



Brevard County Gets Durable Drainage Using Precast Concrete Culverts



Figure 1. V.A. Paving Installed a Triple Barrel Run of 6-ft X 10-ft Precast Reinforced Concrete Box Culverts.

V.A. Paving is installing three precast reinforced concrete box culverts (RCBs) as part of a Brevard County Natural Resources Management Office (NRMO) contract valued at \$2.26M. Rinker Materials Concrete Pipe Division is manufacturing the precast RCBs. This project replaces failing infrastructure and is an investment in the West Cocoa community.

Two deteriorated metal culverts crossing Burnett Rd. at Pluckebaum Rd. were replaced with a 50-foot long, triple barrel run of 6-feet rise by 10-feet span

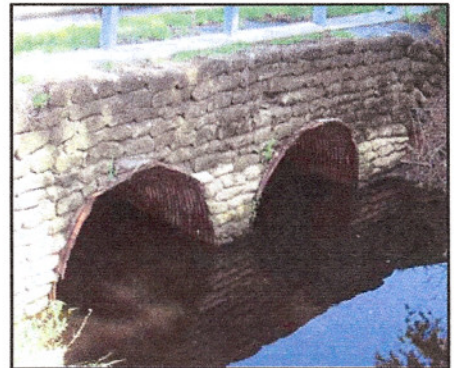


Figure 2. Deteriorated Metal Culverts (shown) were Replaced with Durable Concrete Culverts.

(6-ft. X 10-ft.) precast RCBs. Pegasus Engineering and Michael Galura Engineering Consultants provided engineering services for the triple barrel culvert. The remaining two concrete culverts include a 450-foot long, dual run of 4-ft. X 11-ft. precast RCB along A Lane to the south of Mobile Ave. and a 920-foot long, dual run of 4-ft. X 8-ft. precast RCB along A Lane to the north of Mobile Ave. Jones Edmunds & Associates provided engineering services for the dual-barrel culverts.

The three concrete culvert installations are part of the Brevard County NRMO's West Cocoa Drainage Improvements project that will improve drainage and mitigate flooding in the 6,400-acre West Cocoa watershed. The overall West Cocoa Drainage Improvements involves replacing over 1,300 feet of metal pipe with new concrete culverts, regrading approximately 2,400 feet of the existing ditch south of State Road 520, cleaning and regrading an existing ditch between I-95 and Pluckebaum Road². Carolina Alvarez is the project manager for Brevard County.

The need for the West Cocoa Drainage Improvements is based on the *Post Tropical Storm Fay Drainage Evaluation*, which was prepared by the Brevard County Natural Resources Management Office in 2008. County staff was creative and hard-working with their approach to funding. The overall project benefits from multiple funding sources, including Brevard County stormwater utility fees, \$3.7M in U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG), and \$807,000 Federal Emergency Management Administration (FEMA) grants³.

References:

1. Author: Doug Holdener, P.E., Florida Region Engineer, Rinker Materials Concrete Pipe Division.
2. West Cocoa Drainage Improvements, Brevard County, http://ww3.brevardcounty.us/storm_water/documents/A-LaneImprovements.pdf
3. Carolina Alvarez, Brevard County Natural Resources Management Office, July 31, 2012.