

## **Gandy Connector (SR 600, US 92)**

From the Gandy Bridge to the western

Terminus of the Selmon Expressway

Project Development & Environment (PD&E) Study

# **Final Location Hydraulic Report (LHR) Short Form**

WPI Segment No: 255822-1

FAP No: N/A

Hillsborough County

Prepared for the

**Tampa Hillsborough Expressway Authority (THEA)**



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**December 2009**

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*The information presented in this document is subject to change until the final Phase of the project. This Draft Location Hydraulic Report (LHR) is preliminary and used as an engineering tool to identify potential floodplain encroachments as a result of the proposed improvements. The calculations presented in this report are preliminary and help in estimating the preliminary size of the Floodplain Compensation (FPC) sites for each basin, if required. The FPC site locations are screened using preliminary information based upon many assumptions and judgments. The FPC sizes and locations included in the documentation, if required, are subject to change throughout the preliminary engineering and project design phases (1 thru final).*

The Tampa Hillsborough Expressway Authority (THEA) is conducting a Project Development and Environment (PD&E) study to evaluate possible alternate improvements to the Gandy Boulevard (SR 600, US 92) corridor from the Gandy Bridge to the western termini of the Selmon Expressway in Hillsborough County. The total project length is approximately 2 miles. This study will help the THEA reach a decision on the conceptual design for the project corridor that would separate regional through traffic from local traffic. In addition, full consideration will be given to a “No-Build” alternative. Study objectives include the determination of proposed typical sections and the development of preliminary horizontal and vertical geometry for the bridges and roadway approaches, while minimizing impacts to the environment and ensuring project compliance with all applicable federal and state laws. Improvement alternatives will be identified which will improve safety and meet future transportation demand.

Protection of floodplains and floodways is required by Executive Order 11988, “Floodplain Management”, USDOT Order 5650.2, “Floodplain Management and Protection”, and Federal-Aid Policy Guide 23 CFR 650A. This *Draft Location Hydraulic Report* has been prepared to determine if any floodplains will be significantly affected due to the proposed improvements in accordance with Federal-Aid Policy Guide 23 CFR 650A, Section 650.111. The hydraulic design will follow FDOT, Water Management District, and local (FEMA) design standards. The following 10 items have been addressed to document that the floodplain encroachments will be minimal.

**1. History of Flooding:** The 100-year (base) floodplain in Hillsborough County is directly connected to Old Tampa Bay. The topography along Gandy Boulevard and around the bay is a low-lying urban coastal zone and has elevations ranging from sea level to approximately 15 feet NGVD. The existing Selmon Expressway is an elevated limited access roadway which begins at Gandy Boulevard. Gandy Boulevard continues toward the west from the Selmon Expressway across Tampa Bay into Pinellas County. The portion of Gandy Boulevard within the study limits begins at the east end of the Gandy Bridge. Portions of this area are located within the 100-year (base) floodplain in Hillsborough County as described below.

**2. Longitudinal or Transverse Encroachments:** The (base) floodplain associated with this project is based on tidally influenced storm surge and does not involve any regulatory floodways; therefore, this project's floodplain involvement does not warrant the need for identification of longitudinal or transverse encroachments. The negligible encroachment into the floodplain will not cause an increase in flood heights. It has been determined, through consultation with local, state, and federal water resources and floodplain management agencies that there is no regulatory floodway involvement on the proposed project and that the project will not support base floodplain development that is incompatible with existing floodplain management programs.

**3. Avoidance Alternatives:** Due to the tidally influenced floodplain that surrounds the Gandy Boulevard corridor, there will be no other horizontal alignment alternatives for these roadway improvements.

**4. Emergency Services and Evacuations:** The proposed drainage structures will perform hydraulically in a manner equal to or greater than the existing drainage system and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on the natural and beneficial floodplain values. There will be no significant change in flood risk and there will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes.

**5. Base Flood Impacts:** Due to the tidal influence into the project area being located generally west of the existing CSX railroad, there are no significant flood impacts to the base floodplain as result of the project improvements. According to the SWFWMD, floodplain compensating storage will not be required for encroachment into this tidally influenced floodplain. If required for the improvements to the east of the CSX railroad in the area of the Selmon Expressway, floodplain compensation storage will be provided on a cup-for-cup basis.

**6. Regulatory Floodway:** According to the most current FEMA FIRM maps, there are no regulated floodway areas within the study limits.

**7. Natural and Beneficial Floodplain Values:** The proposed roadway will follow the same general alignment as the existing roadway; therefore, no natural or beneficial floodplain values will be significantly affected.

**8. Floodplain Consistency and Development:** The proposed improvements will not directly or indirectly support floodplain development in a manner inconsistent with the National Flood Insurance Program, which prohibits development within the base floodplain. The Gandy Boulevard corridor and surrounding area are already developed within the base floodplain.

**9. Floodplain/FIRM:** A list of the FIRM Community Panel numbers is shown in **Table 1**. A GIS drawing of the FIRM’s illustrating the boundary of the base floodplain surrounding the project limits is shown in **Figure 1**. The FEMA has conducted a Flood Insurance Study for Hillsborough County, which was completed in August 2008. The FIRMs indicate that the majority of the project is in the 100-year floodplain that is designated Zone AE with a Base Flood Elevation of 9 feet NAVD 1988. The remainder is either in Zone X, which corresponds to the 500-year floodplain or outside (above) the 500-year floodplain.

**Table 1: FEMA FIRM Community Panel Numbers**

Hillsborough County	
Community Panel No.	Effective Date
12057C0344H	August 28, 2008
12057C0343H	August 28, 2008

**10. Risk Assessment:** This project involves construction within the base floodplain and is described as a “PROJECT ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS”. Floodplain encroachments do not vary significantly with any of the alternatives and floodplain compensation sites will be provided for volume compensation for all floodplain impacts as a result of the floodplain encroachments generally east of the railroad alignment, if required by the SWFWMD. *The proposed structures will perform hydraulically in a manner equal to or greater than the existing structures, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values. There will be no significant change in flood risk, and there will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.*