

Cement Council of Texas

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Austin's Hornsby Bend Compost Pavement Garners ACPA Award



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Austin is the Texas' fourth largest city, and tops Forbe's list as America's fastest-growing city. As a leading U.S. green city, it has, for the past quarter century, recycled 100% of its wastewater biosolids, composting them, along with Austin yard trimmings, into a marketable compost, "Dillo Dirt."

Hornsby Bend, a 1,200 acre site, is home to the processing facility. It contains 180 acres of sewage ponds, and nearly 50 acres of concrete pavement and stormwater basins. No water from processing operations is discharged into the nearby Colorado River. Hornsby Bend is an environmentally sensitive area and is nationally known for its biodiversity and ecotourism; it is one of the best birding sites in Texas.

The composting operation necessitates a heavy-duty, reliable pavement that can stand up to fully-loaded trucks, large front-end loaders, and biosolids. Concrete pavement was the choice both 25 years ago, and in 2010 when the facility underwent a 16 acre expansion. The original 25 acre processing area was built in 1986, and was one of the first roller-compacted concrete pavements constructed in the U.S. The RCC compost pads remain in good condition. However, portions of the heavily-trafficked haul road have failed, due to poor subgrade conditions.



The 2010 project was financed using an ARRA-funded zero-interest loan. It involved the design and construction of 16 acres of new concrete composting pads, 7.5 acres of concrete storm water storage basins, and repairs to the RCC haul road. It was designed for zero discharge after two back-to-back 100 year storms. HVJ Associates, the engineer, chose continuously reinforced concrete pavement (CRCP) for the new pads, as they felt that CRCP would provide the best operational environment, due

to its "jointless" construction that paralleled the compost windrows. Also, the tight cracks in the CRCP would minimize water infiltration into the subgrade.

6" of cement modified subgrade and 6" CTB was specified to avoid problems experienced with some of the RCC. The CTB was uniquely produced using two volumetric truck mixers, resulting in highly

consistent CTB. It also avoided the cost of an on-site pug mill or central mix plant, or transporting CTB from a stationary plant through heavy Austin traffic.

Concrete was batched two miles from the site, and utilized ice water during the hot summer. Fixed forms were used for each of the 24 nightly pours. Each pour was 20' wide by 1200' long for the 8 inch CRCP. Concrete was struck off using a vibratory air screed, then bull floated and given a coarse broom finish. Final grades were controlled by forms which were also set using GPS equipment.



The project duration was originally projected to be 24 months. However, the contractor, CHASCO Constructors, was able to substantially complete the project in 12 months, due to innovative GPS surveying/grade control, and precise planning/execution.

The Hornsby Bend Biosolids facility project received the American Concrete Pavement Association's Gold Award for Excellence in Concrete Pavement - Industrial and Specialty Pavements. It also garnered the Environmental Protection Agency's EPA's 2011 PIECES award.