EXECUTIVE SUMMARY

The Sweetwater Creek Basin is a 21.0 square mile watershed located in northwest Hillsborough County. Flow originates in the northern headwaters of the basin and flows in a generally southwestern direction to the basin outfall at the confluence with Rocky Creek. Typical of southern Florida conditions, the Sweetwater Creek drainage basin is characterized by a flat topography, high water tables, and many natural lakes, depressions and wetlands. Due to development activities, the drainage system has been drastically altered. While the northern part of the basin consists mostly of lakes, ponds, and depressional areas interconnected with channels, culverts, and weir structures, the southern part consists of an improved channel system with a number of control structures fed by a system of urban ditches and storm sewer systems. Major drainage features in the watershed include the two main channels, Channels G and H, and over 25 major lakes, ponds and borrow pits of over 10 acres each. The largest of these lakes include Lake Carroll, Lake Magdalene, White Trout Lake, Lake Chapman, Platt Lake, Bay Lake, Lake Ellen, Lake George, Bird Lake, and Boat Lake.

The drainage system of the Sweetwater Creek Basin is defined by three major segments. The first primary segment is Channel G. This segment is a major man-made channel that was excavated in the mid-1960's as a part of the Upper Tampa Bay Watershed (UTBW) Project. The Channel G segment extends from the basin outfall upstream to a location just upstream (east) of Benjamin Road. At this point the drainage system divides into two major branches; (1) the Channel H drainage basin, and (2) the upper Sweetwater Creek drainage basin.

The Channel H basin comprises approximately 5.9 square miles of drainage area in the southeast portion of the study area. Channel H is also a man-made channel that was excavated as part of the UTBW Project and extends from the Channel G confluence upstream to Dale Mabry Highway. The northernmost extent of the Channel H basin originates at Lake Carroll and stormwater runoff flows southwesterly through a series of lakes, including White Trout Lake, before discharging to the channel system south of Busch Boulevard.

The Upper Sweetwater Creek basin encompasses the remaining northern and western extents of the study area and comprises approximately 13.1 square miles of drainage area. The upper portion of this basin is characterized by numerous lakes and natural wetlands which provide a great amount of storage capacity for excess floodwaters. Major lakes in this upper basin, beginning with Lake Lipsey at the southern extent, include Lake Ellen, Bay Lake, Lake Magdalene, Lake George, Platt Lake, Bird Lake, Lake Chapman, and Lake Estes. The Upper Sweetwater Creek portion of the study area was the subject of a project constructed in 1986 as a collaborative effort between Hillsborough County and the Southwest Florida Water Management District (SWFWMD) in response to flooding that occurred in the basin during the summer of 1979. This Sweetwater Creek Watershed Project extended and enhanced the original UTBW improvements. Channel excavation, structural improvements, and channel

maintenance activities were constructed along the length of the primary drainage system extending from the Channel G confluence upstream to Bird Lake as a part of this project.

Parsons Engineering Science, Inc. (Parsons ES) was retained by Hillsborough County to update the Sweetwater Creek Stormwater Management Plan as a part of the County's overall stormwater management program and its goal to develop a Countywide program. A detailed hydrologic/hydraulic computer model for the Sweetwater Creek basin was developed. To assure its accuracy, the hydrologic/hydraulic model was calibrated to flows and flood elevations which were recorded for the September 5-8, 1988 historical storm event. The calibrated model was then used to simulate existing flooding conditions throughout the watershed for the 2.33-, 5-, 10-, 25-, and 100-year/24-hour duration design storm events. The resultant maximum flood elevations were examined with respect to street, yard and residential structure floor slab elevations in the study area to determine the flooding levels of service provided by the existing drainage system and to identify deficiencies and flooding problem areas. Those flooding problems for which a history of actual flooding could be documented, as observed during the past year of flooding in the County, were given priority.

The model was used to evaluate alternative measures to alleviate the identified flooding level of service deficiencies and develop recommendations for improvements that will increase the level of service provided. The County has adopted a target level of service for the primary stormwater conveyance facilities in the watershed which will limit flooding to streets, while protecting structures and yards during the 10-year/24-hour duration design storm event. During this process, consideration was given to issues of environmental and water quality impacts, costs, right of way requirements, permitting, constructability, and public acceptance. Planning-level cost estimates were been developed for the recommended solutions and implementation priorities are suggested. The recommended master plan capital improvement projects are summarized below:

Priority Ranking	Problem Area	Project Description
1	Stall Road at Lake Ellen	Replace Lake Ellen Drive Culvert with 6'x19' Aluminum Arch Bridge
2	Lake Magdalene Outfall Channel	Remove Sand Bar Blockage of Channel and Clear Channel to West Lake
3	Balsawood Pl. and Wedgewood Dr.	(a) Replace Rome Avenue Culvert with 36" RCP (b) Replace Lake Wilford Outfall with 36" RCP
4	Pinecrest Subdivision	(a) Add 42" Culvert to Existing at Thatcher Ave. (b) Add 36" Culvert to Existing at Marigold Ave. and Clean Channel (c) Replace Lois Ave. Culvert with 36" RCP and Regrade Channel (d) Replace Driveway Culverts with 54" RCP (4 locations) and Regrade Channel (e) Replace Idell St. and Hubert Ave. Culverts with 54" RCP (2 locations) and Regrade Channel (f) Replace Manhattan Ave. Driveway Culverts with 4'x5' BC (2 locations) and Regrade Channel (g) Replace Bird St. Culvert with 4'x5' BC and Regrade Channel
5	Humphrey St. at Manhattan Ave.	Replace Humphrey Street Culverts with 2-30" RCP's
6	Assembly Grounds Road and	(a) Remove Control Structure and Maintain Channel through Idlewild

	Idlewild Baptist Church	Baptist Church Property to Lake Albright (b) Replace Assembly Grounds Road Culverts with 4'x8' BC
7	Lake Byrd Drive at Bird Lake	Remove Lake Control Structure and Maintain Outfall Channel
8	Main Channel Vegetation (Floyd Rd. to Dale Mabry Hwy.)	Maintain Channel and Channel Banks from Floyd Rd to Dale Mabry Hwy
9	Channel G Control Structure G-2A	Remove Debris and Vegetation at Control Structure and Reconstruct Borrow Pit Berm with Overflow Spillway