floor. Structural beams and roof work were performed during off-hours to ensure worker and employee safety. The new asphalt road was completed and allowed western access for inbound garbage trucks while leaving the east side alone for the construction crews. Logistics and schedules followed this pattern and thus allowed the new building construction to complete without hampering operations.

CCS had previously been working with Hillsborough County management and engineers to come up with a solution to their transfer station tunnel flooring problem. As is usually the case in these harsh environments, the existing concrete surface had worn down as far as the rebar in certain areas — up to 4 inches (100 mm) in elevation — and was nonexistent in some spaces. After several discussions with management and submitting a hard bid, CCS was awarded the project.

While the Hillsborough County waste transfer facility was open during the surface preparation and topping installation, CCS had half the tunnel floor to work with at any given time. The other half remained operational. The tunnels were approximately 12 feet wide by 90 feet long. This created logistical difficulties working around heavy equipment and other construction trades present during the flooring installation. Nevertheless, the CCS crew completed the work on time and under budget despite the difficulties present.



SURFACE SIZE:
Approximately
2,200 sq ft

**POUNDS OF EMERYTOP
400 PLACED:**
23,000 lbs. (226,796 kg)
at 1.5 inches thick (50-100mm)
thickness

**CONCRETE
CONTRACTOR:**
Cornerstone
Construction
Services - Orlando, FL

ENGINEER:
King Engineering -
Tampa, FL

OWNER:
Hillsborough County
Florida

**GENERAL
CONTRACTOR:**
J. Kokolakis
Tarpon Springs, FL



A LATICRETE Solution

On top of the prepared concrete surface, the CCS crew applied DRYTEK™ Epoxy Primer with sand broadcast to bind the soon-to-be-placed floor topping to the existing substrate.

Cured epoxy primer with sand resembles coarse sandpaper — installers want plenty of sand on the surface to ensure proper adhesion. This bonding agent with cured sand provides the proper “bite” needed for the new floor topping about to be placed.

Next, the CCS team brought concrete ready-mix trucks to the site. They began loading one mixer with a number of Supersacks [3,000 lbs (1,361 kg) of material] of L&M™ EMERYTOP 400™. As soon as the mix sequence transpired and pouring began, they started putting in water for the next load into the next truck. They then placed the topping mix and loaded up the second truck with the next batch of material. Over the course of the two tunnel installations, the CCS crew put down approximately 23,000 lbs. of L&M EMERYTOP 400 material.

While placing the topping, CCS sprayed L&M E-CON™, a concrete finishing aide, onto the new surface in order to prevent crusting and to help in its placement and its early hydration. Finally, the crew applied L&M DRESS & SEAL WB™, a curing and sealing compound, to the freshly placed L&M EMERYTOP 400 for it to properly hydrate and cure.

Outcome

Hillsborough County management is very pleased with their new L&M EMERYTOP 400 in the tunnel floor areas. CCS gave a 3 year warranty on the new flooring solution. King Engineering did an excellent job in the design and early project planning phases. J. Kokolakis and Cornerstone Construction Services overcame the difficult obstacles of performing heavy concrete construction while the day-to-day operations of an active transfer station continued unabated. Through continuous communication and coordination with stakeholders, all work was completed and Hillsborough County's waste transfer station is 100% back in operation.

