

Executive Summary – [CLICK HERE FOR COMPLETE REPORT](#)

LOWER SWEETWATER CREEK WATERSHED - EXISTING CONDITION

The Lower Sweetwater Creek (LSC) Watershed is located in the Northwest part of Hillsborough County, and discharges into Old Tampa Bay. This watershed is approximately 10.5 square miles in area. It is one of the most heavily urbanized watersheds in Hillsborough County. It receives runoff from Egypt Lake and Town N' Country, as well as from areas within the jurisdiction of the City of Tampa, including Al Lopez Park, Drew Park, and Tampa International Airport.

This study was completed in September 1998 and updated in FY2002 to reflect the drainage system improvement during last 4 years. The 1998 study addressed the flooding problems within two main areas: Town N' Country and Peppermound Creek. The recommended or implemented Capital Improvement Projects (CIP) within the Town N' Country and Peppermound Creek include:

A. Town N' Country:

The objective of the Town N' Country Long Term Solution is to provide 10-year level of service (LOS) flood protection for the homes and streets in the Town N' Country target area.

Stormwater levels of service are defined in the Hillsborough County Comprehensive Plan, Stormwater Element and used in level of service analysis.

1. Phase I. Dam and Pump Station- Completed

Canal A is a tributary to Lower Sweetwater Creek and flows from west to east and ultimately outfalls into Lower Sweetwater Creek at its confluence with the Henry Street Canal. The Henry Street Canal (HSC) flows from east to west; modeling results show that under conditions that existed during the summer of 1995, floodwater from the HSC may have caused Canal A to flow backwards (from east to west). The first phase of the project was completed in May 1996. As an interim measure, the Lower Sweetwater Creek channel between Hillsborough Avenue and the Henry Street Canal was cleaned to reduce the resistance of flow to the Bay. A dam and pump station were constructed in Canal A to improve flood protection for the Town N' Country area west of Hanley Road during high frequency (low rainfall) events. These improvements are expected to lower the computed 25-year flood levels by approximately one half of a foot from 1993 conditions. The dam and pump station was planned, designed, and constructed during the twelve-month period following the flood.

2. Phase II. Stormwater Collection System Upgrade- Completed

As a second phase of the project, a portion of the stormwater collection system for Hanley Road has been upgraded. The upgrade includes the outfall pipe (with inlets) to a 43" X 68" ERCP which carries stormwater runoff from Hanley Road to Lower Sweetwater Creek. This phase of the project provides capacity and increases the effective drainage area served by the stormwater collection system. The County entered into a Joint Project Agreement with private property owners for implementation of this phase of the project. A 20' drainage easement has been dedicated to the County for this phase of the project.

3 Phase III. Berm Construction- Completed

As a third phase of the Long Term Solution, an effective berm had been completed between Lower Sweetwater Creek and Hanley Road from Hillsborough Avenue to West Comanche Avenue. The berm will prevent flood flows across certain low points between the Lower Sweetwater Creek channel and Hanley Road that would bypass the pump station in Canal A. The berm is an integral component of the pump station design and has been able to achieve the expected flood protection benefit of the pump station. The completion of phases I, II, and III are expected to collectively lower 25-year flood levels by approximately 0.8 feet from 1993 conditions.

4. Phase IV& V. Outfall to Sweetwater Creek - Completed

The fourth phase of the Long Term Solution consists of providing an additional outfall for the LSC watershed drainage area of Town N' Country west of the dam and pump station and north of Hillsborough Avenue. This proposed project consists of two components. The proposed outfall would pump flow from Canal BN to Sweetwater Creek along Webb road via a 48" forcemain. The proposed alignment of the forcemain is along the Canal BN. This project would allow stormwater runoff to drain from both the box culvert and the pump station east of Hanley Road completed in Phase I. The second component (Phase V) includes crossings upgraded at Powhattan Avenue, Town N' Country Boulevard in order to prevent the significant headloss along these crossings. Phase VI and V had been completed during FY 1999-2000 to increase the level of flood protection for this area of Town N' Country.

B. Peppermound Creek:

The objective of the Peppermound Creek Crossing Upgrade project is two folds:

- 1) The increase of conveyance capacity of the four (4) roadway crossings in the reach of the creek north of Memorial Highway is expected to reduce the headloss at these crossings and to reduce water surface elevations below the top of road for the 10-year/24-hour design event; and
- 2) The reduce of headloss in this reach of the creek is also expected to reduce the tailwater elevation for the Tanglewood/Gateway stormwater collection system. The Tanglewood/Gateway system is tailwater controlled and is therefore greatly influenced by the water surface elevations present in Peppermound Creek between

the road crossings of Tanglewood Lane and Glenview Lane.

1. Peppermound Creek Crossing Upgrade - Interim solution (pump station)

The proposed Peppermound Creek Crossing Upgrade includes improving the four crossings of the Creek upstream of Memorial Highway, including Tanglewood Lane, Glenview Lane, Springside Lane, and Winston Lane. Under current conditions, the conveyance capacity of Peppermound Creek is larger than that of the four road crossings. Improving the road crossing at Tanglewood Lane and Glenview Lane to 5' x 7' concrete box culvert (or equivalent) and improving Glenview Lane, Springside Lane, and Winston Lane to 5' x 10' concrete box culvert (or equivalent) is expected to reduce hydraulic loss in this reach and to reduce 10-year computed water surface elevations to levels below the top of road level at these crossings. The proposed crossing upgrades should be implemented in a downstream to upstream order.

2. Tanglewood/Gateway Stormwater Collection System Upgrade - Interim solution (pump station) under design

The Tanglewood/Gateway stormwater collection system upgrade includes improving the entire collection system to 36" RCP or hydraulic equivalent. The increased flow area is expected to more efficiently convey flow thereby reducing headloss in the system and reducing water surface elevations. However, this project should not be implemented without the Peppermound Creek Crossing Upgrade Project. The Peppermound Creek project is an integral component of this project. Upgrading the Tanglewood/Gateway collection system without reducing the tailwater condition for this system is expected to have minimal or no benefit.

All five (5) phases of implemented CIPs within Town N' Country area has been updated in 2002 existing condition report and model. An interim solution of pump station with berm for Peppermound Creek system is under design and will be completed in FY2003. The 2002 existing condition update also includes: model re-numbering, model calibration by using most recently storm events, data converting from all CAD files to GIS system, and delineation of 100-year flood plain. This report will be updated when the digital one-foot contour data are available. This will enable to more accurately count the storage volume for model simulation and flood plain delineation.