

MIAMI-DADE COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT – C-100 BASIN MASTER PLAN

Client Name: *Miami-Dade County Department of Environmental Resources Management/Camp Dresser & McKee Inc. (Prime)*

Type of Service: *Environmental Engineering/Stormwater Master Plan Modeling*

Milian, Swain & Associates, Inc. (MSA) assisted Camp Dresser & McKee Inc. (CDM) in the modeling efforts of the C-100 Basin located in south Miami-Dade County, Florida. MSA's scope of services included the following:

- Field-verified the compiled survey information. This task included verifying culvert entrance and exit conditions, the construction material of the culvert, the approximate length, and usual conditions such as crushed portions of culverts
- Preparation of an ARC-View GIS database to facilitate the input of data into the nodal model and assist in manipulation. This database was used to identify problem areas of the system. The database also contains information pertinent to the major conveyance elements.
- Coordinated with the Department of Environmental Resources Management (DERM) to obtain the control structure operating criteria
- Identified and delineated sub-basins within the C-100 Basin
- Computed DCIAs for each sub-basin
- Prepared the XP-SWMM model. This task entailed inputting the information pertaining to the nodes and links along the major conveyance element of the Basin
- Executed the XP-SWMM for the 5-year 24-hour, 10-year 24-hour, 25-year 72-hour, and the 100-year 72-hour design events
- Conducted sensitivity analysis and calibrated the model
- Executed the calibrated model for the design storm events described above
- Verified the areas experiencing ponding as identified by the model. The areas identified by the modeling effort were compared to the list of ponding complaints that DERM provided
- Identified feasible system improvements such as upsizing culverts, improving the C-100 Canal conveyance via maintenance dredging and providing additional stormwater runoff storage areas
- Executed the model with the system improvements and prepared a report comparing the pre and post C-100 Basin conveyance system performance.

