



Beckett Bridge

Project Development & Environment (PD&E) Study

from **Chesapeake Drive to Forest Avenue**
Tarpon Springs, Pinellas County, FL



Pinellas County Project ID: PID 2161 • ETDM #: 13040
FDOT Financial Project ID: 424385-1-28-01

February 2015

Preliminary Engineering Report **Volume 2: Appendices**

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APPENDIX A

ETDM Summary Report and Advanced Notification Package

ETDM Summary Report

Project #13040 - Beckett Bridge over Whitcomb Bayou (Riverside Drive)

Programming Screen - Published on 06/01/2011

Printed on: 6/30/2011

Introduction to Programming Screen Summary Report

The Programming Screen Summary Report shown below is a read-only version of information contained in the Programming Screen Summary Report generated by the ETDM Coordinator for the selected project after completion of the ETAT Programming Screen review. The purpose of the Programming Screen Summary Report is to summarize the results of the ETAT Programming Screen review of the project; provide details concerning agency comments about potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase for the project. Available information for a Programming Screen Summary Report includes:

- Screening Summary Report chart
- Project Description information (including a summary description of the project, a summary of public comments on the project, and community-desired features identified during public involvement activities)
- Purpose and Need information (including the Purpose and Need Statement and the results of agency reviews of the project Purpose and Need)
- Alternative-specific information, consisting of descriptions of each alternative and associated road segments; an overview of ETAT Programming Screen reviews for each alternative; and agency comments concerning potential effects and degree of effect, by issue, to natural, cultural, and community resources.
- Project Scope information, consisting of general project commitments resulting from the ETAT Programming Screen review, permits, and technical studies required (if any)
- Class of Action determined for the project
- Dispute Resolution Activity Log (if any)

The legend for the Degree of Effect chart is provided in an appendix to the report.

For complete documentation of the project record, also see the GIS Analysis Results Report published on the same date as the Programming Screen Summary Report.

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13040 - Beckett Bridge over Whitcomb Bayou (Riverside Drive) ** Most Recent Data

Review Start Date:	11/11/2010	Phase:	Programming Screen
From:	Chesapeake Drive	To:	Forest Avenue, "Location not available."
District:	District 7	County:	Pinellas County
Contact Name:	Carin Watkins	Contact Email:	carin.watkins@dot.state.fl.us

Project Re-Published 6/01/2011

Project Overview: Summary Degree of Effect Chart

	Evaluation of Direct Effects																				
	Natural										Cultural		Community								
Legend N/A N/A / No Involvement 1 Enhanced 0 None 2 Minimal (after 12/5/2005) 3 Moderate 4 Substantial 5 Dispute Resolution (Programming)	Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use	Mobility	Relocation	Social	Secondary and Cumulative Effects
	2	3	3	0	3	3	3	4	3	3	3	3	2	3	2	2	2	1	2	2	3
	Alternative #1 From Chesapeake Drive To Forest Avenue - Reviewed from 11/11/2010 to 12/26/2010 - Published on 6/1/2011																				

Project Description Summary

This project's Project Development and Environment (PD&E) Study will evaluate replacement and rehabilitation alternatives for the Beckett Bridge over Whitcomb and Minetta Bayous. The structure is proposed to remain two lanes, but replacement alternatives will include appropriate road shoulders and sidewalks to meet current design standards. The project will include roadway improvements to Riverside Drive/North Spring Boulevard from Chesapeake Drive to Forest Avenue resulting in a project length of approximately 0.31 mile.

Typical Section: Bridge

The existing bridge consists of two 10-foot wide travel lanes with 2-foot wide sidewalks on either side. The clear width of the bridge between the outer railings is 24 feet.

Due to right of way constraints, an evaluation of the proposed typical section will be made during the PD&E. It is anticipated that the typical section will consist of two 12-foot wide travel lanes with 4-foot wide bike lanes and 5-foot wide sidewalks on either side. Eleven-foot travel lanes and combined bicycle and pedestrian facilities may be considered if necessary.

Typical Section: Roadway

The existing roadway is a mostly rural typical section and varies between 10-foot and 11-foot wide travel lanes. Sidewalk is provided on the north side of the road west of the bridge and on the south side of the road east of the bridge.

The proposed typical section will consist of a 30-foot curb-to-curb roadway providing for two 11-foot travel lanes, 4-foot wide bike lanes and 5-foot wide sidewalks on either side. Right of way constraints may require consideration of a combined bicycle and pedestrian path on one side of the road.

Navigation

The Whitcomb Bayou is a tidal and navigable body of water providing area residents with direct access to the Anclote River and the Gulf of Mexico. The channel is not used for commerce. The sizes of water craft that pass under the bridge are variable, but are all pleasure type craft.

Estimated Project Costs:

PD&E \$750,000
Design \$2,800,000
Construction \$12,000,000
Construction Engineering & Inspection \$1,680,000
Post Design Services \$560,000
TOTAL \$17,790,000

PROJECT BACKGROUND

The Beckett Bridge (Bridge NO. 154000) over Whitcomb and Minetta Bayous is located in the City of Tarpon Springs in Pinellas County, Florida. Riverside Drive/North Spring Boulevard (via the Beckett Bridge) provides the most efficient and direct access route from the area north and west of the bayous to the downtown area of Tarpon Springs. This facility is also used as an evacuation route, providing access to major arterials in Pinellas County, such as Alternate US 19 and US 19.

The structure is maintained and operated by Pinellas County. The drawbridge currently provides the only access for various vessels docking on Whitcomb and Minetta Bayous. This drawbridge is not permanently tended by a bridge tender. Openings are provided by Pinellas County staff on a per call basis.

This 360 foot long drawbridge (Bridge #154000) consists of a single leaf bascule that was originally constructed as a timber structure in 1924 and reconstructed as a concrete structure in 1956 and rehabilitated 1996. This bridge has not been previously recorded or evaluated for listing in the National Register of Historic Places (NRHP). This evaluation will be conducted as part of the PD&E Study.

The bridge consists of nine 32 foot long (average) concrete approach spans, and a center single leaf bascule span, 40 feet long over the channel, which is not part of the Intracoastal Waterway. The bascule span provides approximately 6 feet of vertical navigational clearance over the channel when the leaf is locked in the down position. The bridge has a sufficiency rating of 44.9, and it has been classified by the FDOT as functionally obsolete and structurally deficient. The

mechanical and electrical systems are obsolete, and require considerable maintenance by Pinellas County staff. A speed limit of 20 mph was posted to reduce vibrations on the bridge. The concrete approaches have nearly reached their intended 50-year design service life. Current weight restrictions prevent school busses from crossing the bridge. This requires school buses for 3 public schools to take a 2-mile detour in the mornings and afternoons.

A technical evaluation was recently prepared to determine whether repairs could be made to this structure and to what extent or if complete replacement was necessary. The evaluation found that repairs to the movable span could be made now, but replacement of the structure would be necessary within the next ten years. The PD&E phase for this project will evaluate the need to replace or rehabilitate the functionally obsolete and structurally deficient bridge.

Summary of Public Comments

Community Desired Features

No desired features have been entered into the database. This does not necessarily imply that none have been identified.

Purpose and Need Statement

Introduction

The purpose of this project is to provide for the safe, efficient movement of vehicles within this area of Pinellas County and Tarpon Springs. The project will also provide local and regional connectivity across Whitcomb and Minetta Bayous for the 5,400 residents of the area, as well as emergency evacuation across the bayous. The Beckett Bridge is a mechanical draw bridge that has undergone multiple repairs through the years with another repair to the rolling lift and guide mechanisms planned for 2010/2011. These repairs were identified from a technical evaluation performed by Pinellas County in 2009. That evaluation also recommended that this bridge be replaced within ten years.

Regional Connectivity

The Beckett Bridge is located on Riverside Drive/North Spring Boulevard, a local collector in the City of Tarpon Springs. Riverside Drive/North Spring Boulevard provides access across Whitcomb and Minetta Bayous for approximately 5,400 residents and serves direct access to the emergency evacuation route for these residents.

This facility is not on a regional road network; however it does serve as the primary and only reasonable access route for these residents of Tarpon Springs, elementary, middle and high schools, emergency services, and the county's Fred Howard Park. Permanent closure of this structure would result in a detour for some residents and commuters in excess of 2 miles and could have a detrimental affect on emergency access and affect access to the local marina located on the east end of the bridge.

Emergency Evacuation

Beckett Bridge, located within Evacuation Zone A, is used as a hurricane evacuation route as Riverside Drive/North Spring Boulevard is an extension of Tarpon Avenue, which is a designated evacuation route. The bridge provides access across Whitcomb and Minetta Bayous for approximately 5,400 residents to major arterials including Alternate US 19 and US Highway 19.

Future Population and Employment Growth in Corridor

Referencing the socio-economic data developed for the MPO's 2035 LRTP, the Beckett Bridge project is located in Planning Sector 1 which is projected to grow in population from 26,395 in 2006 to 33,726 by 2035, or roughly 22%. Population within adjacent Planning Sectors 2 and 3 in the upper north county area is expected to increase by 16,038 or approximately 14%. Employment within Planning Sector 1 is expected to increase by approximately 4,841 jobs from 15,490 in 2006 to 20,331 by 2035. Employment within adjacent Planning Sectors 2 and 3 is expected to increase by another 4,265 jobs by 2035.

The Beckett Bridge provides access for the area north and west of the bayous to Tarpon Springs' downtown and

planned growth areas.

Future Traffic

On October 28, 2008, a 24-hour traffic study was conducted on the Beckett Bridge. That study found an eastbound volume of 3,920 vehicles and a westbound volume of 3,930 for a total AADT of 7,850. Additionally, a 72-hour traffic count was taken in December 2004. The counts taken at that time showed approximately 8,000 vehicles per day crossing Beckett Bridge.

On nearby Meres Boulevard (Carolina Ave to Alt US 19), the MPO 2035 LRTP Traffic Volume Forecast anticipates a volume of 9,500 vehicles per day. The 2008 volume across this same segment was 6,354 vehicles per day. The Alt US 19/Pinellas Avenue (Tarpon Ave to Orange St) corridor anticipates 19,500 vehicles in 2035 up from the 16,900 vehicles in 2008. The Plan anticipates a slight increase in traffic volumes on Tarpon Avenue (Alt US 19 - Safford Ave) from 17,700 in 2008 to 18,000 vehicles in 2035.

The 2035 LRTP does not evaluate the Level of Service (LOS) for Beckett Bridge. Meres Boulevard 2008 LOS is C. The associated roadways Alt US19 and Tarpon Avenue operated at LOS D and F respectively in 2008. Although this project will not add capacity, bridge replacement is necessary to continue to equalize traffic volumes on roadways providing access to the area north and west of the bayous in Tarpon Springs.

Any proposed bridge replacement is expected to remain two lanes but will include appropriate road shoulders and sidewalks to meet current geometric design standards. The project will also include roadway improvements from Chesapeake Drive to Forest Avenue to improve approaches to the bridge. Replacement of the Beckett Bridge is not expected to improve the level of service along Riverside Drive/N. Spring Boulevard; however, it is expected to maintain an acceptable level of service on roadways in the area by providing alternative travel routes.

Safety/Crash Rates

In 2009, Pinellas County had a crash rate of 162.7 per 100 Million Vehicle Miles of Travel (VMT). This was somewhat higher than the statewide average of 120/100 Million VMT. Pinellas County has historically had higher than statewide averages which is typical of a densely urbanized county with high traffic volumes.

Crash rates for the subject area of Beckett Bridge are virtually unchanged over the past three years, as a minimal amount of accidents occurred on the bridge. Crash totals on Beckett Bridge for the past three years are as follows:

Year Total Crashes

2009 0

2008 2

2007 1

The low number of crashes is most likely due to the low posted speed limit of 20 mph. This low speed limit was posted to reduce vibrations on the bridge. While there have not been a significant number of crashes, there have been a number of reports of tire damage. Tire damage has been caused by the protrusion of the steel curb on the draw span due to the misalignment of the lifting mechanism. This is expected to be addressed by the planned repairs in 2010/2011.

The structure is proposed to remain two lanes, but replacement alternatives will include safety measures such as road shoulder and sidewalk on both sides of the bridge. The project will also include improvements to the bridge approaches for a project length of approximately 0.31 mile.

Transit

Pinellas Suncoast Transit Authority's (PSTA) Route 66 services north and south bound Alt US 19. Additionally, Route 66 via east and westbound Dr. M. L. King Boulevard connects those riders commuting on US 19. Pasco County Public Transit Route 18 services riders north of Live Oak Street and Dodecanese Boulevard in Pinellas County. Headways for PSTA Route 66 and Pasco County Transit Route 18 range from 30 minutes during peak hours to 60 minutes during off-peak hours. This route is in service from 5:10 a.m. to 8:05 p.m. Monday through Saturday, and approximately 8:00 a.m. to 6:00 p.m. Sunday and Holidays.

Replacement of the Beckett Bridge will provide for improved pedestrian access to the bus route along Alt US 19.

Additionally, bridge replacement will allow for transport of Pinellas County School students requiring transport. Due to the current weight restriction on the Beckett Bridge, school buses are required to travel Meres Boulevard and Whitcomb Boulevard to access three schools west of Alt US 19. This creates an additional route distance of over 2 miles per bus, per direction, twice per day.

Access to Intermodal Facilities and Freight Activity Centers

Beckett Bridge is a residential corridor with one nearby freight related center. The MPO's 2008 Goods Movement Study identified the Northwest Tarpon Springs Industrial Area as a potential Regional Freight Activity Center. This area is west of Alt US 19 at Anclore Boulevard and Anclore Roads, north of the Beckett Bridge. Alt US 19, also known as SR 595, Anclore Boulevard, Anclore Road, Live Oak Street and Tarpon Avenue (Alt US 19 - US 19) are all unrestricted Truck Routes as shown on the Pinellas County Truck Route Plan. An improved Beckett Bridge would improve access to these roadways which access the freight center through improved travel lane widths and removal of the 20 mph speed restriction.

The Beckett Bridge also provides access to the PSTA/Pasco County Public Transit transfer centers located at Alt US 19/Pinellas Avenue and Dodecanese Boulevard and the Tarpon Mall area at US 19 and Dr. M.L. King Jr. Boulevard.

Relief to Parallel Facilities

The Beckett Bridge corridor provides the primary alternative for east-west travel in west Tarpon Springs as it is a continuation of Tarpon Avenue which is the primary east-west corridor through the city. There are two other routes that serve as east-west travel alternatives - Whitcomb Boulevard and Meres Boulevard.

Whitcomb Boulevard is a two-lane minor collector roadway that primarily carries local residential traffic. It's traffic count is low and is not measured due to its local nature.

Meres Boulevard is a collector roadway that experienced a "C" LOS in 2008. This road currently provides access to the western end of Tarpon Springs primarily for traffic south of the city. Construction of the Meres Boulevard extension from Alt US 19 to US 19 is currently planned as part of the Meres Crossing development on the southwest corner of Alt US 19 and Meres Boulevard. Construction of this extension is expected to better distribute east-west traffic through Tarpon Springs; however improvement of the Beckett Bridge is still seen as necessary to provide alternative travel choices for the residents in the northwest are of the city.

Bikeways and Sidewalks

The existing bridge currently has 2 foot wide sidewalks in each direction but no separate bicycle lanes. Pinellas County has an active Bike Lane Program and current policy states that bike lanes are to be incorporated into all roadway improvement projects along county roadways, if deemed feasible. Bicycles will be accommodated across any proposed bridge replacement alternatives through road shoulders or bike lanes .

Pinellas County also has an active sidewalk and pedestrian program. The County incorporates sidewalks and appropriate pedestrian features in all of its roadway projects. Any proposed bridge replacement alternatives will include sidewalks across the bridge.

Plan Consistency

This project is consistent with the Transportation Element of the Pinellas County Comprehensive Plan, as amended on March 17, 2009. This project is not a capacity improvement and therefore is not specifically listed as such in the Pinellas County MPO 2035 Long Range Transportation Plan (LRTP), adopted December 2009.

The project, however, does adhere to the goals and policies of the LRTP by meeting Objective 1.10. Objective 1.10 states: "Ensure the safe accommodation of motorized and non-motorized traffic while reducing the incidence of vehicular conflicts within the county's major transportation corridors."

The project's PD&E Study is also included in the Pinellas County Capital Improvement Program, the FDOT Work Program, the Pinellas County MPO Transportation Improvement Program (TIP), and the FDOT FY 2010 State Transportation Improvement Program (STIP).

Project Funding

While Pinellas County has funding programmed in the Capital Improvement Program for bridge improvements, the funding is limited. Therefore, the County is seeking funding participation through other sources such as state and federal programs.

The County's funding source consists of the infrastructure sales tax, also known as the Penny for Pinellas. Other local sources may also consist of Transportation Impact Fee revenues.

Purpose and Need Reviews

Southwest Florida Water Management District Comments

Agency	Acknowledgment	Review Date
Southwest Florida Water Management District	Understood	12/20/2010
Comments		
No Purpose and Need Comments Were Found.		

US Army Corps of Engineers Comments

Agency	Acknowledgment	Review Date
US Army Corps of Engineers	Understood	12/16/2010
Comments		
No Purpose and Need Comments Were Found.		

US Environmental Protection Agency Comments

Agency	Acknowledgment	Review Date
US Environmental Protection Agency	Understood	12/8/2010
Comments		
No Purpose and Need Comments Were Found.		

National Marine Fisheries Service Comments

Agency	Acknowledgment	Review Date
National Marine Fisheries Service	Understood	11/22/2010
Comments		
No Purpose and Need Comments Were Found.		

US Coast Guard Comments

Agency	Acknowledgment	Review Date
US Coast Guard	Understood	12/20/2010
Comments		
No Purpose and Need Comments Were Found.		

FL Fish and Wildlife Conservation Commission Comments

Agency	Acknowledgment	Review Date
FL Fish and Wildlife Conservation Commission	Understood	12/17/2010
Comments		
No Purpose and Need Comments Were Found.		

FL Department of Environmental Protection Comments		
Agency	Acknowledgment	Review Date
FL Department of Environmental Protection	Understood	12/21/2010
Comments		
No Purpose and Need Comments Were Found.		

Natural Resources Conservation Service Comments		
Agency	Acknowledgment	Review Date
Natural Resources Conservation Service	Understood	11/23/2010
Comments		
No Purpose and Need Comments Were Found.		

Federal Highway Administration Comments		
Agency	Acknowledgment	Review Date
Federal Highway Administration	Accepted	12/23/2010
Comments		
No Purpose and Need Comments Were Found.		

FL Department of State Comments		
Agency	Acknowledgment	Review Date
FL Department of State	Understood	11/30/2010
Comments		
No Purpose and Need Comments Were Found.		

US Fish and Wildlife Service Comments		
Agency	Acknowledgment	Review Date
US Fish and Wildlife Service	Understood	12/3/2010
Comments		
No Purpose and Need Comments Were Found.		

FL Department of Community Affairs Comments		
Agency	Acknowledgment	Review Date
FL Department of Community Affairs	Understood	4/21/2011
Comments		
No Purpose and Need Comments Were Found.		

Alternative #1

Alternative Description	
From	Chesapeake Drive
To	Forest Avenue
Type	Bridge
Status	ETAT Review Complete
Total Length	0.31 mi.
Cost	\$16,880,000.00
Modes	Roadway Bicycle Pedestrian

Location and Length	
	Segment #1
Name	Beckett Bridge over Whitcomb
Beginning Location	Chesapeake Drive
Ending Location	Forest Avenue
Length (mi.)	0.31
Roadway Id	
BMP	??
EMP	??

Jurisdiction and Class	
	Segment #1
Jurisdiction	County
Urban Service Area	In
Functional Class	URBAN: Collector

Current and Future Conditions	
Base Conditions	
	Segment #1
Year	2008
AADT	\$7,850.00
Lanes	2
Config	Lanes Undivided
Interim Plan	
	Segment #1
Year	
AADT	unspecified
Lanes	
Config	
Needs Plan	
	Segment #1
Year	2035
AADT	unspecified
Lanes	2
Config	Lanes Undivided
Cost Feasible Plan	
	Segment #1
Year	2035
AADT	unspecified

Lanes	
Config	
Funding Sources	
	Segment #1
COUNTY funding amount:	\$352,000.00
FEDERAL funding amount:	\$398,000.00

Project Effects Overview				
Issue	Degree of Effect		Organization	Date Reviewed
Natural				
Air Quality	2	Minimal	US Environmental Protection Agency	12/23/2010
Coastal and Marine	3	Moderate	National Marine Fisheries Service	11/22/2010
Coastal and Marine	4	Substantial	Southwest Florida Water Management District	12/20/2010
Contaminated Sites	0	None	FL Department of Environmental Protection	12/23/2010
Contaminated Sites	3	Moderate	Southwest Florida Water Management District	12/20/2010
Contaminated Sites	0	None	US Environmental Protection Agency	12/08/2010
Farmlands	0	None	Natural Resources Conservation Service	11/23/2010
Floodplains	3	Moderate	Southwest Florida Water Management District	12/20/2010
Floodplains	3	Moderate	US Environmental Protection Agency	12/23/2010
Infrastructure	0	None	Southwest Florida Water Management District	12/20/2010
Navigation	N/A	N/A / No Involvement	US Army Corps of Engineers	12/16/2010
Navigation	3	Moderate	US Coast Guard	12/20/2010
Special Designations	4	Substantial	US Environmental Protection Agency	12/23/2010
Special Designations	4	Substantial	Southwest Florida Water Management District	12/20/2010
Water Quality and Quantity	4	Substantial	Southwest Florida Water Management District	12/20/2010
Water Quality and Quantity	3	Moderate	FL Department of Environmental Protection	12/23/2010
Wetlands	2	Minimal	US Army Corps of Engineers	12/16/2010
Wetlands	4	Substantial	Southwest Florida Water Management District	12/20/2010
Wetlands	3	Moderate	FL Department of Environmental Protection	12/23/2010
Wetlands	3	Moderate	National Marine Fisheries Service	11/22/2010
Wetlands	3	Moderate	US Fish and Wildlife Service	12/20/2010
Wetlands	3	Moderate	US Environmental Protection Agency	12/23/2010

Wildlife and Habitat	2	Minimal	FL Fish and Wildlife Conservation Commission	12/17/2010
Wildlife and Habitat	2	Minimal	Southwest Florida Water Management District	12/20/2010
Wildlife and Habitat	3	Moderate	US Fish and Wildlife Service	12/20/2010
Cultural				
Historic and Archaeological Sites	N/A	N/A / No Involvement	Southwest Florida Water Management District	12/20/2010
Historic and Archaeological Sites	3	Moderate	FL Department of State	1/28/2011
Historic and Archaeological Sites	3	Moderate	Federal Highway Administration	3/16/2011
Historic and Archaeological Sites	2	Minimal	Miccosukee Tribe of Indians of Florida	12/08/2010
Recreation Areas	0	None	US Environmental Protection Agency	12/21/2010
Recreation Areas	0	None	FL Department of Environmental Protection	12/23/2010
Recreation Areas	0	None	Southwest Florida Water Management District	12/20/2010
Section 4(f) Potential	3	Moderate	Federal Highway Administration	12/23/2010
Community				
Land Use	2	Minimal	FL Department of Community Affairs	4/21/2011
Mobility	1	Enhanced	FL Department of Community Affairs	4/21/2011
Relocation	2	Minimal	Federal Highway Administration	12/23/2010
Social	2	Minimal	Federal Highway Administration	12/23/2010
Social	2	Minimal	FL Department of Community Affairs	4/21/2011
Secondary and Cumulative				
Secondary and Cumulative Effects	4	Substantial	Southwest Florida Water Management District	12/20/2010

ETAT Reviews: Natural

Air Quality

Coordinator Summary

2 Summary Degree of Effect

Air Quality Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

USEPA DOE: Minimal

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) has evaluated comments from the US Environmental Protection Agency (USEPA) and recommends a Degree of Effect of Minimal.

The USEPA noted that they do not anticipate any negative air quality impacts relating specifically to the

project. As population growth and vehicle volumes increase, there is the potential to have air quality conformity and non-attainment issues in the future. The USEPA recommends that the FDOT should be aware of this and take appropriate measures to ensure compliance with all applicable air quality standards and regulations.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Air Quality

2 ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/23/2010)

Air Quality Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Resources: Air Quality

Level of Importance: Air quality is of a high level of importance in urban areas and areas with anticipated growth in population, employment, and development.

Comments on Effects to Resources:

EPA does not anticipate any negative air quality impacts relating specifically to the project. EPA is assigning a minimal degree of effect to the air quality issue for this project. As population growth and vehicle volumes increase, there is the potential to have air quality conformity and non-attainment issues in the future. FDOT should be aware of this and take appropriate measures to ensure compliance with all applicable air quality standards and regulations.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Coastal and Marine

Coordinator Summary

3 Summary Degree of Effect

Coastal and Marine Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

The National Marine Fisheries Service (NMFS) and the Southwest Florida Water Management District (SWFWMD) recommend a Degree of Effect (DOE) of Moderate and Substantial, respectively. The Florida Department of Transportation (FDOT) recommends a Degree of Effect (DOE) of Moderate.

The FDOT met with SWFWMD in July 2005 and informally "agreed to disagree" on degrees of effect

findings. Therefore, it is understood by SWFWMD that when they assign a Substantial DOE, the FDOT or Metropolitan Planning Organization (MPO) typically may have lower DOE assignments, but will continue to coordinate with SWFWMD when warranted.

A review of the Geographical Information Systems (GIS) analysis data indicates that two Environmentally Sensitive Shorelines are within the 100-foot buffer distance and two additional Environmentally Sensitive Shorelines are within the 500-foot buffer distance. Discontinuous Seagrass Beds are 0.0 acres (0.09%) within the 200-foot buffer distance and 0.6 acres (1.02%) within the 500-foot buffer distance.

The NMFS staff conducted a site inspection of the project area on November 19, 2010, to assess potential concerns to living marine resources within Whitcomb and Minetta Bayous, the mouth of the Anclote River, and the Gulf of Mexico and concluded that the project could directly impact NMFS trust resources. Mangroves occur immediately adjacent to the bridge on the northwest, southwest, and southeast shorelines. Certain estuarine habitats within the project area are designated as essential fish habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. Mangroves have been identified as EFH for postlarval/juvenile, subadult, and adult red drum and gray snapper, and juvenile goliath grouper by the Gulf of Mexico Fishery Management Council under provisions of the Magnuson-Stevens Act. The NMFS requested that an EFH Assessment be prepared for this project.

NMFS also recommends that stormwater treatment systems be upgraded to prevent degraded water from entering estuarine habitats within the system and best management practices should be employed during construction to prevent siltation of estuarine habitats.

SWFWMD noted that the project occupies watersheds that are included in the Pinellas County Aquatic Preserve. SWFWMD also noted that seagrass beds are present in Minetta and Whitcomb Bayous.

The FDOT recommends that the implementing agency prepare an EFH Assessment. Coordination with the NMFS will occur during the Project Development and Environment (PD&E) Study where warranted.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Coastal and Marine

3

ETAT Review by David A. Rydene, National Marine Fisheries Service (11/22/2010)

Coastal and Marine Effect: Moderate

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:

Whitcomb and Minetta Bayous, the mouth of the Anclote River, and the Gulf of Mexico, which contain estuarine and marine habitats such as seagrass, mangrove, and salt marsh used by federally-managed fish species and their prey.

Comments on Effects to Resources:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 13040. The Florida Department of Transportation District 7 proposes rehabilitating or replacing the existing Beckett Bridge (Riverside Drive) spanning Whitcomb Bayou in Pinellas County, Florida. The project would also include roadway improvements on Riverside Drive from Chesapeake Drive to Forest Avenue. The bridge replacement alternative would retain the bridge as a two-lane facility.

NMFS staff conducted a site inspection of the project area on November 19, 2010, to assess potential concerns related to living marine resources within Whitcomb and Minetta Bayous, the mouth of the Anclote River, and the Gulf of Mexico. The lands adjacent to the proposed project are principally residential properties, a yacht club, and estuarine habitats. It appears that the project could directly impact NMFS trust resources (i.e. mangroves). Mangroves occur immediately adjacent to the bridge on the northwest, southwest, and southeast shorelines. Certain estuarine habitats within the project area are designated as essential fish habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Mangroves have been identified as EFH for postlarval/juvenile, subadult and adult red drum and gray snapper, and juvenile goliath grouper by the Gulf of Mexico Fishery Management Council under provisions of the Magnuson-Stevens Act.

Federal agencies which permit, fund, or undertake activities which may adversely impact EFH are required to consult with NMFS and, as a part of the consultation process, an EFH Assessment must be prepared to accompany the consultation request. Regulations require that EFH Assessments include:

1. a description of the proposed action;
2. an analysis of the effects (including cumulative effects) of the proposed action on EFH, the managed fish species, and major prey species;
3. the Federal agency's views regarding the effects of the action on EFH; and
4. proposed mitigation, if applicable.

Provisions of the EFH regulations [50 CFR 600.920(c)] allow consultation responsibility to be formally delegated from federal to state agencies, including FDOT. Whether EFH consultation is undertaken by the federal agency (e.g. Federal Highway Administration) or FDOT, it should be initiated as soon as specific project design and construction impact information are available. EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents. Upon review of the EFH Assessment, NMFS will determine if it is necessary to provide EFH Conservation Recommendations for the project.

NMFS also recommends that stormwater treatment systems be upgraded to prevent degraded water from entering estuarine habitats within the system. In addition, best management practices should be employed during road construction to prevent siltation of estuarine habitats.

Coordinator Feedback:None

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Coastal and Marine Effect: Substantial

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

The project is entirely within the Springs Coast Ecosystem Management Area (EMA). The project occupies watersheds that are included in the Pinellas County Aquatic Preserve. Whitcomb Bayou and Minetta Bayou are embayments of the lower Anclote River and are included in the Anclote River Bayou Complex watershed (WBID 1440A). This watershed contributes flows to the tidal segment of the Anclote River (WBID 1440) which discharges to the Gulf of Mexico (WBID 8045C) at the Pasco-Pinellas County Line just north of St Joseph's Sound (WBID 8045D). Whitcomb Bayou, Minetta Bayou, the Anclote River and St Joseph's Sound are designated as Outstanding Florida Waters. One of the islands included in Pinellas County's Anclote Islands Management Area is located 953 feet north of the project; two other islands are located within 1,500 feet of the project to the north. Some watersheds in which the project is located are included on the FDEP Verified List of Impaired Waters. Beds of seagrass are present in Minetta Bayou and Whitcomb Bayou. These seagrass beds are particularly vulnerable to sedimentation.

Comments on Effects to Resources:

Due to the expected increase in impervious area and the direct runoff from the new impervious area, the project has the potential to generate increased rates and volume of stormwater runoff and increased sedimentation that may degrade water quality and damage seagrass beds within Minetta and Whitcomb Bayous, and waters downstream. The seagrass beds also may be harmed or eliminated as a result of sediment or chemical constituents contained in stormwater runoff or released during construction.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

This project will discharge to the Anclote River Bayou Complex (WBID 1479) which is impaired for dissolved oxygen and nutrients, and the SWFWMD will require a demonstration of net improvement regarding nutrients in discharges to the Bayous.

To minimize pollution potential, it would be useful to collect and treat discharges from the project facilities to a higher standard than the minimum required by rule before discharging to sensitive estuarine areas. Collecting and treat runoff from the bridge and approaches would assist considerably in reducing the sediment load of runoff ultimately reaching the waters in Bayous spanned by the bridge. Choosing construction means and methods to minimize fugitive construction materials and pollutant discharges would be useful to minimize temporary and permanent impacts.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Contaminated Sites

Coordinator Summary

3 Summary Degree of Effect

Contaminated Sites Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

SWFWMD DOE: Moderate

FDEP DOE: None

USEPA DOE: None

FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the Florida Department of Environmental Protection (FDEP), and US Environmental Protection Agency (USEPA), and the Southwest Florida Water Management District (SWFWMD) and recommends a Degree of Effect (DOE) of Moderate.

The SWFWMD indicated that the Stamas Yacht facility is located within 420-feet of the eastern terminus of the project and there is some potential that contaminated soils/groundwater plumes may exist within 100 to 200-feet of the project in view of past releases at the site.

The SWFWMD also noted that there is the potential for contamination of surface waters and receiving waters that are already designated impaired for certain parameters and there is a high potential for the pollution of the surficial aquifer and surface water bodies.

A review of the Geographical Information Systems (GIS) analysis data indicates that there are no contaminated sites located within the 500-foot buffer distance.

The FDOT recommends that the implementing agency determine whether there would be any contamination and hazardous materials issues associated with the project. A Contamination Screening Evaluation Report (CSER) should be prepared to assess risk for contamination in the project area. If contamination is detected during construction, the FDEP and Pinellas County should be notified. Any source identified should be assessed to determine the need for remediation during construction.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Contaminated Sites

0 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (12/23/2010)

Contaminated Sites Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Coordinator Feedback:None

3

ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Contaminated Sites Effect: Moderate

Coordination Document: Permit Required

Dispute Information: N/A

Identified Resources and Level of Importance:

There are three septic tanks within the 100 to 500-foot buffers. The Stamas Yacht facility is located within 420 feet of the east terminus of the project, and there is some potential that contaminated soils or groundwater plumes may exist within 100-200 feet of the project. No other sources of potential contamination are reported or were observed on the day of the field visit (16 November 2010).

Information from DRASTIC analyses indicates that both the surficial aquifer and the Floridan Aquifer within the 100-foot to 500-foot buffers have a high potential for contamination. The surficial aquifer is used for landscape irrigation and it contributes flows to canals, ditches and bayous in the area. Surface water bodies in the project area discharge to sensitive estuarine waters in the Anclote River estuary. The surrounding area consists of Karst geologic conditions.

In view of the past land uses in the project area, there may be other, as yet unknown, contaminated sites.

Comments on Effects to Resources:

The construction of the project and associated facilities in areas where there are sources of contamination may mobilize the contamination and cause or contribute to pollution of the surficial aquifer and surface waters. Such pollution may contribute to the entry of pollutants contained in surficial aquifer waters to canals, ditches and streams in the area, and may contribute to the degradation of sensitive estuarine waters in the Anclote River and St Joseph's Sound.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The Degree of Effect is considered "Moderate" as it is possible that: (1) unknown sources of contamination may exist that could be disturbed by construction; (2) the high potential for the pollution of the surficial aquifer and surface water bodies; (3) the potential for the contamination of surface waters and receiving waters that are already designated as Impaired for certain parameters; and (4) the potential for contaminated soils or contamination plumes to exist in the project area from the Stamas Yacht facilities in view of past releases at the site.

Temporary drainage and erosion control through areas of potential contamination may be important considerations, even if there are no proposed stormwater management systems to be located in those areas. It is recommended that FDOT:

1. Conduct a geotechnical evaluation of potential stormwater treatment sites for the presence of contamination and eliminate contaminated areas as possible pond sites or steps must be taken (such as use of impermeable liners) to isolate stormwater from contaminated soil or groundwater;
2. Conduct an Environmental Audit at the appropriate level to identify specific facilities of interest and to develop a plan for their proper removal or abandonment;
3. Coordinate with FDEP and EPA and prepare a Contamination Assessment Report as necessary; and
4. Avoid known sites of contaminated soils. If discovered during the recommended soils investigation, contamination should be remediated properly so as to eliminate the potential for ground water contamination.

Coordinator Feedback:None

0 ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/08/2010)
Contaminated Sites Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
None found.

Comments on Effects to Resources:
None found.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Farmlands

Coordinator Summary

0 Summary Degree of Effect
Farmlands Summary Degree of Effect: None

Reviewed By:
FDOT District 7 (3/14/2011)

Comments:
NRCS DOE: None
FDOT Recommended DOE: None

The Florida Department of Transportation (FDOT) has evaluated comments from the Natural Resources Conservation Service (NRCS) and recommends a Degree of Effect of None.

A review of the Geographical Information Systems (GIS) analysis data and NRCS comments indicates that

there are no prime and unique farmlands within the 500-foot buffer distance. This project will not result in any impacts to farmlands.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Farmlands

0 ETAT Review by Rick Allen Robbins, Natural Resources Conservation Service (11/23/2010)
Farmlands Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The USDA-NRCS considers soil map units with important soil properties for agricultural uses to be Prime Farmland. In addition, the USDA-NRCS considers any soils with important soil properties and have significant acreages that are used in the production of commodity crops (such as, cotton, citrus, row crops, specialty crops, nuts, etc.) to be considered as Farmlands of Unique Importance. Nationally, there has been a reduction in the overall amount of Prime and Unique Farmlands through conversion to non-farm uses. This trend has the possibility of impacting the nation's food supply and exporting capabilities.

Comments on Effects to Resources:

Conducting GIS analysis of Prime Farmland (using USDA-NRCS data) and Important (Unique) Farmland Analysis (using existing WMD land use data and 2010 SSURGO data) has resulted in the determination that there are no Prime, Unique, or Locally Important Farmland soils within any buffer width within the Project Area. Therefore, no degree of effect to agricultural resources.

CLC Commitments and Recommendations:

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Floodplains

Coordinator Summary

3 Summary Degree of Effect

Floodplains Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

USEPA DOE: Moderate

SWFWMD DOE: Moderate

FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the US Environmental Protection Agency (USEPA) and the Southwest Florida Water Management District (SWFWMD) and recommends a Degree of Effect (DOE) of Moderate.

A review of the Geographical Information Systems (GIS) analysis data indicates that Special Flood Hazard Areas Zone AE is 8.1 acres (99.81%) within the 100-foot buffer distance, 17.0 acres (95.83%) within the 200-foot buffer distance, and 51.9 acres (94.15%) within the 500-foot buffer distance.

The USEPA noted that this project should include an evaluation of floodplain impacts and alternatives to avoid adverse effects and incompatible development in the floodplains.

The FDOT recommends that the implementing agency evaluate floodplain impacts and evaluate compensation opportunities for any floodplain encroachment and lost floodplain storage, if mitigation is deemed necessary by regulatory agencies. A Location Hydraulics Report (LHR) should be prepared for the project. The FDOT recommends that the implementing agency avoid or minimize impacts to floodplain resources and functions.

No comments were received from the Federal Highway Administration (FHWA) or the Florida Department of Environmental Protection (FDEP).

ETAT Reviews for Floodplains

3

ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Floodplains Effect: Moderate

Coordination Document: Permit Required

Dispute Information: N/A

Identified Resources and Level of Importance:

The entire project site occupies lands designated as Special Flood Hazard Areas, Zone AE and FEMA FIRM Zone AE. Those segments of the project that are built at grade may alter drainage patterns; fill floodplain areas, Special Flood Hazard Areas, or historic basin storage areas. Potential flooding impacts are located along the entire project length.

Comments on Effects to Resources:

It is possible that a large portion of the floodplain may be affected by the project. The project has the potential to result in adverse impacts on local flood-prone areas.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory and proprietary interests and obligations.

The degree of effect may be reduced by: (1) restricting the filling of floodplain areas to only those areas necessary, (2) constructing stormwater treatment ponds outside floodplain areas, and (3) providing compensation for lost floodplain and historic basin storage.

Final versions of surface water management plans may be considered "best available information" for floodplain location and depth. Credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters may be important to processing and issuing the environmental resource permit for this project. Please contact the Southwest Florida Water Management District for availability of watershed management data.

Also, final watershed management model data may be available. Please contact the Southwest Florida Water Management District for availability of such data on specific watersheds and on other projects (listed in the Water Quantity and Quality section) that may have helpful information.

Coordinator Feedback:None

3

ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/23/2010)

Floodplains Effect: Moderate

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Resources: Floodplains

Level of Importance: Development within the 100-year floodplain is of a high level of importance. Construction of roadways and bridges within the floodplain should not impede, obstruct or divert the flow of water or debris in the floodplain which would alter the discharge capacity or otherwise adversely affect public health, safety and welfare, or cause damage to public or private property in the event of a flood.

Comments on Effects to Resources:

A review of GIS analysis data in the EST at the programming screen phase of the project indicates that nearly 100% of the project area is located within the 100-year floodplain, as designated by Zone AE of the flood hazard zone designation. The project includes the evaluation of replacement and rehabilitation alternatives for the Beckett Bridge over Whitcomb and Minetta Bayous. The structure is proposed to remain two lanes, but replacement alternatives will include appropriate road shoulders and sidewalks to meet current design standards. The project will include roadway improvements to Riverside Drive/North Spring Boulevard from Chesapeake Drive to Forest Avenue resulting in a project length of approximately 0.31 mile. The most likely floodplain impacts relating to this proposed project include the bridge approaches and associated roadway improvements.

Comments relating to floodplains include the fact that any development within the 100-year floodplain has the potential for placing citizens and property at risk of flooding and producing changes in floodplain elevations and plan view extent. Development (such as roadways, housing developments, strip malls and other commercial facilities) within floodplains increases the potential

for flooding by limiting flood storage capacity and exposing people and property to flood hazards. Development also reduces vegetated buffers that protect water quality and destroys important habitats for fish and wildlife.

The PD&E phase of this project should include an evaluation of floodplain impacts. FDOT should consider alternatives to avoid adverse effects and incompatible development in the floodplains. Efforts should be made to avoid or minimize impacts to floodplain resources and functions. Consultation and coordination with appropriate flood management agencies should occur relating to regulatory requirements, avoidance, minimization and/or mitigation strategies.

Coordinator Feedback:None

- No review submitted from the FL Department of Environmental Protection
- No review submitted from the Federal Highway Administration

Infrastructure

Coordinator Summary

3 Summary Degree of Effect

Infrastructure Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

SWFWMD DOE: None

FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the Southwest Florida Water Management District (SWFWMD) and recommends a Degree of Effect of Moderate.

A review of the Geographic Information Systems (GIS) analysis data indicates that the Tarpon Springs Yacht Club is within the 200-foot buffer distance, but additional research using Google Street View shows the parking facilities and boat docks are abutting the northeast side of the bridge.

The FDOT recommends that the implementing agency assess potential impacts to existing infrastructure and to take measures to minimize any project related impacts to this facility.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Infrastructure

0 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)

Infrastructure Effect: None

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Navigation

Coordinator Summary

3 Summary Degree of Effect

Navigation Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

USCG DOE: Moderate

USACE DOE: N/A/No Involvement

FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the United States Coast Guard (USCG) and US Army Corps of Engineers (USACE) and recommends a Degree of Effect of Moderate.

The USCG noted that a Coast Guard Bridge Permit will be required for the replacement of Beckett Bridge over Whitcomb Bayou. The USACE noted that although Whitcomb Bayou is navigable, the USACE does not handle bridge projects over navigable waters.

The FDOT recommends that the implementing agency coordinate with the USCG during the Project Development and Environment (PD&E) Study and develop a permit as required.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Navigation

**N
/
A**

ETAT Review by John Fellows, US Army Corps of Engineers (12/16/2010)

Navigation Effect: N/A / No Involvement

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Additional Comments (optional):

Although Whitcomb Bayou is navigable, the Corps of Engineers does not handle bridge projects over navigable waters.

Coordinator Feedback:None

3 ETAT Review by Randy Overton, US Coast Guard (12/20/2010)

Navigation Effect: Moderate

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Navigation, moderate

Comments on Effects to Resources:

A Coast Guard Bridge Permit will be required for the replacement of Beckett Bridge over Whitcome Bayou. To obtain further guidance and a copy of the Coast Guard Bridge Permit Application Guide please contact Randall Overton at randall.d.overton@uscg.mil or 305-415-6749.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Special Designations

Coordinator Summary

4 Summary Degree of Effect

Special Designations Summary Degree of Effect: Substantial

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

USEPA DOE: Substantial

SWFWMD DOE: Substantial

FDOT Recommended DOE: Substantial

The Florida Department of Transportation (FDOT) has evaluated comments from the US Environmental Protection Agency (USEPA) and the Southwest Florida Water Management District (SWFWMD) and recommends a Degree of Effect (DOE) of Substantial.

A review of the Geographic Information Systems (GIS) analysis data indicates that Other Outstanding Florida Waters (OFW) Pinellas County Aquatic Preserve is within the 100-foot buffer distance. Also, please see Special Flood Hazard Areas information in the Floodplain DOEs.

The SWFWMD noted that this project will discharge to the Anclote River Bayou Complex (WBID 1479) which is impaired for dissolved oxygen and nutrients and SWFWMD will require a demonstration of net improvement regarding nutrients in discharges to the Bayous.

The FDOT recommends that the implementing agency assess potential impacts to these areas and to take measures to avoid or minimize any project related impacts to these areas because the project has involvement with an aquatic preserve. Once right-of way (ROW) requirements have been defined, the FDOT recommends that the implementing agency submit arials depicting alternatives to the Florida Department of Environmental Protection (FDEP) for review and comment.

No comments were received from the Federal Highway Administration (FHWA) or the Florida Department of Agriculture and Consumer Services.

ETAT Reviews for Special Designations

4

ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/23/2010)

Special Designations Effect: Substantial

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Resources: DFIRM 100-Year Flood Plain/Special Flood Hazard Areas, Aquatic Preserves, Outstanding Florida Waters

Level of Importance: The resources listed above (identified as special designations) are of a high level of importance in the State of Florida. EPA is assigning a substantial degree of effect to this issue for the proposed project.

Comments on Effects to Resources:

A review of GIS analysis data at the programming screen phase of the project indicates that the following features identified as Special Designations are located within proximity of the project:

DFIRM 100-Year Flood Plain/Special Flood Hazard Areas - See Comments under Floodplains issue regarding potential floodplain impacts.

Aquatic Preserves - Pinellas County Aquatic Preserve

The Pinellas County Aquatic Preserve was established on March 21, 1972 and was designated as an Outstanding Florida Water on March 1, 1979. The Pinellas County Aquatic Preserve and the Boca Ciega Bay Aquatic Preserve are located on the Gulf coast of west central Florida, and include the state-owned submerged land in Pinellas County waters. The preserves encompass 136,082 hectares (336,265 acres) of stateowned submerged land. The surrounding area is one of the most

urbanized areas in Florida, and as such has special management needs. The preserves include nearshore habitats along sandy beaches and mangrove dominated shorelines. Submerged habitats include oyster bars, seagrass beds, coral communities, and springfed caves. Abundant islands, including those formed from dredge spoil material, are also part of the preserve. Approximately 1/3 of Florida's coral species can be found in the Pinellas County Aquatic Preserve.

Outstanding Florida Waters - Pinellas County Aquatic Preserve

The Pinellas County Aquatic Preserve is listed as an Outstanding Florida Waters (OFWs). OFWs are provided the highest level of protection under the Florida Administrative Code (F.A.C.). Degradation of water quality in an OFW is prohibited except under certain circumstances. Pollutant discharges must not lower existing ambient water quality. Any activity within an OFW requiring a Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) must be deemed to be clearly in the public interest. Additional stormwater retention and treatment requirements may be required. FDOT will need to coordinate and consult with FDEP regarding specific permitting requirements relating to this OFW.

Opportunities to avoid and or minimize impacts and fragmentation to these types of resources should be evaluated and considered to the greatest extent practicable.

Coordinator Feedback:None

4

ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Special Designations Effect: Substantial

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

The project occupies watersheds that are included in the Pinellas County Aquatic Preserve. Whitcomb Bayou and Minetta Bayou are embayments of the lower Anclote River which discharges to St Joseph Sound at the Pasco-Pinellas County line. Whitcomb Bayou, Minetta Bayou, the Anclote River and St Joseph's Sound are designated as Outstanding Florida Waters. One of the islands included in Pinellas County's Anclote Islands Management Area is located 953 feet north of the project; two other islands are located within 1,500 feet of the project to the north. Some watersheds in which the project is located are included on the FDEP Verified List of Impaired Waters.

Comments on Effects to Resources:

Unless project design allows for the collection and treatment of runoff from the additional new impervious areas, the project has a potential to result in water quality impacts to Outstanding Florida Waters and to delay the recovery of Impaired Waters as a result of undertreated or untreated stormwater runoff during and after construction. In view of the existing and projected traffic volumes on the project, the water quality impact may be significant.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service

Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

This project will discharge to the Anclote River Bayou Complex (WBID 1479) which is impaired for dissolved oxygen and nutrients, and the SWFWMD will require a demonstration of net improvement regarding nutrients in discharges to the Bayous.

Coordinator Feedback:None

- No review submitted from the FL Department of Agriculture and Consumer Services
- No review submitted from the Federal Highway Administration

Water Quality and Quantity

Coordinator Summary

3 Summary Degree of Effect

Water Quality and Quantity Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FDEP DOE: Moderate

SWFWMD DOE: Substantial

FDOT Recommended DOE: Moderate

The Florida Department of Environmental Protection (FDEP) and Southwest Florida Water Management District (SWFWMD) recommend a Degree of Effect (DOE) of Moderate and Substantial, respectively. The Florida Department of Transportation (FDOT) recommends a Degree of Effect (DOE) of Moderate.

The FDOT met with SWFWMD in July 2005 and informally "agreed to disagree" on degrees of effect findings. Therefore, it is understood by SWFWMD that when they assign a Substantial DOE, the FDOT or Metropolitan Planning Organization (MPO) typically may have lower DOE assignments, but will continue to coordinate with SWFWMD when warranted.

A review of the Geographic Information Systems (GIS) analysis data indicates one 303(D) 1998 Impaired Waters are located within the 100-foot buffer distance and the project is 100% within the Pinellas County Aquatic Preserve.

Principal Aquifers of the State of Florida Other Rocks is 38.41%, Recharge Areas of the Floridan Aquifer Discharge/1 to 5 is 100%, and Watershed Conditions 305(B) Good is 100% within the 100-foot buffer distance.

The SWFWMD noted that the entire project is located in the Anclote River Bayou Complex (WBID1440A) watershed which is a major embayment (bayou) of the tidal segment of the Anclote River (WBID1440).

The FDEP recommends that the PD&E Study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities.

No comments were received from the Federal Highway Administration (FHWA) or the US Environmental Protection Agency (USEPA).

ETAT Reviews for Water Quality and Quantity

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Water Quality and Quantity Effect: Substantial

Coordination Document: Permit Required

Dispute Information: N/A

Identified Resources and Level of Importance:

The entire project is located in the Anclote River Bayou Complex (WBID 1440A) watershed which is a major embayment (bayou) of the tidal segment of the Anclote River (WBID 1440). The River, which heads 1.3 miles west of US 41 in Pasco County, discharges to the Gulf of Mexico (WBID 8045C) at the Pasco-Pinellas County Line just north of St Joseph's Sound (WBID 8045D). Beckett Bridge carries Riverside Dr over Minetta and Whitcomb Bayous. Scuppers in both the travel lanes and the pedestrian corridor/bike path drain runoff directly to the waters below the bridge. The open grid moveable bridge section also drains directly to the bayou waters below. There are stormwater inlets on the north and south sides of Riverside Dr approximately 27 feet east of the Riverside Dr/Pampas Ave intersection; the discharge point of runoff entering these inlets is uncertain but may be the waters of Whitcomb Bayou on the south side of Riverside Dr.

Minetta and Whitcomb Bayous are included in the Pinellas County Aquatic Preserve and their waters are designated Outstanding Florida Waters.

Water quality data are available for the Bayous from FDEP.

The May 19, 2009 Verified List of Impaired Waters includes the following TMDL information relevant to the District's permitting interests for this project:

1. Nutrients - the Anclote River Bayou Complex (WBID 1440A) is impaired for nutrients.
2. Dissolved oxygen - the Anclote River Bayou Complex (WBID 1440A) is impaired for dissolved oxygen.
3. Mercury in fish - the Anclote River Tidal watershed (WBID 1440) is impaired for mercury in fish.

The stormwater inlets on the north and south sides of Riverside Dr approximately 27 feet east of the Riverside Dr/Forest Ave intersection may require relocation or mitigation due to encroachment from this project.

Information from DRASTIC analyses indicates that the surficial aquifer and the Floridan Aquifer within the 100-foot to 500-foot buffers have high potentials for contamination. The surficial aquifer is used for landscape irrigation and it contributes flows to canals, ditches and streams in the area.

The Stamas Yacht facility, located within 420 feet of the east terminus of the project, may have produced contaminated soils or groundwater plumes within 100-200 feet of the project. An assessment of the areas to be excavated for the project should be done to ensure that no pollution from contaminated soils or waters results from project activities.

Comments on Effects to Resources:

The project has the potential to generate increased stormwater runoff and sedimentation that may contribute to a delay in recovery of Impaired Waters, degrade water quality in Outstanding Florida Waters and promote ground water pollution. If re-location or alteration of the stormwater inlets on Riverside Dr east of the bridge is necessary, a modification of the ERP relating to those facilities may be required.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The District considers the degree of effect as "Substantial" due to anticipated permitting issues, including the project's potential to degrade water quality of surface water bodies included on the May 19, 2010 Verified List of Impaired Waters.

Due to the increased impervious area and wetlands involvement, portions of this project may not qualify as Minor Roadway Safety Projects under F.A.C. 40D-4.051(13). The SWFWMD strongly recommends a pre-application meeting with the Tampa Regulation office.

Several District projects have generated data that may be useful in the PD&E or design phases of the project. Below are listed the District project number, project title, and District Point of Contact (at the time of writing):

1. B159 - Tampa Bay/Anclote River Comprehensive Watershed Management Plan, Jason Mickel;
2. B178 - Anclote River Minimum Flows, Mike Heyl; report can be accessed at http://www.swfwmd.state.fl.us/projects/mfl/mfl_reports.php
3. B182 - USGS Minimum Flows & Levels Data Collection: Anclote River & Brooker Creek, Marty Kelly; and
4. L803 - Pinellas County Water Quality Management Plan, Mary Szafraniec.

Other reports are available from FDEP and Pinellas County Department of Environmental Management.

Project impacts may be reduced by providing treatment of impervious areas that are untreated under the current bridge/approach configuration, particularly:

- (1) the bridge deck and pedestrian corridor/bike path and
- (2) the west approach to the Bridge where there appears to be no runoff collection/treatment facilities.

If the stormwater inlets on the east side of Beckett Bridge drain directly to Whitcomb Bayou, it may contribute to the ERP net improvement requirement to collect and treat runoff now entering those inlets.

Other impact reduction strategies include:

- (1) Minimizing new impervious area where feasible;
- (2) Using low-impact development strategies,
- (3) Converting Directly Connected Impervious Area (DCIA) to non-DICA, and
- (4) Utilizing the best available information on the hydraulic and hydrologic characteristics of watersheds recently studied by the District.

To prevent further degradation of impaired waters and to be consistent with federal and state laws and rules, the District will require stormwater management systems that discharge directly or indirectly into impaired waters (Anclote River Bayou Complex) to provide net improvement for the pollutants that contribute to the water body's impairment. To do this, a higher level of treatment is necessary to assure that the permit creates a net improvement in the pollutants that have caused or are contributing to the water body impairment.

Recent rule-making activities at the state and Federal level may influence the design and permitting of surface water management facilities associated with this project. The District recommends that the FDOT obtain the latest, effective copy of the Environmental Resource Permit Basis of Review document and consider the possible effect of the changes to the rule on the traditional design processes. In many cases, a technical study common to the FDOT's planning or design activities associated with projects of this type may satisfy the requirements in the ERP Basis of Review. Please discuss the content of the FDOT's common technical reports with the staff of the SWFWMD in a pre-application meeting to avoid duplication of effort in the ERP permitting process.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

For ERP permitting purposes, the project area is located in the Upper Coastal Drainage Basin. The SWFWMD has assigned a pre-application file (PA #397785) for the purpose of tracking its participation in the ETDM review of this project. The pre-application file is maintained at the SWFWMD's Tampa Service Office. Please refer to the pre-application file when contacting SWFWMD regulatory staff regarding this project.

Coordinator Feedback:None

3 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (12/23/2010)
Water Quality and Quantity Effect: Moderate

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

The proposed project will cross and may impact the Anclote River Bayou - part of the Pinellas County Aquatic Preserve and Outstanding Florida Waters (OFW) - which fall under section 62-302.700(9), Florida Administrative Code (F.A.C.), and are afforded a high level of protection under sections 62-4.242(2) and 62-302.700, F.A.C. The watershed conditions within the project area are presently considered good.

Comments on Effects to Resources:

We recommend that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities. The permit applicant may be required to demonstrate that the proposed stormwater system associated with the bridge meets the design and performance criteria established for the treatment and attenuation of discharges to OFWs, pursuant to rule 40D-4, F.A.C., and the SWFWMD Basis of Review for ERP Applications. Under section 373.414(1), F.S., direct impacts to these waterbodies and associated wetlands must

be demonstrated to be "clearly in the public interest" as part of the ERP permitting process.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the US Environmental Protection Agency

Wetlands

Coordinator Summary

3 Summary Degree of Effect

Wetlands Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FDEP DOE: Moderate

USEPA DOE: Moderate

SWFWMD DOE: Substantial

USFWS DOE: Moderate

USACE DOE: Minimal

NMFS DOE: Moderate

FDOT Recommended DOE: Moderate

The Southwest Florida Water Management District (SWFWMD) recommends a Degree of Effect (DOE) of Substantial. The Florida Department of Transportation (FDOT) has evaluated comments from the SWFWMD, the Florida Department of Environmental Protection (FDEP), the US Environmental Protection Agency (USEPA), the US Fish and Wildlife Service (USFWS), the US Army Corps of Engineers (USACE), and the National Marine Fisheries Service (NMFS) and recommends a Degree of Effect (DOE) of Moderate.

The FDOT met with SWFWMD in July 2005 and informally "agreed to disagree" on degrees of effect findings. Therefore, it is understood by SWFWMD that when they assign a Substantial DOE, the FDOT or Metropolitan Planning Organization (MPO) typically may have lower DOE assignments, but will continue to coordinate with SWFWMD when warranted.

A review of the Geographic Information Systems (GIS) analysis data indicates that the National Wetlands Inventory (NWI) lists 1.5 acres (19.01%) of estuarine wetlands within the 100-foot buffer distance, 3.7 acres (20.7%) of estuarine wetlands within the 200-foot buffer distance, and 10.0 acres (18.21%) of estuarine wetlands within the 500-foot buffer distance.

The SWFWMD noted that there are wetlands consisting of red mangrove and black mangrove at the following locations: at the bridge crossing; both upstream and downstream of the bridge crossing on the west shore of the bayou; and on the south side of Riverside Drive within the east approach cross section across from Pampas Avenue. In addition, seagrass beds are present in the Bayous both upstream and downstream of the bridge crossing except in the deepest parts of the Bayous.

The SWFWMD requested that the FDOT continue to coordinate on the potential wetlands impacts as this project proceeds into future phases and include the associated impacts on the FDOT's annual inventory. The USACE noted that Whitcomb Bayou would be considered a jurisdictional waterbody and the USACE would review and potentially regulate any other wetland or surface water impacts associated with the

project on either side of the bayou.

The USEPA noted that any studies for this project should focus on identifying the wetland areas and other natural resources (mangroves) to be potentially impacted and what type of additional analysis, if any, will be needed. Additional analyses may be needed such as delineation of wetlands and functional analysis of wetlands to determine their value and function, an evaluation of stormwater pond sites, avoidance and minimization strategies, and mitigation plans to compensate for adverse impacts.

The FDOT recommends that the implementing agency assess potential impacts to any existing wetlands and to take measures to minimize any project related impacts to these areas.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Wetlands

2

ETAT Review by John Fellows, US Army Corps of Engineers (12/16/2010)

Wetlands Effect: Minimal

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Whitcomb Bayou would be considered a jurisdictional waterbody. Any surface waters (ditches) draining to the bayou, and any wetlands contiguous with or adjacent to the bayou, may also be considered jurisdictional for the Corps.

Comments on Effects to Resources:

The Corps would probably not regulate any of the 'bridge work' over the bayou, as the regulatory authority for such work is the US Coast Guard's. The Corps would review and potentially regulate any other wetland or surface water impacts associated with the road improvements on either side of the bayou, however.

I selected 'minimal' as a probable degree of effect based on the lack of wetlands seen on the EST aerials (and in and Google Earth), and the developed nature of the surrounding area. The only obvious area of potential concern within the segment shown is the shoreline of the small embayment to the east of the bridge. If the vegetation along the shoreline is mangroves or similar resources, then FDOT should avoid and minimize impacts to this area to the greatest extent practicable.

Coordinator Feedback:None

4

ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)

Wetlands Effect: Substantial

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

While the EST does not report the presence of wetlands except within the 1.0 mile buffer, there are wetlands consisting of red mangrove and black mangrove at the following locations: at the bridge crossing; both upstream and downstream of the bridge crossing on the west shore of the Bayou; and on the south side of Riverside Dr within the east approach cross section across from Pampas Ave. In addition, seagrass beds are present in the Bayous both upstream and downstream of the bridge crossing except in the deepest parts of the Bayous.

Listed Species (FFWCC) observed (during the site visit on 16 November 2010) in the wetland and aquatic habitats within 500 feet of the project include: brown pelican (SSC), little blue heron (SSC), and snowy egret (SSC). Other Listed Species that are reported to use these habitats are: American oystercatcher (SSC), least tern (T), limpkin (SSC), piping plover (T), reddish egret (SSC), snowy plover (T), tricolored heron (none/SSC), white ibis (SSC), roseate spoonbill (SSC) and wood stork (E). The entire project area is within the wood stork Core Foraging Area and, as mentioned, habitat for this species is available in the mangroves on the shoreline of the Bayous, particularly within the denser stands of mangroves located 400 feet north of the bridge crossing.

The project area is located within the USFWS Consultation Areas of the piping plover and West Indian manatee. The piping plover is listed by the USFWS as both endangered and threatened, depending upon the specific population involved and it is listed by FWC as Threatened. Foraging and roosting habitat for wintering piping plovers is available within 500 feet of the project. The West Indian manatee, listed by both USFWS and FWC as Endangered, are known to utilize Whitcomb Bayou and habitats north of the Bridge crossing.

Comments on Effects to Resources:

The project's impact on wetlands is highly dependent on the specific bridge and roadway cross section lengths and the chosen construction means and methods. At this point, it is not known whether travel lanes on the bridge and roadway approaches will be 12 feet or 11 feet and whether the pedestrian and bike accommodations will be separate or combined facilities.

Within 200 feet of the project, the amount of seagrass acreage potentially directly affected by the project is reported as 0.56 acre, although the actual acreage may be greater than that due to the age of the wetland maps used in the EST (2008). As for the mangrove wetlands, assuming the complete elimination of wetlands within 200 feet of the project, the acreage of impact is estimated at 0.13 acres. Project impacts that extend beyond 200 feet of the project centerline would involve additional mangrove and seagrass acreage, ranging up to 63.6 acres of impact up to 1.0 mile from the project as a result of the increase in seagrass and mangrove densities downstream of the bridge crossing.

The mangrove wetlands outside of the construction footprint may be indirectly affected by the project as a result of stormwater runoff and sedimentation from the project site. Also, the fugitive discharge of sediment-containing runoff during construction could result in significant damage to the seagrass beds downstream of the project.

Impacts to wetlands may include the elimination or reduction of remaining wetland systems. As a result, there would be a corresponding loss of the functions and values now provided by the impacted wetlands, including flood surge projection, water quality maintenance and wildlife habitat. Losses would occur in the high quality wildlife habitat provided by mangroves that now provide habitat for Listed Species nesting, roosting and foraging.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly

recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The SWFWMD has assigned a Degree of Effect of "Substantial" based on their opinion of the quality of wetlands and the potential acreage of wetlands that may be impacted both directly and indirectly by the project, the level of potential coordination or effort associated with the SWFWMD's regulatory and proprietary interests and obligations and the lack of information concerning the final bridge and roadway cross sections.

Due to the increased impervious area and wetlands involvement, portions of this project may not qualify as Minor Roadway Safety Projects under F.A.C. 40D-4.051(13). The SWFWMD strongly recommends a pre-application meeting with the Tampa Regulation office.

Wetland impacts can be reduced by the following:

- (1) Adjustment of the alignment to avoid direct impacts to the wetlands,
- (2) Implementation of strict controls over sediment transport off site during construction,
- (3) Restriction of the activity of vehicles and equipment to only those areas that must be utilized for construction and staging,
- (4) Implementing effective mitigation measures to compensate for wetland impacts;
- (5) Selection of treatment pond sites away from existing wetlands;
- (6) Retrofitting existing stormwater treatment facilities to provide some habitat for wetland-dependent wildlife,
- (7) Incorporating wildlife-friendly features into stormwater facilities, and
- (8) Selecting construction means and methods to minimize fugitive materials and adverse impacts.

Because Whitcomb Bayou is a known manatee use area, it is recommended that the FDOT develop a project-specific manatee protection plan to eliminate that possibility of construction-related manatee injury or death in the project area.

Adequate and appropriate wetland mitigation activities may be required for unavoidable wetland and surface water impacts associated with the project. The project mitigation needs may be addressed in the FDOT Mitigation Program (Subsection 373.4137, F.S.) which requires the submittal of anticipated wetland and surface water impact information to the SWFWMD. This information is utilized to evaluate mitigation options, followed by nomination and multi-agency approval of the preferred options. These mitigation options typically include enhancement of wetland and upland habitats within existing public lands, public land acquisition followed by habitat improvements, and the purchase of private mitigation bank credits. The SWFWMD may choose to exclude a project in whole or in part if the SWFWMD is unable to identify mitigation that would offset wetland and surface water impacts of the project. Under this scenario, the SWFWMD will coordinate with the FDOT on which impacts can be appropriately mitigated through the program as opposed to separate mitigation conducted independently. Depending on the quantity and quality of the proposed wetland impacts, the SWFWMD may propose purchasing credits from a mitigation bank and/or pursue and propose alternative locations for mitigation. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project is located within the Upper Coastal Drainage Basin. The SWFWMD requests that the FDOT continue to collaborate on the potential wetland impacts as this project proceeds into future phases, and include the associated impacts on FDOT's annual inventory.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

For ERP permitting purposes, the project area is located in the Upper Coastal Drainage Basin. The SWFWMD has assigned a pre-application file (PA #397785) for the purpose of tracking its participation in the ETDM review of this project. The pre-application file is maintained at the SWFWMD's Tampa Service Office. Please refer to the pre-application file when contacting SWFWMD regulatory staff regarding this project.

Coordinator Feedback:None

3 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (12/23/2010)
Wetlands Effect: Moderate

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

The National Wetlands Inventory GIS report indicates that there are 10 acres of estuarine wetlands and 0.6 acres of discontinuous seagrass beds within the 500-ft. project buffer zone. The proposed project will cross and may impact the Anclote River Bayou. Navigable waterbodies with Pinellas County are part of the Pinellas County Aquatic Preserve - Outstanding Florida Waters.

Comments on Effects to Resources:

If new construction is proposed, the project will require an environmental resource permit (ERP) from the Southwest Florida Water Management District. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of bridge construction to the greatest extent practicable:

- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention is given to forested wetland systems and seagrass beds, which are difficult to mitigate.
- The cumulative impacts of concurrent and future transportation improvement projects in the vicinity of the subject project should also be addressed.

Coordinator Feedback:None

3 ETAT Review by David A. Rydene, National Marine Fisheries Service (11/22/2010)
Wetlands Effect: Moderate

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:

Whitcomb and Minetta Bayous, the mouth of the Anclote River, and the Gulf of Mexico, which contain estuarine and marine habitats such as seagrass, mangrove, and salt marsh used by federally-managed fish species and their prey.

Comments on Effects to Resources:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 13040. The Florida Department of Transportation District 7 proposes rehabilitating or replacing the existing Beckett Bridge (Riverside Drive) spanning Whitcomb Bayou in Pinellas County, Florida. The project would also include roadway improvements on Riverside Drive from Chesapeake Drive to Forest Avenue. The bridge replacement alternative would retain the bridge as a two-lane facility.

NMFS staff conducted a site inspection of the project area on November 19, 2010, to assess potential concerns related to living marine resources within Whitcomb and Minetta Bayous, the mouth of the Anclote River, and the Gulf of Mexico. The lands adjacent to the proposed project are principally residential properties, a yacht club, and estuarine habitats. It appears that the project could directly impact NMFS trust resources (i.e. mangroves). Mangroves occur immediately adjacent to the bridge on the northwest, southwest, and southeast shorelines. Certain estuarine habitats within the project area are designated as essential fish habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Mangroves have been identified as EFH for postlarval/juvenile, subadult and adult red drum and gray snapper, and juvenile goliath grouper by the Gulf of Mexico Fishery Management Council under provisions of the Magnuson-Stevens Act.

Federal agencies which permit, fund, or undertake activities which may adversely impact EFH are required to consult with NMFS and, as a part of the consultation process, an EFH Assessment must be prepared to accompany the consultation request. Regulations require that EFH Assessments include:

1. a description of the proposed action;
2. an analysis of the effects (including cumulative effects) of the proposed action on EFH, the managed fish species, and major prey species;
3. the Federal agency's views regarding the effects of the action on EFH; and
4. proposed mitigation, if applicable.

Provisions of the EFH regulations [50 CFR 600.920(c)] allow consultation responsibility to be formally delegated from federal to state agencies, including FDOT. Whether EFH consultation is undertaken by the federal agency (e.g. Federal Highway Administration) or FDOT, it should be initiated as soon as specific project design and construction impact information are available. EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents. Upon review of the EFH Assessment, NMFS will determine if it is necessary to provide EFH Conservation Recommendations for the project.

NMFS also recommends that stormwater treatment systems be upgraded to prevent degraded water from entering estuarine habitats within the system. In addition, best management practices should be employed during road construction to prevent siltation of estuarine habitats.

Coordinator Feedback:None

3

ETAT Review by Jane Monaghan, US Fish and Wildlife Service (12/20/2010)

Wetlands Effect: Moderate

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Wetlands provide valuable functions within the landscape such as protection from storm surges and erosion, water storage and water filtration. Wetlands also support fish and wildlife habitat.

Comments on Effects to Resources:

This project involves the replacement of the Becket Bridge on Riverside drive in Pinellas County. Although the new bridge would still be two lanes, the proposal includes wider travel lanes, new bike lanes and new sidewalks. Therefore, the footprint of the new bridge would be larger and further improvements to the approaches on both sides of the bridge would also be needed.

Direct impacts to estuarine and marine ecosystems should be avoided. If avoidance is not feasible, minimization and mitigation to the maximum extent practicable will be required. Direct, indirect and cumulative impacts to submerged aquatic vegetation (SAV), mangroves and other shoreline vegetation will need to be examined and disclosed during the design phase of this project. If impacts are anticipated, further consultation with our agency will be required. Best management practices should be implemented during construction to avoid siltation and further degradation of the estuarine habitat.

Storm water from the new bridge should be contained and diverted to appropriate storm water treatment areas to prevent contamination of the marine environment.

Wetlands found within the action area are also utilized for foraging, roosting and nesting by migratory birds. Surveys should be conducted at the appropriate time of year for wading birds and shorebirds that may be nesting or roosting in the mangroves or other shoreline vegetation. The timing of the project may be adjusted to avoid any take of migratory birds. If blasting is proposed to remove the old bridge structure, further coordination with our office is required and will address minimization measure for migratory birds.

Coordinator Feedback:None

3

ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/23/2010)

Wetlands Effect: Moderate

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Resources: Wetlands, wetlands habitat, water quality

Level of Importance: These resources are of a high level of importance in the State of Florida and within the project corridor. EPA is assigning a moderate degree of effect for the wetlands issue for ETDM Project #13040.

Comments on Effects to Resources:

A review of GIS analysis data in the EST for wetlands at the programming screen phase of the project indicates that there are estuarine wetlands within the project area. EPA's moderate degree of effect is based upon the location of the project, the type of wetlands, and the fact that there are mangroves located within proximity of the proposed project. Mangroves serve several important ecosystem functions. They provide nursery habitat for fishes, crustaceans, and shellfish and they provide food for several types of marine species. Both recreational and commercial fisheries in Florida are dependent upon healthy mangrove forests. Mangroves also provide shelter and nesting areas for coastal birds. Protecting mangrove acreage is critical, especially since most of the loss of acreage is due to human impact such as development and construction. As a result of dramatic changes in this part of Florida, a significant amount of coastal wetlands acreage has been lost, including mangroves and salt marshes. Therefore, protection of the coastal wetlands is critical to fish habitat and other marine resources. Regulations to protect mangrove forests have been developed by both state and local agencies. These regulations must be met and consultation with other agencies such as the National Marine Fisheries Service may be required. Avoidance measures should be strongly considered for this project. Also, mitigation to provide enhanced or increased function should be strongly evaluated within the same general area.

Overall, the degree of direct wetlands impacts associated with the project will be dependent upon the amount of additional right-of-way needed for the bridge project, the approaches, and any upgrade or modifications to adjacent roadways. Also of consideration are stormwater runoff and the collection and treatment of stormwater from the bridge. Stormwater runoff has the potential to introduce or increase pollutants into surface waters and wetlands.

EPA recommends that any studies for this project should focus on identifying the wetland areas and other natural resources (mangroves) to be potentially impacted and what type of additional analyses, if any, will be needed.

The PD&E phase of the project should focus on identifying wetlands areas to be potentially impacted by the entire project. Additional analyses may be needed such as delineation of wetlands; functional analysis of wetlands to determine their value and function; an evaluation of stormwater pond sites (if applicable) to determine their impact on wetlands; avoidance and minimization strategies for wetlands; and mitigation plans to compensate for adverse impacts.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Wildlife and Habitat**Coordinator Summary****3**

Summary Degree of Effect

*Wildlife and Habitat Summary Degree of Effect: Moderate***Reviewed By:**

FDOT District 7 (3/14/2011)

Comments:

SWFWMD DOE: Minimal

USFWS DOE: Moderate

FFWCC DOE: Minimal
FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the Florida Fish and Wildlife Conservation Commission (FFWCC), the Southwest Florida Water Management District (SWFWMD) and the US Fish and Wildlife Service (USFWS) and recommends a Degree of Effect of Moderate.

A review of the Geographic Information Systems (GIS) analysis data indicates that this project is 100% within the Springs Coast Ecosystem Management Area (EMA), the West Indian Manatee Consultation Area is 17.98%, Scrub Jay Consultation Area is 100%, four Woodstork Core Foraging Areas are 100%, and the Piping Plover Consultation Area is 100% within the 100-foot buffer distance and Mangrove Swamp is located within the 5,280-foot buffer distance. Please see the GIS Summary for additional information.

The SWFWMD noted virtually no upland habitat is available for wildlife within 500-feet of the project with the exception of five small parcels of poor-quality, vacant land located within medium to high-density residential lands. The SWFWMD also noted listed species that may utilize upland habitat within the 500-foot buffer distance include the Florida scrub jay, gopher tortoise, and Sherman's Fox Squirrel. Of these three species, the gopher tortoise is the most likely species to be present in the project area. The SWFWMD noted in their Wetlands comments that because Whitcomb Bayou is a known manatee use area, it is recommended that a project specific manatee protection plan be developed to eliminate the possibility of construction-related manatee injury or death in the project area.

The FFWCC noted that the project area is a residential neighborhood, with a marina immediately northeast of the Beckett Bridge. The most important fish and wildlife habitat is within Minetta and Whitcomb Bayous, which have highly developed shorelines, but contain islands with salt marsh and mangrove vegetation, and shoals with scattered seagrass. The Anclote River estuary is utilized by Florida manatees and a wide variety of aquatic-oriented bird species. The following species may occur along the project area: Florida manatee, Sherman's Fox Squirrel, American oystercatcher, black skimmer, brown pelican, least tern, little blue heron, roseate spoonbill, snowy egret, reddish egret, tricolored heron, white ibis, wood stork, gopher tortoise, Eastern indigo snake, American alligator, and gopher frog. If gopher tortoises are present within any construction area, a permit should be obtained from the FFWCC.

The USFWS noted that special construction conditions for manatees should be implemented during the construction phase of this project. The removal of the old bridge structure has not been discussed. If blasting is proposed, formal consultation with the USFWS is required. Surveys for submerged aquatic vegetation (SAV) should be done and the design of the new bridge should consider the negative impacts of shading on SAV and should attempt to maximize the amount of sunlight available to SAV. Once the extent of impact to SAV are estimated and quantified, mitigation will need to be proposed that replaces the seagrasses within the bayou. Standards for successful mitigation will be required. Surveys for wading birds and shorebirds should be done. If nesting occurs within the action area, the timing of the project may be critical.

The FDOT recommends that the implementing agency prepare a Wetland Evaluation / Biological Assessment Report (WEBAR) which identifies and assesses any existing natural habitats within the project area. This report should then be coordinated with the USFWS and FFWCC.

No comments were received from the US Forest Service (USFS) or the Federal Highway Administration (FHWA).

ETAT Reviews for Wildlife and Habitat

2

ETAT Review by Scott Sanders, FL Fish and Wildlife Conservation Commission (12/17/2010)

Coordination Document: To Be Determined: Further Coordination Required

Dispute Information: N/A

Identified Resources and Level of Importance:

The Habitat Conservation Scientific Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #13040, Pinellas County, and provides the following comments related to potential effects to fish and wildlife resources on this Programming Phase project.

The Project Description Summary states that this project involves the replacement of the Beckett Bridge on Riverside Drive in Tarpon Springs. This bridge crosses a narrow waterway connecting Whitcomb Bayou with Minetta Bayou, which are connected to the Anclote River. In addition to construction of an enlarged bridge, the bridge approaches would be improved from Chesapeake Drive on the west to Forest Avenue east of the bridge, a distance of 0.31 miles.

The project area was evaluated for potential fish, wildlife, and habitat resources within 500 feet of the proposed alignment. Our assessment reveals that the project area is a residential neighborhood, with a marina immediately northeast of the Beckett Bridge. The most important fish and wildlife habitat is within Minetta and Whitcomb Bayous, which have highly developed shorelines, but contain islands with salt marsh and mangrove vegetation, and shoals with scattered seagrass. The Anclote River estuary is utilized by Florida manatees and a wide variety of aquatic-oriented bird species.

Based on range and preferred habitat type, the following species listed by the Federal Endangered Species Act as Federally Endangered (FE) or Federally Threatened (FT), and the State of Florida as State-Threatened (ST) or State Species of Special Concern (SSC) may occur along the project area: Florida manatee (FE), Sherman's fox squirrel (SSC), American oystercatcher (SSC), black skimmer (SSC), brown pelican (SSC), least tern (ST), little blue heron (SSC), roseate spoonbill (SSC), snowy egret (SSC), reddish egret (SSC), tricolored heron (SSC), white ibis (SSC), wood stork (FE), gopher tortoise (ST), Eastern indigo snake (FT), American alligator (FT), and gopher frog (SSC).

Primary wildlife issues associated with this project include: potential water quality degradation as a result of additional stormwater runoff from the expanded bridge and roadway surface draining into the Anclote River estuary; and potential adverse effects to a moderate number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or the State of Florida as Threatened or Species of Special Concern, and specifically to the Florida manatee during bridge construction.

Comments on Effects to Resources:

Based on the project information provided, we believe that the direct and indirect effects of this project could be minimal, provided construction conditions are included to minimize effects on the Florida manatee.

Additional Comments (optional):

We recommend that the Project Development and Environment (PD&E) Study address natural resources by including the following measures for conserving fish and wildlife and habitat resources that may occur within and adjacent to the project area. Plant community mapping and wildlife surveys for the occurrence of wildlife species listed by the Federal Endangered Species Act as Endangered or Threatened or the State of Florida as Threatened or Species of Special Concern should be performed, both along the Right-of-way and within sites proposed for Drainage Retention Areas. Based on the survey results, a plan should be developed to address direct, indirect, and cumulative effects of the project on wildlife and habitat resources, including listed species. Avoidance, minimization, and mitigation measures should also be formulated and implemented. If

gopher tortoises are present within any permanent or temporary construction area, a permit should be obtained from the FWC. Drainage Retention Areas and equipment staging areas should be located in previously disturbed sites to avoid habitat destruction or degradation. A compensatory mitigation plan should include the replacement of any wetland, upland, or aquatic habitat lost as a result of the project. Replacement habitat for mitigation should be type for type, as productive, and equal to or of higher functional value. Please notify us immediately if the design, extent, or footprint of the current project is modified, as we may choose to provide additional comments and/or recommendations.

It will be important to avoid and minimize effects on the Florida manatee during any in-water work. Since no information was provided in terms of seasonality of bridge or culvert construction, the duration of project work, methods for constructing the bridge, and any dredging or other in-water work that may be required, it would be premature for us to recommend specific avoidance and minimization measures for the manatee at this time. However, possible manatee protection measures that may be required by our agency include Standard Manatee Conditions for In-Water Work, restrictions on blasting, monitoring of turbidity barriers, manatee entrapment avoidance measures, exclusionary grating on culverts, presence of manatee observers during in-water work, a defined or limited construction window, and no nighttime work. If blasting is considered as a method used in construction because no other alternative exists, a blast plan and marine species watch plan will need to be developed, in coordination with and approved by FWC, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, as early in the process as possible and incorporated as a condition of permits authorizing the proposed work. Further coordination with our agency is important, and will be necessary to develop customized or site-specific measures for this project. For technical assistance and coordination on manatees, please contact Ms. Mary Duncan of our Imperiled Species Management Section in Tallahassee at (850) 922-4330 very early in the planning process for the PD&E Study.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Brian Barnett at (850) 528-6316 or email brian_barnett@urscorp.com to initiate the process for further overall coordination on this project.

Coordinator Feedback:None

2 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Wildlife and Habitat Effect: Minimal

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Based on direction from FDOT, comments in this section pertain only to wildlife and habitats associated with uplands. Virtually no upland habitat is available for wildlife within 500 feet of the project with the exception of five small parcels of poor-quality, vacant land located within medium-to-high density residential lands. These parcels are located as follows: in the northwest quadrant of the Chesapeake Dr/Riverside Dr intersection; on the north side of Riverside Dr 280 feet west of the bridge's west terminus; in the southeast quadrant of the Venetian Ct/Riverside Dr intersection; in the northwest quadrant of the Pampas Ave/Riverside Dr intersection; and the northeast quadrant of the Forest Ave/Riverside Dr intersection. Listed Species that may utilize this upland habitat within 500 feet of the project include Florida scrub jay (T), gopher tortoise (SSC) and Sherman's fox squirrel (SSC). Of the three species, the gopher tortoise is the most likely species to be present in the

project area.

The project is located in the Scrub Jay Consultation Area and Service Area, although nesting habitat is absent within 500 feet of the project.

Comments on Effects to Resources:

The project's possible impact on wildlife and habitat may include the further elimination of remaining wildlife habitat, resulting in a further decline in urban wildlife populations, including three Listed Species.

Additional Comments (optional):

Depending on the FDOT's approach to design, and the final construction means and methods, this project may qualify under F.A.C. 40D-400.443, "General Permit to the Florida Department of Transportation, Counties and Municipalities for Minor Bridge Alteration, Replacement, Maintenance and Operation" (bridge and abutment replacement) and F.A.C. 40D-4.051(13), "Minor Roadway Safety Projects" (roadway improvements on either side of the bridge). The District strongly recommends a pre-application meeting with the surface water regulatory staff in the Tampa Service Office happen very early in the design process (before beginning design, if possible).

The following comments are offered in the event that the FDOT elects to pursue an Environmental Resource Permit General Permit for Construction for the project.

The SWFWMD has assigned a Degree of Effect of "Minimal" based on their opinion of the potential of this project to result in an increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

Habitat damage and direct impacts to wildlife can be reduced by: minimizing project cross section in areas where there are remnant patches of upland habitat; strictly limiting construction equipment to the actual construction zones and to pre-approved staging areas; and by implementing appropriate upland habitat restoration measures following construction.

Coordinator Feedback:None

3

ETAT Review by Jane Monaghan, US Fish and Wildlife Service (12/20/2010)

Wildlife and Habitat Effect: Moderate

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Federally listed species and the ecosystems upon which they depend. Migratory birds and other fish and wildlife resources.

Comments on Effects to Resources:

This project involves the replacement of the Becket Bridge on Riverside drive in Pinellas County. Although the new bridge would still be two lanes, the proposal includes wider travel lanes, new bike lanes and new sidewalks. Therefore, the footprint of the new bridge would be larger and further improvements to the approaches on both sides of the bridge would also be needed.

Florida Manatee

Special construction conditions for manatees should be implemented during the construction phase of this project. The removal of the old bridge structure has not been discussed. If blasting is proposed, formal consultation with USFWS is required. Once the details of the construction methods and design are known, additional special conditions may apply to protect manatees from harm or harassment. The standard conditions for in-water work can be found on our website (www.northflorida.fws.gov). Surveys for submerged aquatic vegetation (SAV) should be done. The design of the new bridge should consider the negative impacts of shading on SAV and should attempt to maximize the amount of sunlight available to submerged plants. Contaminants from road runoff are a major concern and should be diverted away from the marine and estuarine environment. Direct, indirect and cumulative impacts to the marine environment should be examined and avoided. Any impacts that cannot be avoided should be minimized and mitigated to the maximum extent practicable. Once the extent of impact to SAV are estimated and quantified, mitigation will need to be proposed that replaces the seagrass within the action area (bayou). Standards for successful mitigation will be required.

Wood Stork

No active wood stork colonies are known to be located near the project footprint or in Pinellas County. Numerous active colonies are located in Pasco, Hillsborough and Manatee counties and the 15 mile core foraging areas for these colonies may overlap with the project footprint. Any wetland impacts that cannot be avoided may need to be mitigated. Wetlands set aside for mitigation for wood storks need to provide suitable foraging habitat. Colony maps and a 'determination of effect' key for wood storks can be found on our office website.

Wading Birds and Shorebirds

Impacts to wetlands and mangroves may affect wading bird and shorebird foraging, roosting and/or nesting in this area. Surveys for wading birds and shorebirds should be done. Any direct effects to mangroves, or foraging resources, should be disclosed. If nesting occurs within the action area, the timing of the project may be critical. Indirect and cumulative effects to the water quality as a result of contaminated road runoff should be avoided.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the US Forest Service

ETAT Reviews: Cultural

Historic and Archaeological Sites

Coordinator Summary

3

Summary Degree of Effect

Historic and Archaeological Sites Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/29/2011)

Comments:

FHWA DOE: Moderate

SWFWMD DOE: N/A/No Involvement

Miccosukee Tribe of Indians of Florida DOE: Minimal

SHPO DOE: Moderate
FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the Federal Highway Administration (FHWA), Southwest Florida Water Management District (SWFWMD), Miccosukee Tribe of Indians of Florida, and the Florida Department of State (SHPO) and recommends a Degree of Effect (DOE) of Moderate.

A review of the Geographic Information Systems (GIS) analysis data indicates that three Florida Site File (FSF) Historic Standing Structures are located within the 200-foot buffer distance and four additional FSF Historic Standing Structures and the National Register of Historic Places (NRHP)-listed Tarpon Springs Historic District and E.R. Meres Sponge Packing House are located within the 500-foot buffer distance.

The SHPO, the Miccosukee Tribe, and the FHWA recommended that a Cultural Resource Assessment Survey (CRAS) will need to be conducted to identify and evaluate any resources that may be eligible for listing in the NRHP. The SHPO also noted that the bridge must be documented using historic bridge forms and evaluated by a professional.

The FHWA noted that it is not clear whether this bridge is eligible for listing in the NRHP.

The Miccosukee Tribe of Indians of Florida commented that there are no recorded archaeological sites, including burial mounds, reported near this project; a CRAS will need to be done to ascertain if there are any archaeological sites within the project boundaries. If no impacts are found, then no further consultation is necessary.

The FDOT recommends that the implementing agency prepare a CRAS. It should reflect the results of performing a systematic archaeological field survey and a historic structures survey for the project's APE which includes the bridge, project corridor, and stormwater management facilities. If applicable, Section 106 Consultation should be conducted to assess potential project impacts to any cultural resources that are determined eligible for listing in the NRHP.

No comments were received from the Seminole Tribe of Florida.

ETAT Reviews for Historic and Archaeological Sites

N
/
A

ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Historic and Archaeological Sites Effect: N/A / No Involvement

Confidential: Review will not be displayed on Public Access website

Coordination Document: No Involvement

Dispute Information: N/A

Identified Resources and Level of Importance:
None found.

Comments on Effects to Resources:
None found.

Coordinator Feedback:None

3 ETAT Review by Alyssa McManus, FL Department of State (01/28/2011)

Historic and Archaeological Sites Effect: Moderate

Confidential:Review will not be displayed on Public Access website

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

There are no identified historical resources identified at the 100 ft. buffer. However, research into the FDOT Bridge database states that the Beckett Bridge was constructed in 1924, and is therefore considered historic, but we do not have enough information to evaluate its significance at this time. Further documentation is needed (see comments section).

Within the 200 ft. boundary of this project's corridor, there are three historic standing structures. These are PI1464 (321 High Street), PI1465 (331 High Street), and PI1540 (210 Pampas Ave). These structures are all considered historically significant at the local level. At the time they were recorded, there was insufficient information provided to this office to make a determination of eligibility.

Within the 500 ft buffer of this project's corridor, lie the National Register-listed Tarpon Springs Historic District and the E.R. Meres Sponge Packing House. An additional four standing structures (possibly part of the district). These include PI1391, PI1463, PI1626 and PI1735.

There are no archaeological sites recorded within the 500 ft. buffer of this project. However, that could be because most of the surveys conducted near the project area focused on historic standing structures and not archaeological investigation. However, the project's area of potential effect suggests low probability for significant sites to be discovered within.

GIS analysis was not conducted for historical resources outside of the 500 ft buffer, due to the constraints of the project.

Comments on Effects to Resources:

Based on the fact that this alternative is "no-build", these resources are unlikely to be adversely affected. However, if any of the bridge material is to be removed or altered, further consultation with this office is needed. The area has been subjected to surveys within 100 ft of this project's corridor. None were specific to this project and to the affects this project may have on significant historical resources.

Research into our records indicates that this bridge was reviewed in 1990 by this office (ref: 1990-1502). At that time, it was the recommendation of this office that the "METAL LIFT PORTION OF BRIDGE 154000 MAY BE POTENTIALLY SIGNIFICANT/IF IT CANNOT BE PRESERVED IN PLACE, THAT PORTION OF STRUCTURE SHOULD BE DOCUMENTED BY B/W PHOTOS AND STRUCTURAL DRAWINGS/IF APPROACH ROADWAYS TO BE ALTERED, PROJECT MUST BE RESUBMITTED". At this time, there has been no submittal of information regarding this bridge to this office. Therefore, it was not identified as historic in the GIS database.

At this time, this office has insufficient information about the bridge to make a determination of

eligibility or finding of effects. Since there is a bridge present that will be altered as a result of the proposed project that is more than 50 years of age; the bridge must be documented using historic bridge forms, and evaluated by a professional. Florida Master Site File forms are available online at <http://www.flheritage.com/preservation/sitefile>.

Additional Comments (optional):

When initially this review was done, it was specified as a 'no build'. However, Wendy Lasher informed this office that this was a mistake. This being the case, this office requests that a cultural resources survey be conducted to identify any culutral resources within a reasonable APE of this project corridor to determine their eligibility and the degree of affect this project will have on those resources.

Coordinator Feedback:None

3 ETAT Review by Linda Anderson, Federal Highway Administration (03/16/2011)

Historic and Archaeological Sites Effect: Moderate

Confidential:Review will not be displayed on Public Access website

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:

Beckett Bridge

Comments on Effects to Resources:

It is not clear whether this bridge is NRHP-eligible.

If the bridge is NRHP-eligible and requires demolition, preparation of an EIS will be required.

Comment added March 16, 2011: The previous comment regarding preparation of an EIS if the bridge is determined to be NRHP-eligible and requires demolition was based on the 1985 MOU between FHWA and the USCG, which requires that the environmental document be an EIS under these circumstances. That Memorandum has been terminated, so an EIS is not automatically required. However, to be clear, the termination of the MOU does not mean that the demolition of an NRHP-eligible bridge will never require an EIS. FHWA will make the COA determination for each project, based on its characteristics.

Additional Comments (optional):

A CRAS is required.

Coordinator Feedback:None

2 ETAT Review by Steve Terry, Miccosukee Tribe of Indians of Florida (12/08/2010)

Historic and Archaeological Sites Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

There are no recorded archaeological sites reported near this project. However, a Cultural Resources Survey will need to be done to ascertain if there are any archaeological sites within the project boundaries.

Comments on Effects to Resources:

Once a Cultural Resources Survey has been done, then effects, if any, to archaeological sites can be ascertained.

Additional Comments (optional):

If the Cultural Resources Survey shows there are no archaeological sites that will be impacted by this project, then no further consultation is necessary. However, if the Cultural Resources Survey does show that archaeological sites will be impacted by this project, then further consultation with the Miccosukee Tribe should be done.

Coordinator Feedback:None

- No review submitted from the Seminole Tribe of Florida

Recreation Areas

Coordinator Summary

2 Summary Degree of Effect

Recreation Areas Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FDEP DOE: None

SWFWMD DOE: None

USEPA DOE: None

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) has evaluated comments from the Florida Department of Environmental Protection (FDEP), the US Environmental Protection Agency (USEPA), and the Southwest Florida Water Management District (SWFWMD) and recommends a Degree of Effect (DOE) of Minimal.

A review of the Geographic Information Systems (GIS) analysis data indicates that the Priority 6 and Unknown Description Ecological Greenways Critical Linkages and Prioritization Results, one Low Greenways Ecological Priority Linkages, two High Office of Greenways and Trails (OGT) Multi-Use Trail Priorities, one Low OGT Multi-Use Trail Priorities, and one Low OGT Paddling Trails Priorities are located within the 100-foot buffer distance and Anclote Islands Management Area and six schools are located within the 5,280-foot buffer distance. Further review of GIS data and Google Street View revealed that most of these facilities do not currently exist and appear to be in the planning stages.

The FDEP recommended a DOE of None. The OGT is within the FDEP. A review of the OGT Map did not

identify any existing resources within the project area.

The FDOT recommends that the implementing agency take all measures to develop avoidance alternatives and/or measures to minimize harm to these resources.

No comments were received from the Federal Highway Administration (FHWA).

ETAT Reviews for Recreation Areas

0 ETAT Review by Madolyn Dominy, US Environmental Protection Agency (12/21/2010)
Recreation Areas Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
None found.

Comments on Effects to Resources:
None found.

Coordinator Feedback:None

0 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (12/23/2010)
Recreation Areas Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
None found.

Comments on Effects to Resources:
None found.

Coordinator Feedback:None

0 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)
Recreation Areas Effect: None

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the National Park Service

Section 4(f) Potential

Coordinator Summary

3 Summary Degree of Effect

Section 4(f) Potential Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FHWA DOE: Moderate

FDOT Recommended DOE: Moderate

The Florida Department of Transportation (FDOT) has evaluated comments from the Federal Highway Administration (FHWA) and recommends a Degree of Effect (DOE) of Moderate.

Potential Section 4(f) resources are described in the Historic and Archaeological, Special Designation, and the Recreational Areas Degree of Effects, respectively.

The FHWA noted that if Beckett Bridge is National Register of Historic Places (NRHP)-eligible, repairing or demolishing it may constitute a Section 4(f) effect. A Section 4(f) Determination of Applicability (DOA) will be required for this project. In addition the Pinellas County Aquatic Preserve Management Plan states that its significant purposes include a waterfowl and wildlife refuge function and/or a recreation function.

ETAT Reviews for Section 4(f) Potential

3 ETAT Review by Linda Anderson, Federal Highway Administration (12/23/2010)

Section 4(f) Potential Effect: Moderate

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:

Within 100' buffer:

1. Beckett Bridge.
2. 24.43 acres of Multi-Use Trails High and Low Priorities.
3. 8.14 acres of paddling Trails Low Priorities.
4. 1.8 acres of Greenway Low Priority Linkages.
5. 8.1 acres of Greenways Critical Linkages and Prioritization Results.
6. Pinellas County Aquatic Preserve (Outstanding Florida Water).

Comments on Effects to Resources:

If Beckett Bridge is NRHP-eligible, repairing or demolishing it may constitute a Section 4(f) effect.

With regard to the Multi-Use Trail Priorities, the Paddling Trail Priorities, The Greenway Priority Linkages, and the Greenways Critical Linkages, publicly owned properties planned for park, recreation area, wildlife refuge, or waterfowl refuge purposes may be Section 4(f) properties when the public agency that owns the property has formally designated and determined it to be significant for park, recreation area, wildlife and waterfowl refuge purposes. Evidence of formal designation would be the inclusion of the publicly owned land, and its function as a 4(f) resource, into a city or county Master Plan.

The website for Florida's Aquatic Preserves states that these Preserves were established to protect the living waters of Florida to ensure that they will always be home for bird rookeries and fish nurseries, and it notes the recreational opportunities available. The Pinellas County Aquatic Preserve appears to be publicly owned and open to the public. In addition, if its management plan states that its significant purposes include a waterfowl and wildlife refuge function and/or a recreation function, the Preserve may be considered a Section 4(f) property and impacts to it may be Section 4(f) impacts.

A Section 4(f) Determination of Applicability will be required.

Coordinator Feedback:None

ETAT Reviews: Community**Aesthetics****Coordinator Summary****2**

Summary Degree of Effect

*Aesthetics Summary Degree of Effect: Minimal***Reviewed By:**

FDOT District 7 (3/14/2011)

Comments:

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) recommends a Degree of Effect of Moderate.

A review of the Geographic Information Systems (GIS) analysis data indicates that 2008 Southwest Florida Water Management District (SWFWMD) Florida Land Use and Land Cover lists 3.8 acres (6.9%) of high density and 37.2 acres (67.47%) of medium density residential use within the 500-foot buffer distance.

The FDOT recommends that the implementing agency prepare visual aids to assist the public to better understand the nature of the project. These visual aids should be provided during the public involvement process and made available throughout the projects development process.

No comments were received from the Federal Highway Administration (FHWA) or the Pinellas County Metropolitan Planning Organization (MPO).

ETAT Reviews for Aesthetics

No reviews found for the Aesthetics Issue.

- No review submitted from the Federal Highway Administration
- No review submitted from the Pinellas County MPO

Economic

Coordinator Summary

2

Summary Degree of Effect

Economic Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) recommends a Degree of Effect of Minimal.

A review of the Geographic Information Systems (GIS) analysis data indicates that one Mobile Home and RV Park is located within the 500-foot buffer distance and one Planned Unit Development Parkside Colony is located within the 5,280-foot buffer distance.

Beckett Bridge is a residential corridor with one nearby freight related center. The Pinellas County Metropolitan Planning Organization's (MPO's) 2008 Goods Movement Study identified the Northwest Tarpon Springs Industrial Area as a potential Regional Freight Activity Center. This area is west of Alt US 19 at Anclote Boulevard and Anclote Roads, north of the Beckett Bridge. Alt US 19, also known as SR 595, Anclote Boulevard, Anclote Road, Live Oak Street and Tarpon Avenue (Alt US 19 - US 19) are all unrestricted Truck Routes as shown on the Pinellas County Truck Route Plan. An improved Beckett Bridge would improve access to these roadways which access the freight center through improved travel lane widths and removal of the 20 mph speed restriction.

There are no census blockgroups with a median income of less than \$25,000 and no census blockgroups with a minority population greater than 40% located within the 100-foot buffer distance.

This project should be developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968, along with Title VI of the Civil Rights Act, Executive Order 12898 (Environmental Justice), which ensures that minority and/or low-income households are neither disproportionately adversely impacted by major transportation projects, nor denied reasonable access to them by excessive costs or physical barriers (Environmental Protection Agency [EPA], 1994).

The FDOT recommends that the implementing agency conduct public outreach to residents and businesses in the corridor area to solicit input on the project.

No comments were received from the Federal Highway Administration (FHWA) or the Pinellas County MPO.

ETAT Reviews for Economic

No reviews found for the Economic Issue.

- No review submitted from the Federal Highway Administration
- No review submitted from the Pinellas County MPO

Land Use

Coordinator Summary

2 Summary Degree of Effect

Land Use Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (6/01/2011)

Comments:

DCA DOE: Minimal

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) has evaluated comments from the Florida Department of Community Affairs (DCA) and recommends a Degree of Effect of Minimal.

A review of the Geographic Information Systems (GIS) analysis data indicates that 2008 Southwest Florida Water Management District (SWFWMD) Florida Land Use and Land Cover lists 3.8 acres (6.9%) of high density and 37.2 acres (67.47%) of medium density residential use within the 500-foot buffer distance.

This project is consistent with the Transportation Element of the Pinellas County Comprehensive Plan, as amended on March 17, 2009. The need for bridge maintenance and bridge replacement is recognized by the Comprehensive Plan and discussed on page 7-9 of the Transportation Element. This project is not a capacity improvement and therefore is not specifically listed as such in the Pinellas County MPO 2035 Long Range Transportation Plan (LRTP), adopted December 2009. The Pinellas County Capital Improvements Element includes the Bridge Rehabilitation Program which is the fund source for bridge improvements. The project, however, does adhere to the goals and policies of the LRTP by meeting Objective 1.10. Objective 1.10 states: "Ensure the safe accommodation of motorized and non-motorized traffic while reducing the incidence of vehicular conflicts within the county's major transportation corridors."

The project's PD&E Study is also included in the Pinellas County Capital Improvement Program, the FDOT Work Program, the Pinellas County MPO Transportation Improvement Program (TIP), and the FDOT FY 2010 State Transportation Improvement Program (STIP).

No comments were received from the Federal Highway Administration (FHWA) or the Pinellas County Metropolitan Planning Organization (MPO).

ETAT Reviews for Land Use

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

Local government planning document consistency, resource protection, coastal high hazard location and hurricane evacuation

Comments on Effects to Resources:

The proposed project is located within an aquatic preserve and includes a bridge that may be eligible for the NRHP. A determination as to conflicts with resource protection or coastal management policies of either of the affected local governments cannot be finalized, as the impacts associated with the selected alternative have not been evaluated or finalized.

The proposed project is within the coastal high hazard area; however, the project does not include new construction and will be within the existing right-of-way (and foot print) of the existing bridge. Therefore, the project is consistent with policies in the local comprehensive plan to limit public expenditures that subsidize development in the coastal high-hazard area [Rule 9J-5.012(3)(b)5, FAC] and to direct development away from coastal high-hazard areas [Rule 9J-5.012(3)(b)6, FAC]

The route provides regional evacuation capabilities, but beyond the replacement of functionally obsolete, deteriorating structures, the ETDM project maintains evacuation capacity and hurricane evacuation times.

Additional Comments (optional):

Recommendations:

The proposed bridge rehabilitation/replacement and rural collector improvement project is not included in the Transportation Element of the City of Tarpon Springs or Pinellas County comprehensive planning documents. While Rules 9J-5.019(2)(a)11, and (5)(b)5., F.A.C., respectively require that the route itself be identified on the existing and future transportation maps as critical to evacuation, the proposed improvements themselves (i.e., the bridge replacements) are not required to be identified in the City of Tarpon Springs or the Pinellas County Future Transportation Plans [Rule 9J-5.019(5)(a)1., F.A.C.].

Further, Rule 9-5.016(4)(a)1., F.A.C. requires local governments' schedules of capital improvements to "reflect the need to reduce existing deficiencies, remain abreast of replacements...".

Consequently, the two local comprehensive plans should be amended to include the project when the project is entered into the FDOT Work Program.

Following completion of applicable environmental assessments and studies, and prior to inclusion in the FDOT Work Program, the impacts associated with the selected alternative should be evaluated to determine potential conflicts with any of the resource protection or coastal management policies of either of the affected local governments.

While Rules 9J-5.019(2)(a)11, and (5)(b)5., F.A.C., do not specifically require the inclusion of bridge rehabilitation/replacement projects in the comprehensive planning documents via the Future Transportation Map, in maps critical to evacuation, or the Capital Improvements Element, the City of Tarpon Springs and the Pinellas County comprehensive plans should be amended to include the selected alternative in the schedules of capital improvements, pursuant to Rule 9J-5.016 (4)(a)1., F.A.C. prior to inclusion in the FDOT Work Program.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the Pinellas County MPO

Mobility

Coordinator Summary



Summary Degree of Effect

Mobility Summary Degree of Effect: Enhanced

Reviewed By:

FDOT District 7 (6/01/2011)

Comments:

DCA DOE: Enhanced

FDOT Recommended DOE: Enhanced

The Florida Department of Transportation (FDOT) has evaluated comments from the Florida Department of Community Affairs (DCA) and recommends a Degree of Effect of Enhanced.

A review of the Geographic Information Systems (GIS) analysis data indicates that there are no mobility resources located within the 500-foot buffer distance.

Beckett Bridge, located within Evacuation Zone A, is used as a hurricane evacuation route as Riverside Drive/North Spring Boulevard is an extension of Tarpon Avenue, which is a designated evacuation route. The bridge provides access across Whitcomb and Minetta Bayous for approximately 5,400 residents to major arterials including Alternate US 19 and US Highway 19.

This facility is not on a regional road network; however it does serve as the primary and only reasonable access route for these residents of Tarpon Springs, elementary, middle and high schools, emergency services, and the county's Fred Howard Park. Permanent closure of this structure would result in a detour for some residents and commuters in excess of two miles and could have a detrimental effect on emergency access and affect access to the local marina located on the east end of the bridge.

There are no transit services across Beckett Bridge. Pinellas Suncoast Transit Authority's (PSTA) Route 66 services north and south bound Alt US 19. Additionally, Route 66 via east and westbound Dr. M. L. King Boulevard connects those riders commuting on US 19. Pasco County Public Transit Route 18 services riders north of Live Oak Street and Dodecanese Boulevard in Pinellas County.

Replacement of the Beckett Bridge will provide for improved pedestrian access to the bus route along Alt US 19. Additionally, bridge replacement will allow for transport of Pinellas County School students requiring transport. Due to the current weight restriction on the Beckett Bridge, school buses are required to travel Meres Boulevard and Whitcomb Boulevard to access three schools west of Alt US 19. This creates an additional route distance of over two miles per bus, per direction, twice per day.

The existing bridge currently has two foot wide sidewalks in each direction but no separate bicycle lanes. Pinellas County has an active Bike Lane Program and current policy states that bike lanes are to be incorporated into all roadway improvement projects along county roadways, if deemed feasible. Bicycles will be accommodated across any proposed bridge replacement alternatives through road shoulders or bike lanes.

Pinellas County also has an active sidewalk and pedestrian program. The County incorporates sidewalks and appropriate pedestrian features in all of its roadway projects. Any proposed bridge replacement

alternatives will include sidewalks across the bridge.

No comments were received from the Federal Highway Administration (FHWA) or the Pinellas County Metropolitan Planning Organization (MPO).

ETAT Reviews for Mobility

1 ETAT Review by Amie Longstreet, FL Department of Community Affairs (04/21/2011)
Mobility Effect: Enhanced

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:
Hurricane evacuation and maintenance of evacuation times.

Comments on Effects to Resources:
The route provides regional evacuation capabilities, but beyond the replacement of functionally obsolete, deteriorating structures, the ETDM project maintains evacuation capacity and hurricane evacuation times.

Additional Comments (optional):

Recommendations:

The proposed bridge rehabilitation/replacement and rural collector improvement project is not included in the Transportation Element of the City of Tarpon Springs or Pinellas County Comprehensive Planning documents. While Rules 9J-5.019(2)(a)11, and (5)(b)5., F.A.C., respectively require that the route itself be identified on the existing and future transportation maps as critical to evacuation, the proposed improvements themselves (i.e., the bridge replacements) are not required to be identified in the City of Tarpon Springs or the Pinellas County Future Transportation Plans [Rule 9J-5.019(5)(a)1., F.A.C.].

Further, Rule 9-5.016(4)(a)1., F.A.C. requires local governments' schedules of capital improvements to "reflect the need to reduce existing deficiencies, remain abreast of replacements...".

Consequently, the two local comprehensive plans should be amended to include the project when the project is entered into the FDOT Work Program.

While Rules 9J-5.019(2)(a)11, and (5)(b)5., F.A.C., do not specifically require the inclusion of bridge rehabilitation/replacement projects in the comprehensive planning documents via the Future Transportation Map, in maps critical to evacuation, or the Capital Improvements Element, the City of Tarpon Springs and the Pinellas County comprehensive plans should be amended to include the selected alternative in the schedules of capital improvements, pursuant to Rule 9J-5.016 (4)(a)1., F.A.C. prior to inclusion in the FDOT Work Program.

CLC Commitments and Recommendations:

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the Federal Transit Administration
- No review submitted from the Pinellas County MPO

Relocation

Coordinator Summary

2 Summary Degree of Effect

Relocation Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

FHWA DOE: Minimal

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) has reviewed comments from the Federal Highway Administration (FHWA) and recommends a Degree of Effect of Minimal.

A review of the Geographic Information Systems (GIS) analysis data indicates that 2008 Southwest Florida Water Management District (SWFWMD) Florida Land Use and Land Cover lists 0.6 acres (7.6%) of commercial and services and 5.5 acres (66.98%) of residential within the 100-foot buffer distance.

The FHWA noted that it is not indicated whether the project can be accomplished within FDOT's right-of-way (ROW). It does appear that relocations will be necessary, but it is not clear whether some ROW acquisition will be required from the Tarpon Springs Yacht Club and home owners along the area of potential effect (APE). The neighborhood appears to encroach on the ROW, especially on the eastern approach to the bridge, with brick garages and concrete walls appearing to be right at the edge of or directly on the ROW. Should residents or businesses require relocation, a ROW and relocation program in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17) will need to be carried out.

The FDOT recommends that the implementing agency consider impacts to these land uses and to develop alternatives to avoid or minimize relocations during project development. Any relocation should be evaluated so that there are no disproportionate adverse impacts to any distinct minority, ethnic, elderly, or handicapped groups and/or low-income households. The FDOT recommends that the implementing agency prepare a Conceptual Stage Relocation Program Report for this project.

No comments were received from the Pinellas County Metropolitan Planning Organization (MPO).

ETAT Reviews for Relocation

2 ETAT Review by Linda Anderson, Federal Highway Administration (12/23/2010)

Relocation Effect: Minimal

Coordination Document:PD&E Support Document As Per PD&E Manual

Dispute Information:N/A

Identified Resources and Level of Importance:

Within 100' buffer:

1. 1.2 acres of residential high density housing
2. 4.3 acres of residential medium density housing

Comments on Effects to Resources:

The Project Description does not state whether the project can be accomplished within FDOT's ROW.

It does not appear that relocations will be necessary. However, it is not clear whether some ROW acquisition will be required from the Tarpon Springs Yacht Club and home owners along the APE. The neighborhood appears to encroach on the ROW, especially on the eastern approach to the bridge, with brick garages and concrete walls appearing to be right at the edge of or directly on the ROW. This may be an issue.

Coordinator Feedback:None

- No review submitted from the Pinellas County MPO

Social

Coordinator Summary

2 Summary Degree of Effect

Social Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 7 (6/01/2011)

Comments:

FHWA DOE: Minimal

DCA DOE: Minimal

FDOT Recommended DOE: Minimal

The Florida Department of Transportation (FDOT) has evaluated comments from the Federal Highway Administration (FHWA) and Florida Department of Community Affairs (DCA) and recommends a Degree of Effect (DOE) of Minimal.

A review of the Geographic Information Systems (GIS) analysis data indicates that one community center and one intermodal facility are located within the 100-foot buffer distance and one health care facility, one religious center, and one social service facility are located within the 500-foot buffer.

Other social resources associated with Infrastructure, Special Designations, Land Use, Economic, Mobility, Relocations, Recreation Areas, Section 4(f), and Historic and Archaeological are identified in their respective Degree of Effects.

The FHWA noted that the provision of bike lanes and sidewalks along approaches and across the bridge will enhance the neighborhood. The FHWA also noted that the population living along the area of potential

effect (APE) appears to be above poverty level with a small representation of minorities, so no environmental justice impacts are anticipated.

Based on the new Code Federal Regulations (23 CFR Part 772), effective in July 2011, if there is a substantial change in horizontal or vertical alignment (Type I project) a noise study would need to be conducted. The FDOT recommends that the implementing agency conduct a noise review for the project to determine if there is a substantial change in vertical or horizontal alignment. If there is no substantial change then this will be documented in the project files and environmental document. If there is a substantial change a NSR will be produced.

This project should be developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968, along with Title VI of the Civil Rights Act, Executive Order 12898 (Environmental Justice), which ensures that minority and/or low-income households are neither disproportionately adversely impacted by major transportation projects, nor denied reasonable access to them by excessive costs or physical barriers (Environmental Protection Agency [EPA], 1994).

The FDOT recommends that the implementing agency consider impacts to these land uses and resources, and develop alternatives to avoid or minimize harm to these resources during the project's design phase. A NSR will be conducted as part of the PD&E process.

No comments were received from the US Environmental Protection Agency (USEPA) or the Pinellas County Metropolitan Planning Organization (MPO).

ETAT Reviews for Social

2 ETAT Review by Linda Anderson, Federal Highway Administration (12/23/2010)

Social Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

1. Two census block groups within area with median incomes of \$34,375 and \$35,104 respectively, and minority populations of 0.66%/1.56% African American, .044%/0.0% Asian, and 0.47% and 5.85% Hispanic.

2. Tarpon Springs Yacht Club (private).

3. 1.2 acres of residential high density housing and 4.3 acres residential medium density housing within 100' buffer.

Comments on Effects to Resources:

It is unclear whether project will be constructed within FDOT ROW or will require minor ROW acquisition from the Yacht Club and residences along the APE. On eastern approach, concrete walls and brick garages appear to be built at border of ROW or in ROW. This may be an issue.

Provision of bike lanes and sidewalks along approaches and across bridge will enhance neighborhood.

Population living along APE appears to be above poverty level with very small representation of minorities, so no environmental justice impacts anticipated.

Additional Comments (optional):

A Noise Study will be required as replacement of bridge will enable school buses, trucks, and more traffic, in general, at higher speeds, to use bridge.

Coordinator Feedback:None

2

ETAT Review by Amie Longstreet, FL Department of Community Affairs (04/21/2011)

Social Effect: Minimal

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

Local government plan consistency and resource protection, and hurricane evacuation time maintenance

Comments on Effects to Resources:

The proposed project is located within an aquatic preserve and includes a bridge that may be eligible for the NRHP. A determination as to conflicts with resource protection or coastal management policies of either of the affected local governments cannot be finalized, as the impacts associated with the selected alternative have not been evaluated or finalized.

The route provides regional evacuation capabilities, but beyond the replacement of functionally obsolete, deteriorating structures, the ETDM project maintains evacuation capacity and hurricane evacuation times.

Additional Comments (optional):

Following completion of applicable environmental assessments and studies, and prior to inclusion in the FDOT Work Program, the impacts associated with the selected alternative should be evaluated to determine potential conflicts with any of the resource protection or coastal management policies of either of the affected local governments.

While Rules 9J-5.019(2)(a)11, and (5)(b)5., F.A.C., do not specifically require the inclusion of bridge rehabilitation/replacement projects in the comprehensive planning documents via the Future Transportation Map, in maps critical to evacuation, or the Capital Improvements Element, the City of Tarpon Springs and the Pinellas County comprehensive plans should be amended to include the selected alternative in the schedules of capital improvements, pursuant to Rule 9J-5.016 (4)(a)1., F.A.C. prior to inclusion in the FDOT Work Program.

CLC Commitments and Recommendations:

Coordinator Feedback:None

- No review submitted from the Pinellas County MPO

- No review submitted from the US Environmental Protection Agency

ETAT Reviews: Secondary and Cumulative

Secondary and Cumulative Effects

Coordinator Summary

3 Summary Degree of Effect

Secondary and Cumulative Effects Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 7 (3/14/2011)

Comments:

SWFWMD DOE: Substantial

FDOT Recommended DOE: Moderate

The Southwest Florida Water Management District (SWFWMD) recommends a Degree of Effect of Substantial. The Florida Department of Transportation (FDOT) recommends a Degree of Effect (DOE) of Moderate.

The FDOT met with SWFWMD in July 2005 and informally "agreed to disagree" on degrees of effect findings. Therefore, it is understood by SWFWMD that when they assign a Substantial DOE, the FDOT or Metropolitan Planning Organization (MPO) typically may have lower DOE assignments, but will continue to coordinate with SWFWMD when warranted.

The FDOT in conjunction with the Federal Highway Administration (FHWA) is currently facilitating a task force to evaluate and provide guidance on Indirect (Secondary) and Cumulative Effects. This task force consists of representatives from the FHWA, the FDOT, various agencies, regional planning councils, and Metropolitan Planning Organizations (MPOs). The output of this task force will be guidance in the form of a White Paper along with possible revisions to the Environmental Screening Tool (EST) to facilitate Indirect and Cumulative Effects Analysis. The FDOT recommends that the implementing agency consider this issue further when these necessary tools and guidance are in place.

ETAT Reviews for Secondary and Cumulative Effects

4 ETAT Review by C. Lynn Miller, Southwest Florida Water Management District (12/20/2010)

Secondary and Cumulative Effects Effect: Substantial

Coordination Document: Permit Required

Dispute Information: N/A

At-Risk Resource: Wildlife and Habitat

Comments on Effects:

The project has the potential to result in further reduction of the limited urban wildlife populations in the project vicinity.

Recommended Avoidance, Minimization, and Mitigation Measures:

Potential upland impacts can be reduced by designing the project to avoid and, to the maximum extent practicable, preserve existing patches of upland habitat.

Recommended Actions to Improve At-Risk Resources:

Select stormwater treatment measures that provide both upland and wetland wildlife habitat in addition to serving the primary treatment function.

At-Risk Resource:Water Quality and Quantity

Comments on Effects:

The project has the potential to generate additional stormwater runoff and increased sedimentation that may contribute to a delay in recovery of Impaired Waters downstream of the project and to degrade water quality in waters classified as OFW.

Recommended Avoidance, Minimization, and Mitigation Measures:

Utilize BMP trains (i.e. BMPs in series) during construction to minimize the conveyance of sediment to OFWs and off-site sensitive habitats such as the mangrove swamps in the Bayou north of the bridge. Impacts can be reduced by providing treatment for currently under-treated or untreated runoff to OFW.

Recommended Actions to Improve At-Risk Resources:

Consider the treatment of pre-existing, impervious areas that are now under-treated or untreated.

At-Risk Resource:Wetlands

Comments on Effects:

Reduction or elimination of the remaining wildlife function of wetlands within 500 feet of the project is a possibility due to the increased noise associated with the additional traffic volume expected to result from the project and as a consequence of the additional, untreated stormwater entering Whitcomb Bayou from the project. As a result of the potential to reduce or eliminate the wildlife function of mangrove swamps and seagrass beds, the project has a potential to result in secondary impacts to the recreational fishery in Whitcomb Bayou and the tidal reach of the Anclote River.

Recommended Avoidance, Minimization, and Mitigation Measures:

Potential secondary wetland impacts can be reduced by incorporating noise control technology into

the design of the facility. Potential fishery impacts can be reduced by protecting and preserving existing wetlands and seagrass beds in the project area.

Recommended Actions to Improve At-Risk Resources:

Select stormwater treatment measures that provide wildlife habitat in addition to serving the primary treatment function. It is recommended that the placement of stormwater ponds and treatment facilities be done to avoid potential impacts to existing storm water facilities.

Coordinator Feedback:None

General Project Commitments

Date	Description
3/14/2011	<p>The FDOT recommends the implementing agency do the following: - Prepare an Essential Fish Habitat (EFH) Assessment and coordinate with the National Marine Fisheries Service (NMFS) during the Project Development and Environment (PD&E) Study where warranted. - Determine whether there would be any contamination and hazardous materials issues associated with the project. Prepare a Contamination Screening Evaluation Report (CSER) to assess risk for contamination in the project area. If contamination is detected during construction, the Florida Department of Environmental Protection (FDEP) should be notified. Any source identified should be assessed to determine the need for remediation during construction. - Evaluate floodplain impacts and evaluate compensation opportunities for any floodplain encroachment and lost floodplain storage, if mitigation is deemed necessary by regulatory agencies. A Location Hydraulics Report (LHR) should be prepared for the project. The FDOT recommends that the implementing agency avoid or minimize impacts to floodplain resources and functions. - Assess potential impacts to existing infrastructure and to take measures to minimize any project related impacts to this facility. - Coordinate with the U.S. Coast Guard (USCG) during the PD&E Study and develop a permit as required. - Assess potential impacts to the areas noted under Special Designations and to take measures to avoid or minimize any project related impacts to these areas because the project has involvement with an aquatic preserve. Once right-of way (ROW) requirements have been defined, the FDOT recommends that the implementing agency submit arials depicting alternatives to the FDEP for review and comment. - Include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities related to this proposed project - Assess potential impacts to any existing wetlands and prepare a Wetland Evaluation / Biological Assessment Report (WEBAR) which identifies and assesses any existing natural habitats within the project area. This report should then be coordinated with the US Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation commission (FFWCC). - Prepare a Cultural Resource Assessment Survey (CRAS) that should reflect the results of performing a systematic archaeological field survey and a historic structures survey for the project's APE which includes the bridge, project corridor, and stormwater management facilities. If applicable, Section 106 Consultation should be conducted to assess potential project impacts to any cultural resources that are determined eligible for listing in the National Register of Historic Places (NRHP). - Prepare a Section 4(f) Determination of Applicability (DOA) for this project since the Pinellas County Aquatic Preserve Management Plan states that its significant purposes include a waterfowl and wildlife refuge function and/or a recreation function. - Conduct public outreach to residents and businesses in the corridor area to solicit input on the project. Prepare visual aids to assist the public to better understand the nature of the project. These visual aids should be provided during the public involvement process and made available throughout the projects development process. - Prepare a Conceptual Stage Relocation Program (CSR) Report for this project. Any relocation should be evaluated so that there are no disproportionate adverse impacts to any distinct minority, ethnic, elderly, or handicapped groups and/or low-income households. - Conduct a noise review for the project to determine if there is a substantial change in vertical or horizontal alignment. If there is no substantial change then this will be documented in the project files and environmental document. If there is a substantial change a Noise Study Report (NSR) will be produced.</p>

Permits

Permit Name	Type	Review Org	Review Date
Environmental Resource Permit	State	FDOT District 7	11/11/10
U.S. Coast Guard Bridge Permit	Federal	FDOT District 7	11/11/10

Technical Studies

Technical Study Name	Type	Review Org	Review Date
Geotechnical Report	ENGINEERING	FDOT District 7	08/24/10
Noise Study Report	ENVIRONMENTAL	FDOT District 7	08/24/10
Contamination Screening Evaluation Report	ENVIRONMENTAL	FDOT District 7	08/24/10
Cultural Resource Assessment	ENVIRONMENTAL	FDOT District 7	08/24/10
Traffic Analysis	ENGINEERING	FDOT District 7	08/24/10
Type 2 CE	ENVIRONMENTAL	FDOT District 7	08/24/10

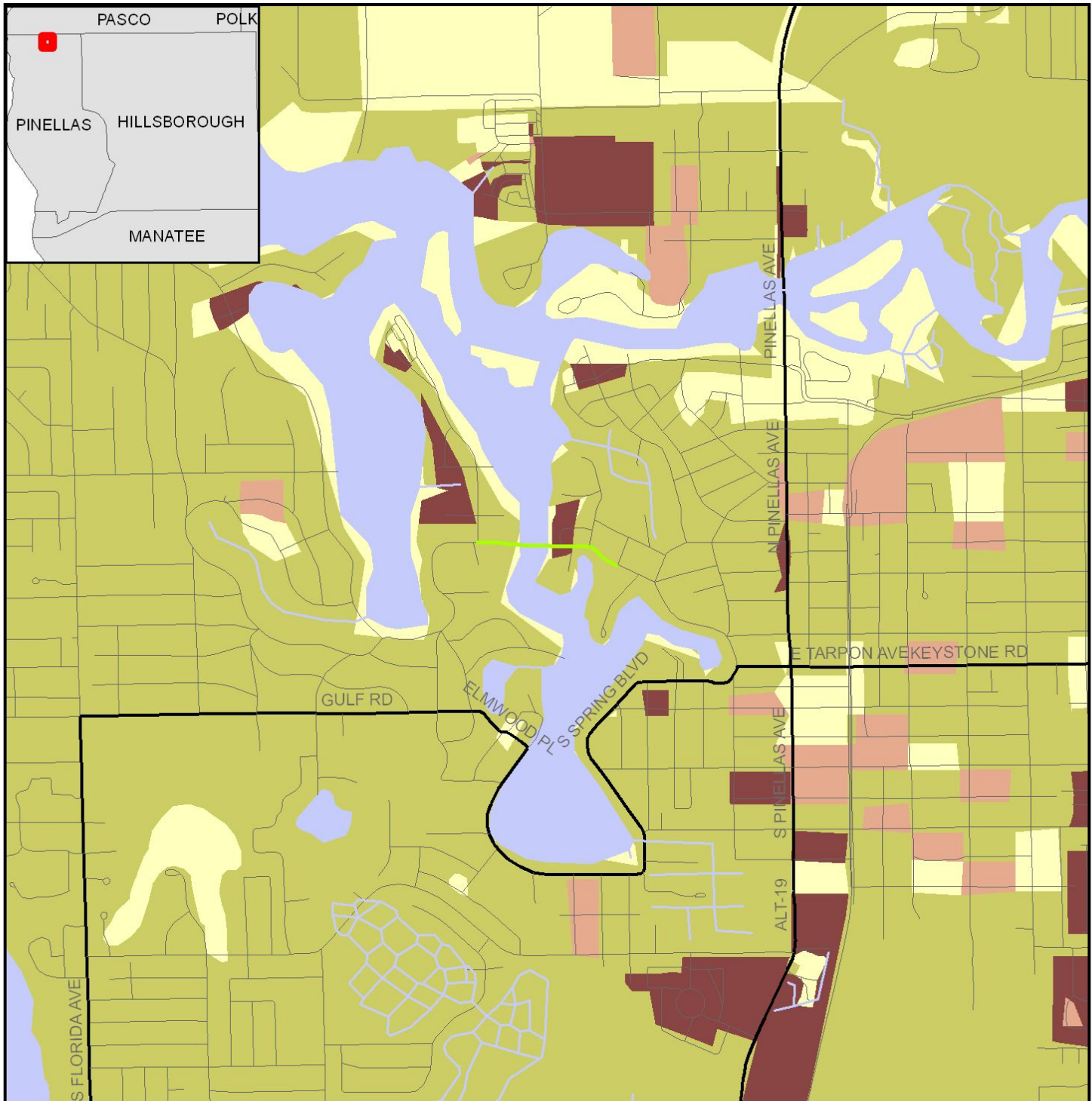
Class of Action	
Class of Action	Other Actions
Categorical Exclusion	None
Lead Agency	Cooperating Agency/Agencies
Federal Highway Administration	

Signatures			
	Name	Review Status	Date
FDOT ETDM Coordinator	Steve C. Love (FDOT District 7)	ACCEPTED	3/14/2011
Comments	Pinellas County acknowledges FHWA's comment in the Programming Screen under the Historic and Archeological Sites issue stating "if the bridge is National Register of Historic Places (NRHP)-eligible and requires demolition, preparation of an Environmental Impact Statement (EIS) will be required". The County requests FHWA reconsider this comment in light of the termination of the 1985 agreement between FHWA and the USCG. This agreement was terminated by Memorandum of Understanding dated November 18, 2010. The County further acknowledges that a Cultural Resource Assessment Survey (CRAS) must be conducted for this project which will include evidence to determine the eligibility of the bridge. If the CRAS finds the bridge to be NRHP-eligible and finds that its removal causes a significant historical impact then the County will work with the FHWA and SHPO to determine appropriate mitigation measures.		
	Name	Review Status	Date
Lead Agency ETAT Member	Linda Anderson (Federal Highway Administration)	ACCEPTED	3/15/2011
Comments	The Federal Highway Administration concurs with the determination of the Florida Department of Transportation that a Type II Categorical Exclusion is a suitable Class of Action for Project # 13040, Beckett Bridge over Whitcomb Bayou (Riverside Drive). Concurrence is based on the content of ETDM reviews and assignments of Degree of Effect in the Programming Summary Report, which suggest that there will be no significant impacts associated with the project.		

Dispute Resolution Activity Log
No Dispute Actions Found.

Hardcopy Maps: Alternative #1

13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 1 Miles

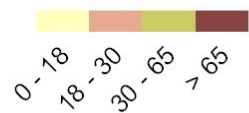
Population Age Distribution Map



Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body

Median Age



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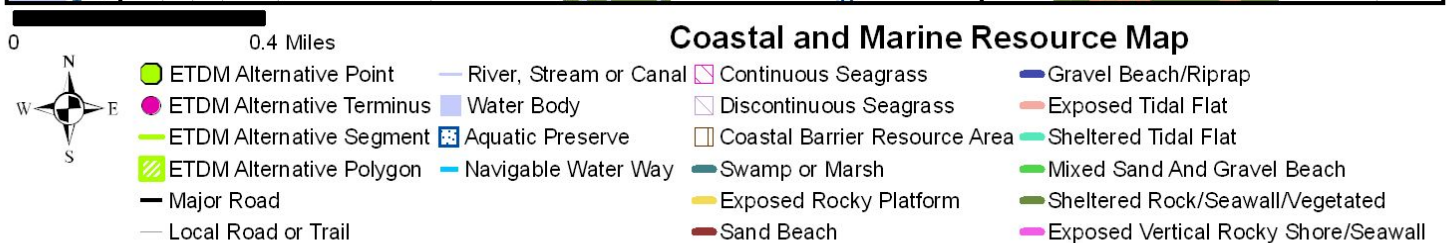
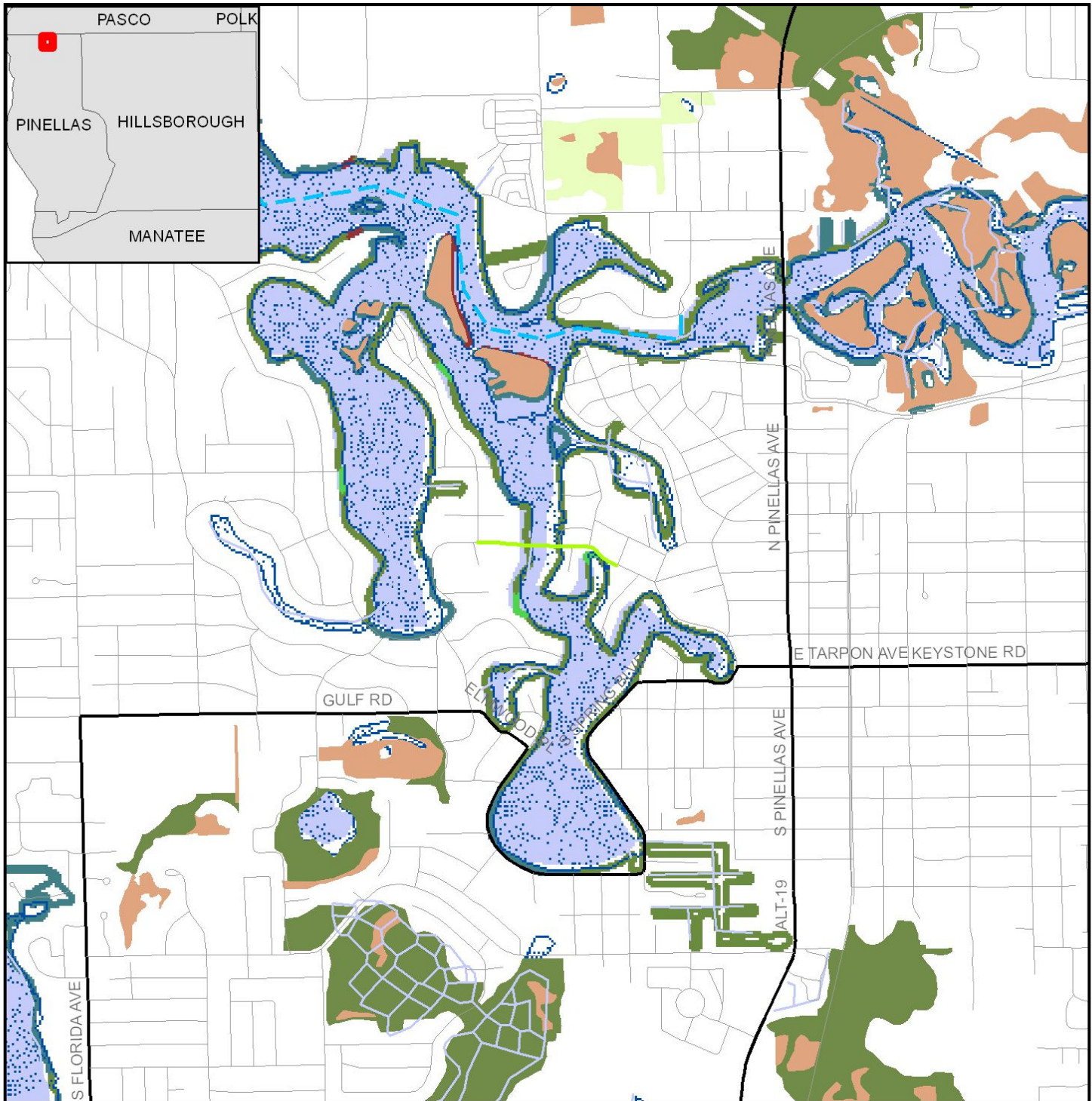
Efficient Transportation Decision Making

Environmental Screening Tool **est**

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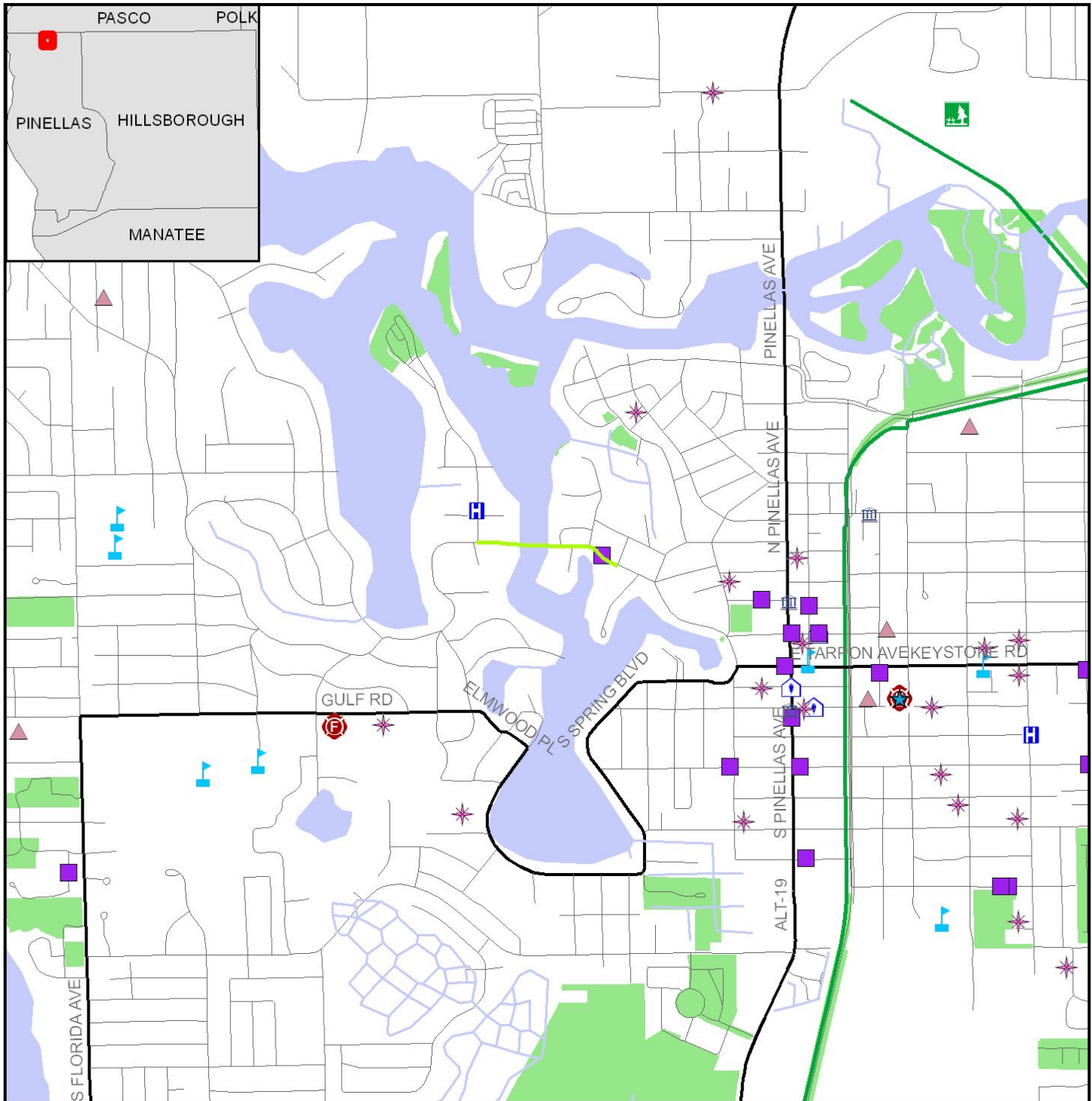
13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Marine Research Institute; Florida Department of Transportation; Florida Department of Environmental Protection; National Oceanic and Atmospheric Association; Florida Water Management Districts

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.07 Miles



- | | | | |
|---------------------------|------------------|------------------------|---------------------------------|
| ETDM Alternative Point | Cemetery | Fire Station | Major Road |
| ETDM Alternative Terminus | Social Service | Health Care | Local Road or Trail |
| ETDM Alternative Segment | Community Center | School | Railroad |
| ETDM Alternative Polygon | Law Enforcement | Park | Community Boundary |
| Government | Place of Worship | Recreational Trail | Water Body |
| Civic Center | Cultural Center | River, Stream or Canal | Conservation or Recreation Area |

Data Sources:

US Geological Survey; FL Department of Transportation; Geographic Data Technology, Inc.; FL Property Appraisers; FL Natural Areas Inventory

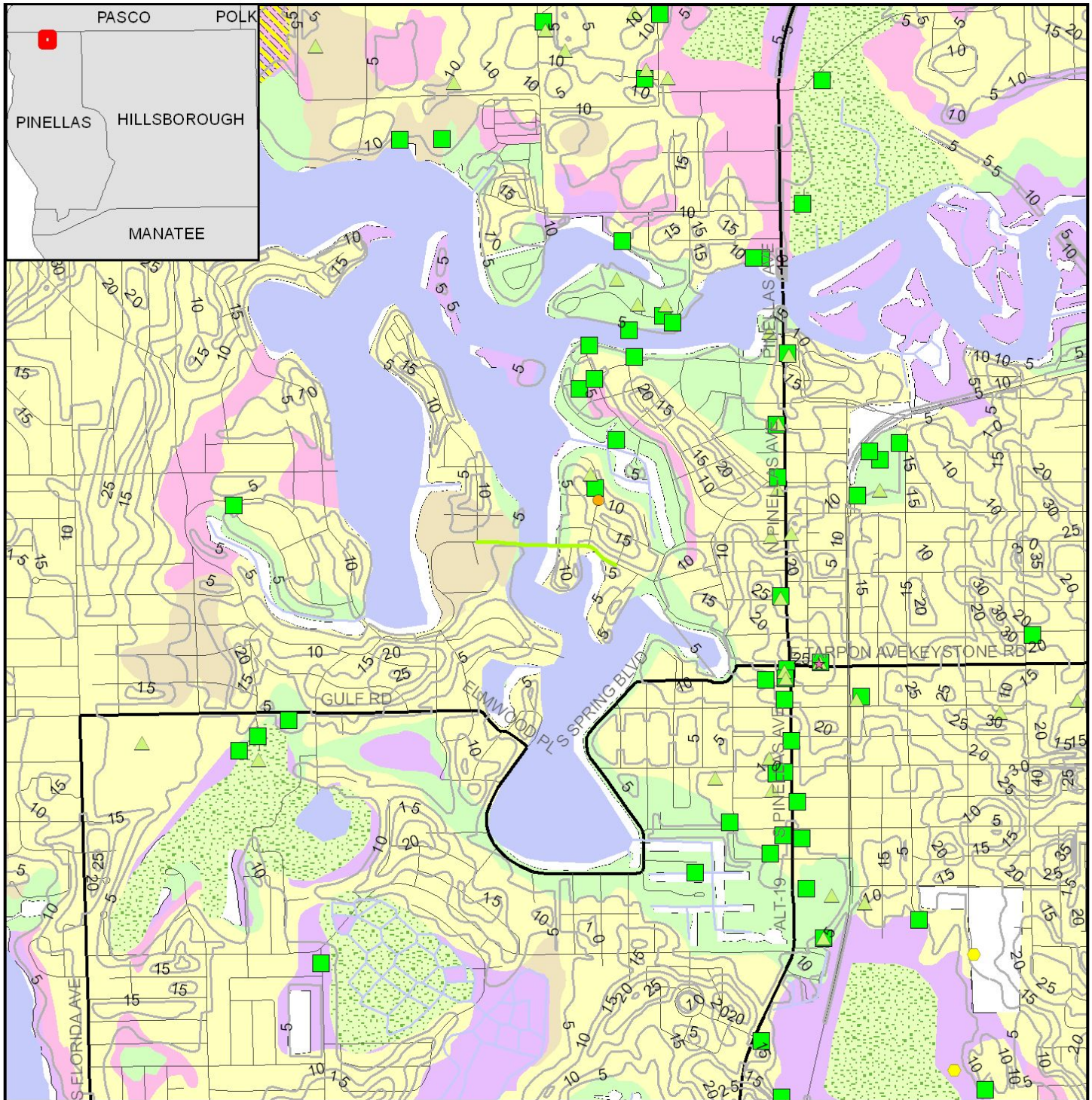
etdm
Efficient Transportation Decision Making

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Potential Contamination Assessment Map



- | | | | |
|-----------------------------|---------------------------|---------------------------|-------------------|
| ● ETDM Alternative Point | → Railroad | ▨ NPL Remediation Site | ■ FDEP Tanks |
| ● ETDM Alternative Terminus | — River, Stream or Canal | ▲ Hazardous Material Site | ▨ Brownfield Area |
| — ETDM Alternative Segment | ● Toxic Release Inventory | ■ Power Plant | — 5 FT Contour |
| ▨ ETDM Alternative Polygon | ★ Dry Cleaning Facility | ● Superfund Site | ■ Water Body |
| — Major Road | ● Solid Waste Facility | ■ Nuclear Site | ■ Swamp/Marsh |
| — Local Road or Trail | | | |

Data Sources:

Geographic Data Technology, Inc.; US Geological Survey; FL Department of Transportation; FL Department of Environmental Protection; FL Water Management Districts; US Environmental Protection Agency; Natural Resource Conservation Service

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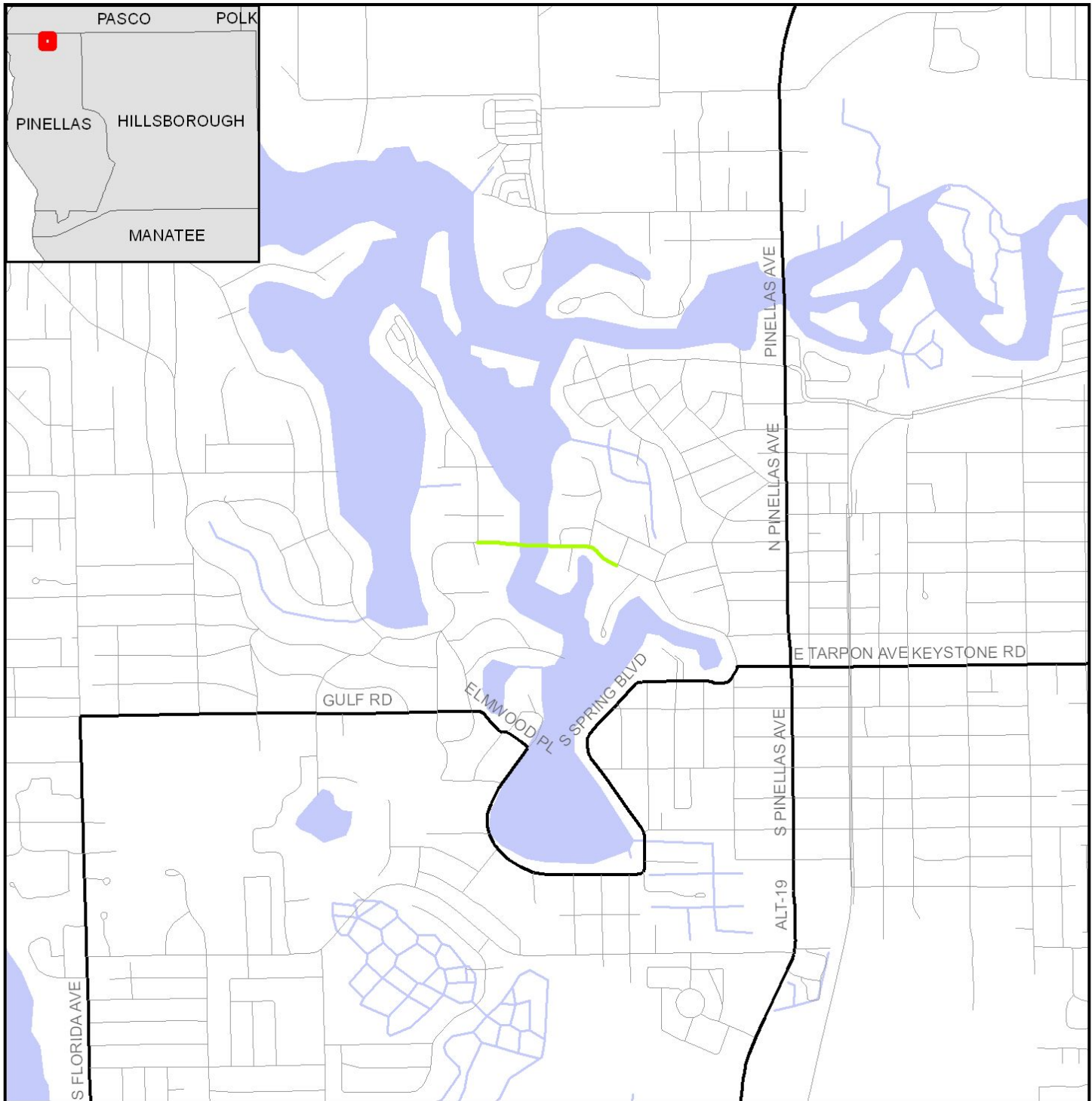
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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.4 Miles

Farmlands Resource Map



- | | | |
|--|------------------------|------------------------|
| ● ETDM Alternative Point | Roads | ■ Cropland/Pastureland |
| ● ETDM Alternative Terminus – Major Road | | ■ Nurseries/Vineyards |
| — ETDM Alternative Segment – Local Road or Trail | | ■ Specialty Farms |
| ■ ETDM Alternative Polygon | ■ Water Body | ■ Tree Crops |
| — River, Stream or Canal | ■ Prime Farmland Soils | ■ Rural Open Lands |

Data Sources: Geographic Data Technology, Inc., Florida Water Management Districts, US Geological Survey, Natural Resources Conservation Services

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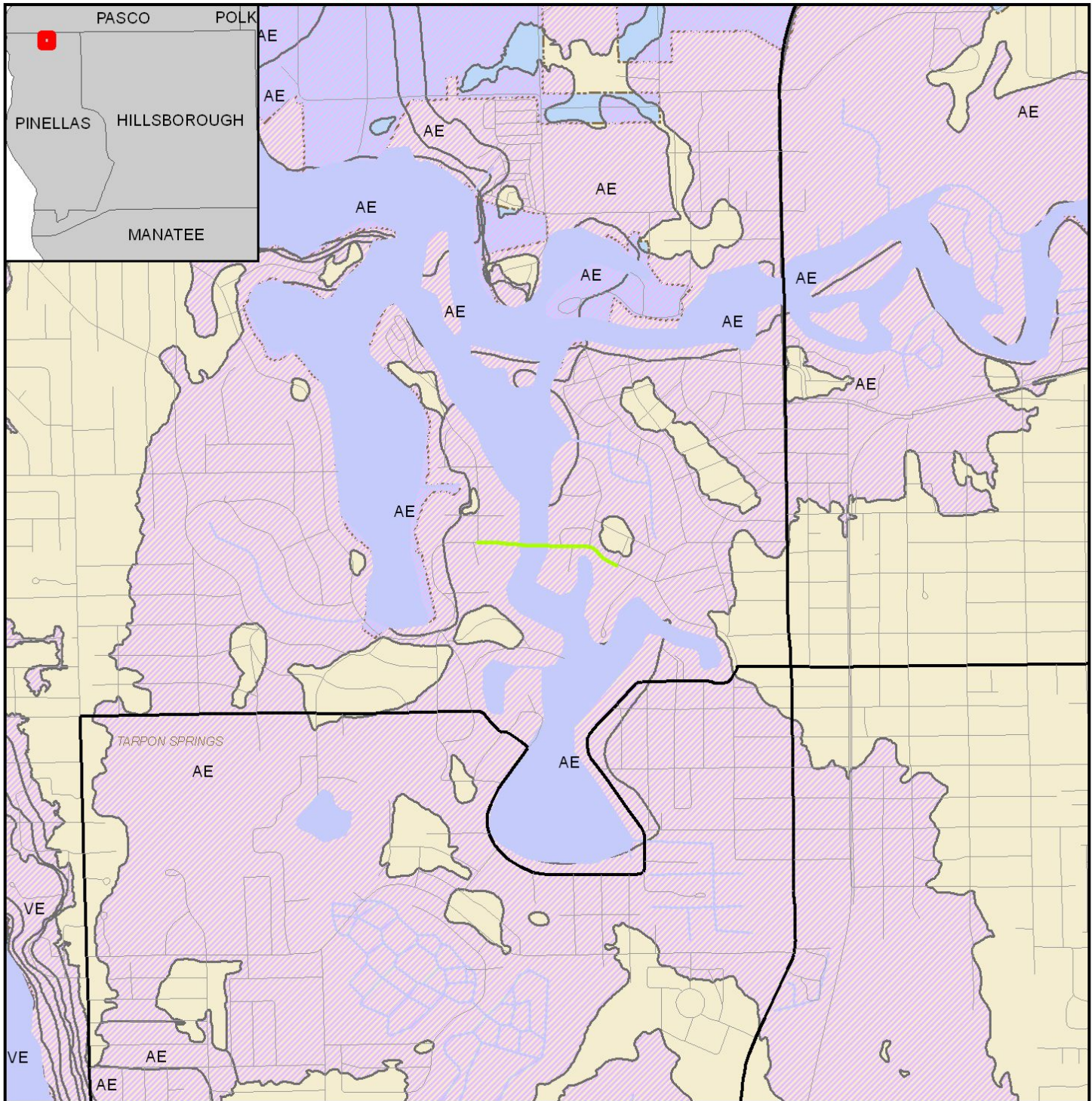
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Efficient Transportation Decision Making

Environmental Screening Tool **est**

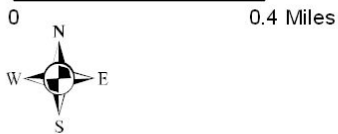
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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Floodplain Resource Map

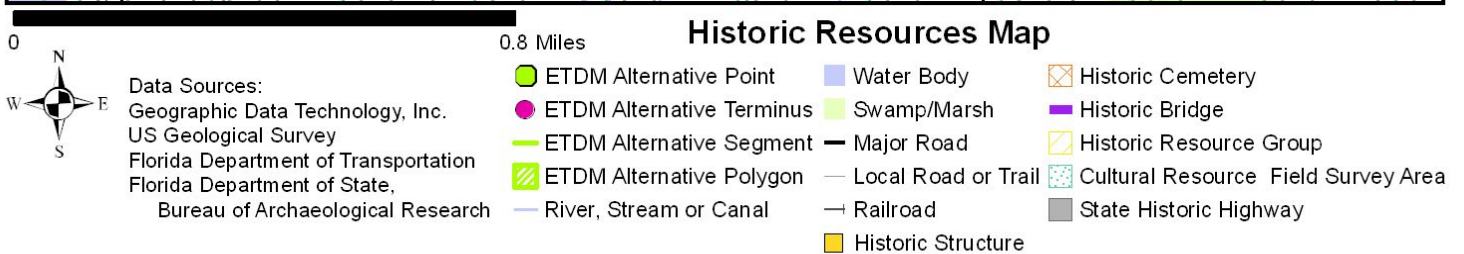
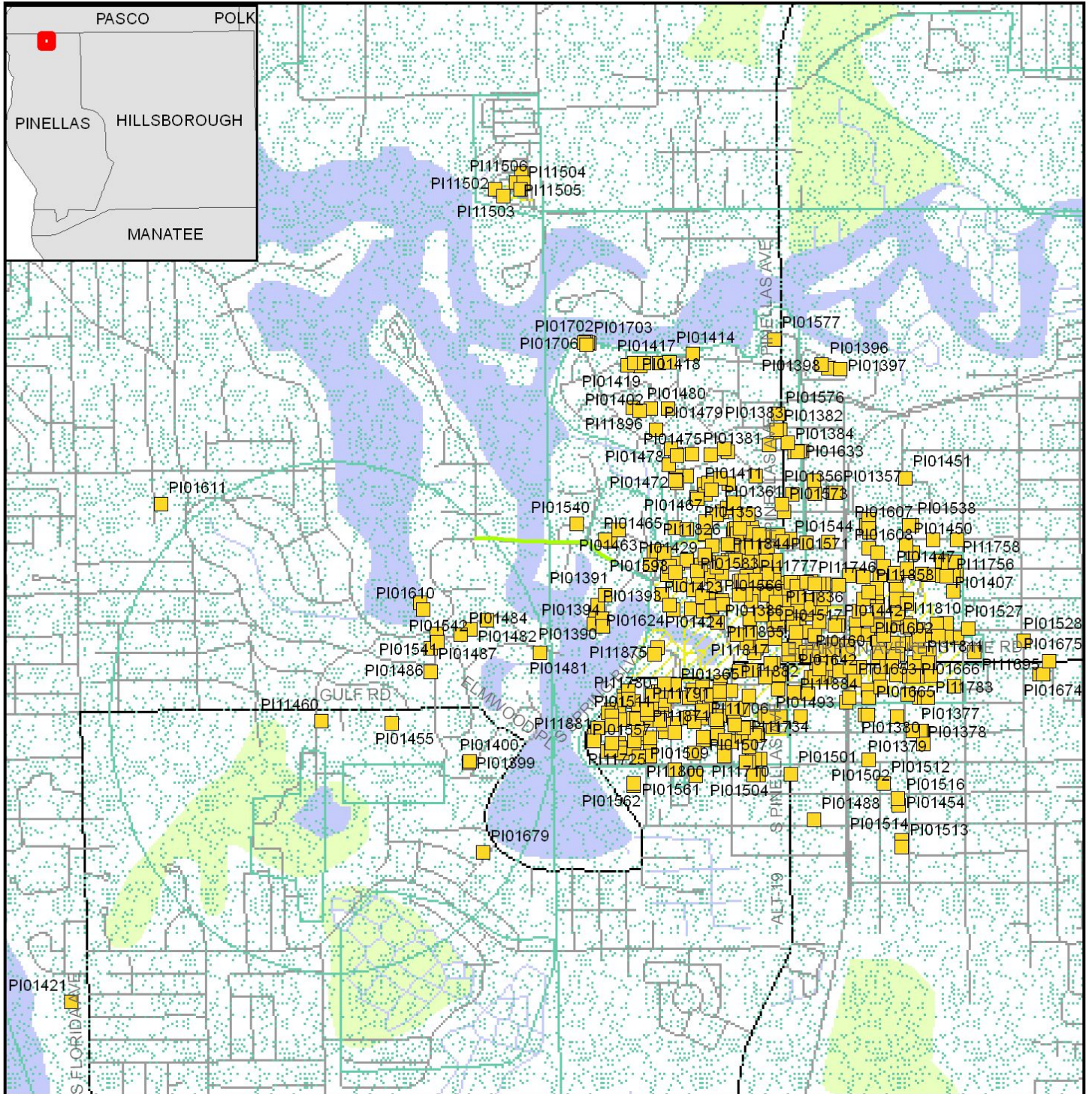


- | | | |
|---|--|--|
| ● ETDM Alternative Point | — Major Road | City Limits |
| ● ETDM Alternative Terminus | — Local Road or Trail | County Boundaries |
| — ETDM Alternative Segment | + Railroad | Special Flood Hazard Area |
| ETDM Alternative Polygon | — River, Stream or Canal | Water Body |

Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Federal Emergency Management Agency

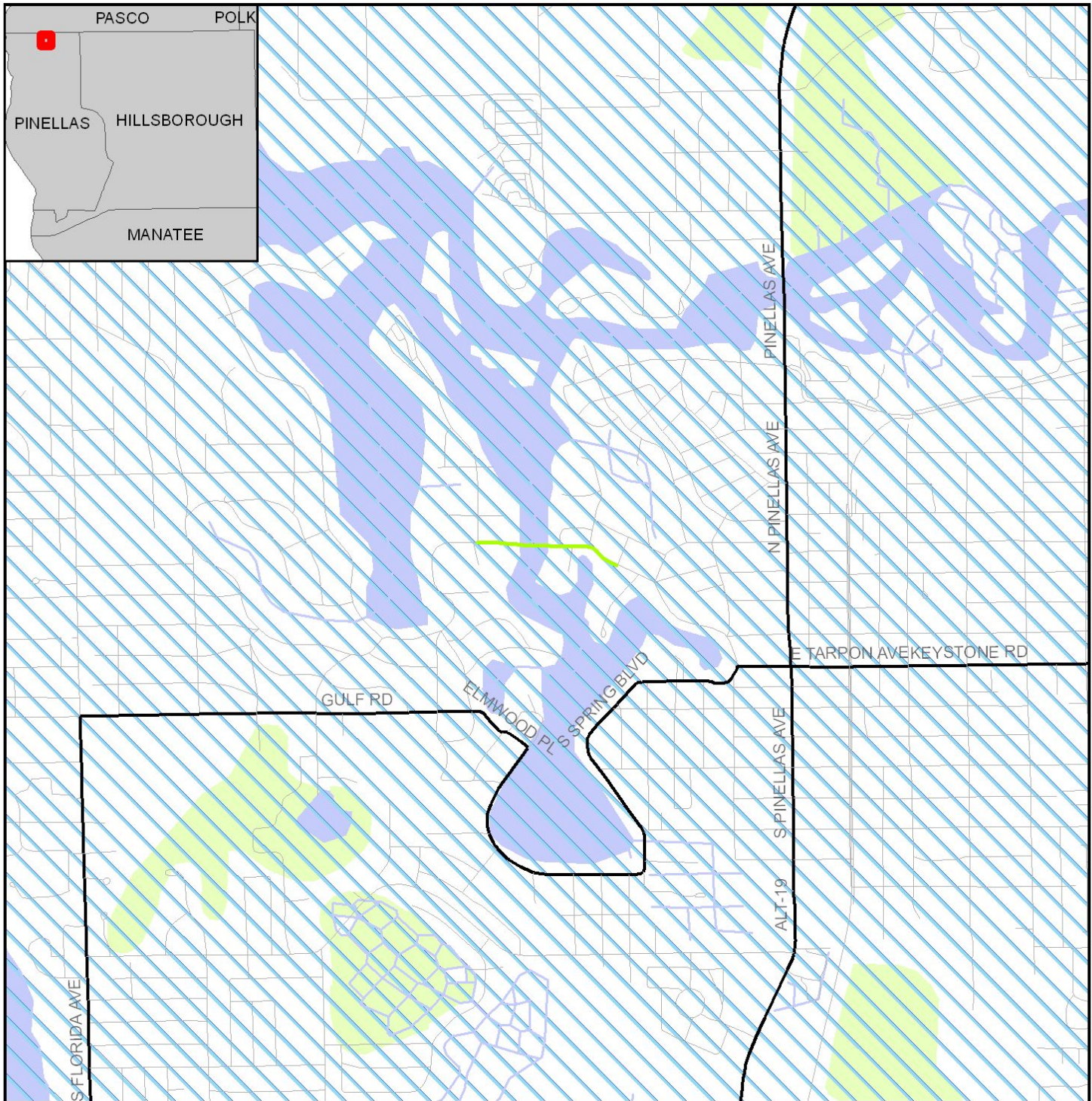
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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue

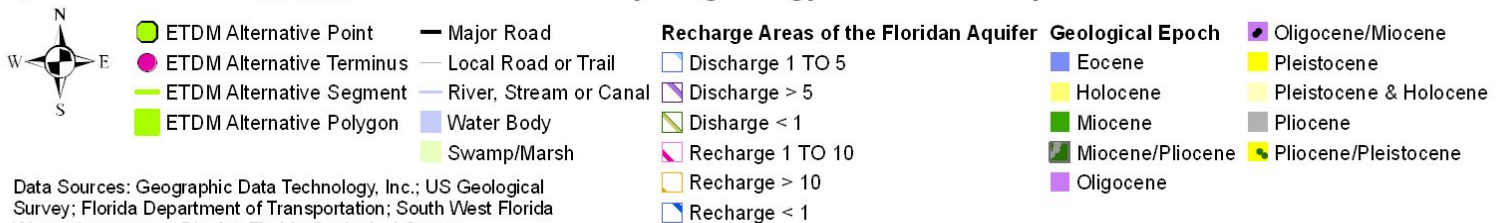


Note: Historic properties depicted on this map represent resources listed in the Florida Master Site File excluding archeological site locations, which, pursuant to Chapter 267.135, Florida Statutes, may be exempt from public record (Chapter 119.07, Florida Statutes). Absence of features on the map does not necessarily indicate an absence of resources in the project vicinity.

13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Hydrogeology Resource Map

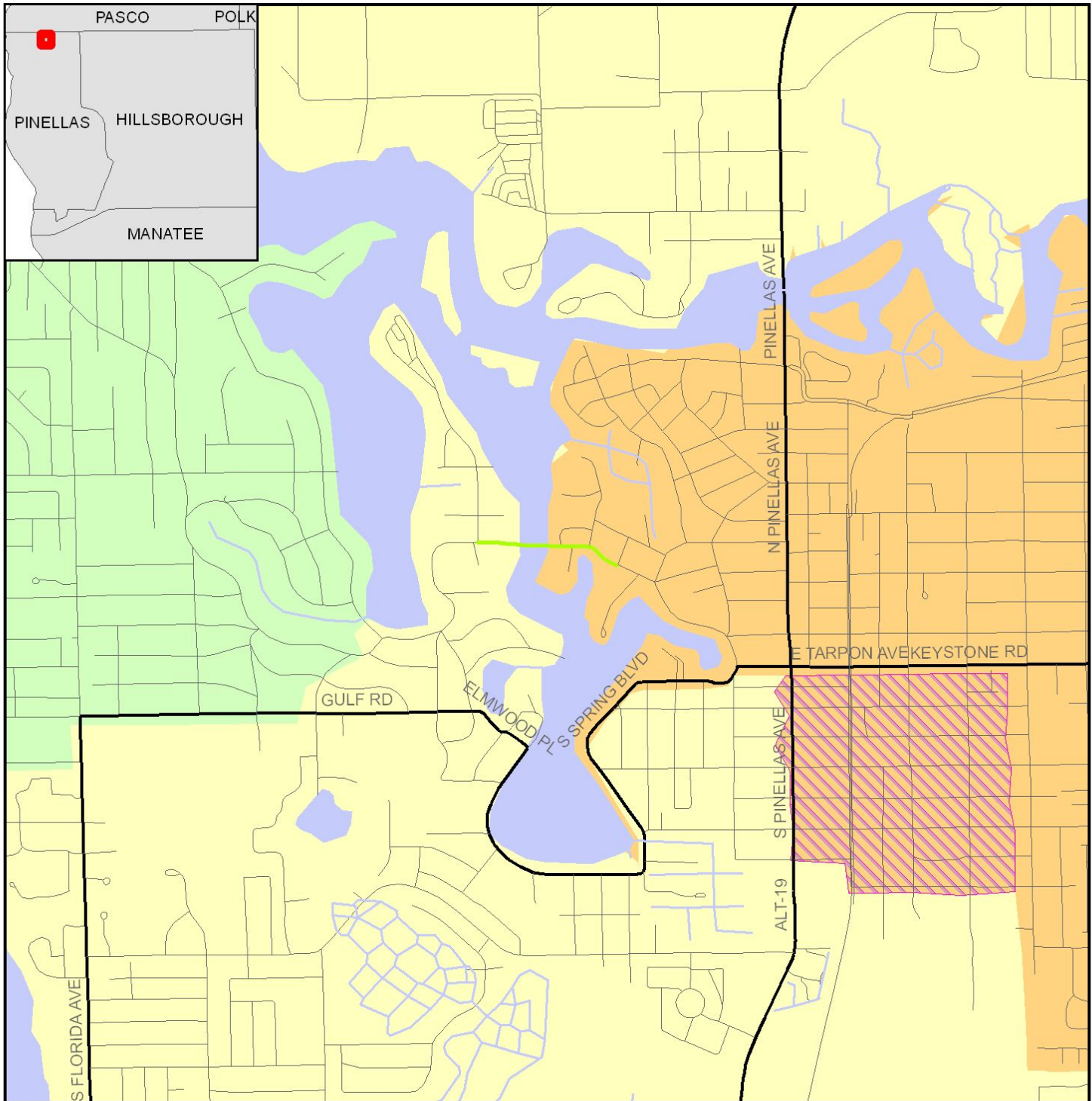


Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Department of Transportation; South West Florida Water Management District; Florida Geological Survey

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



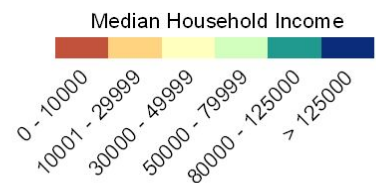
0 0.5 Miles



Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

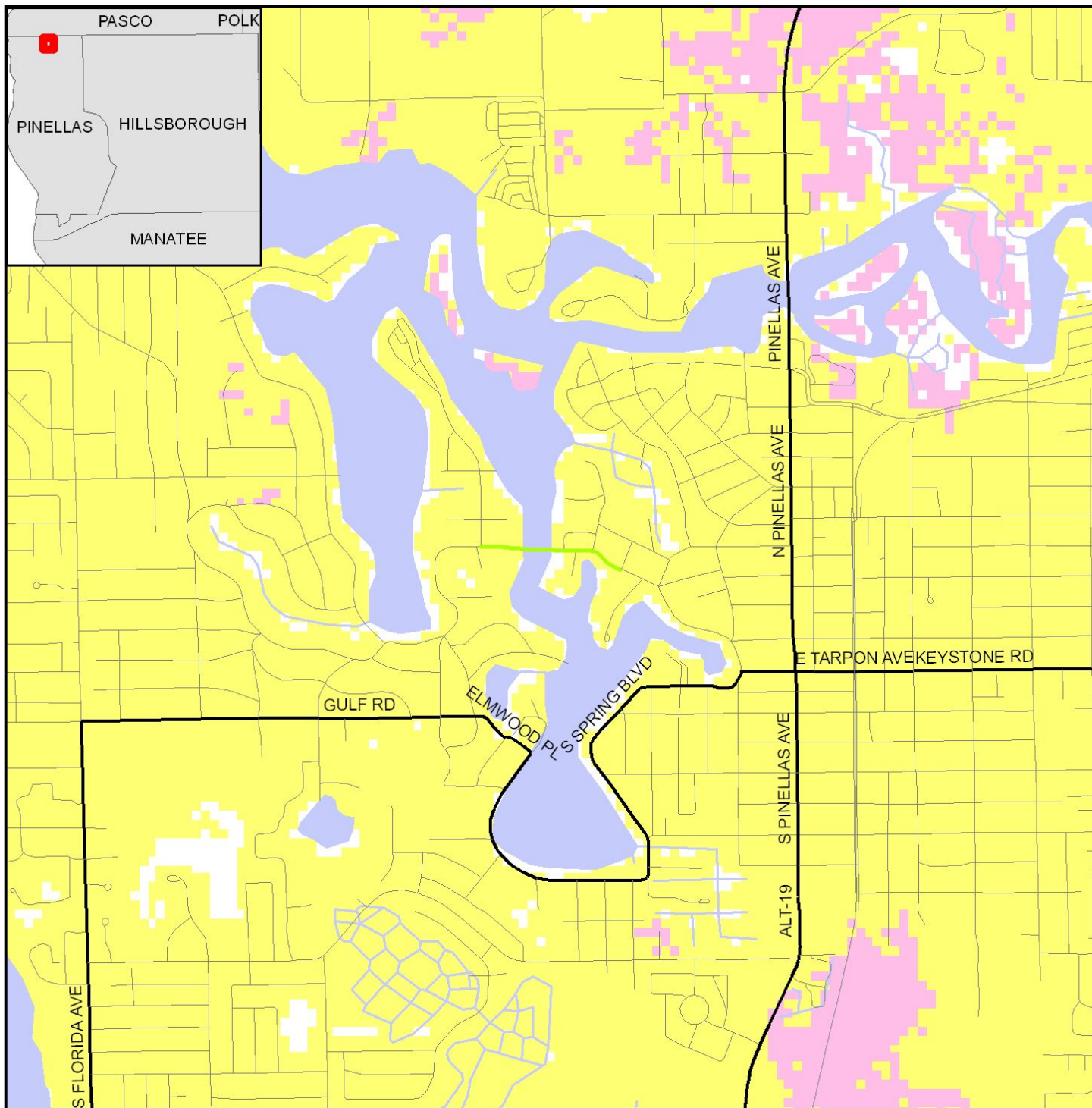
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- ▨ > 20% Below Poverty
- Water Body

Income Distribution Map



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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.5 Miles



Integrated Wildlife Habitat Ranking System Map

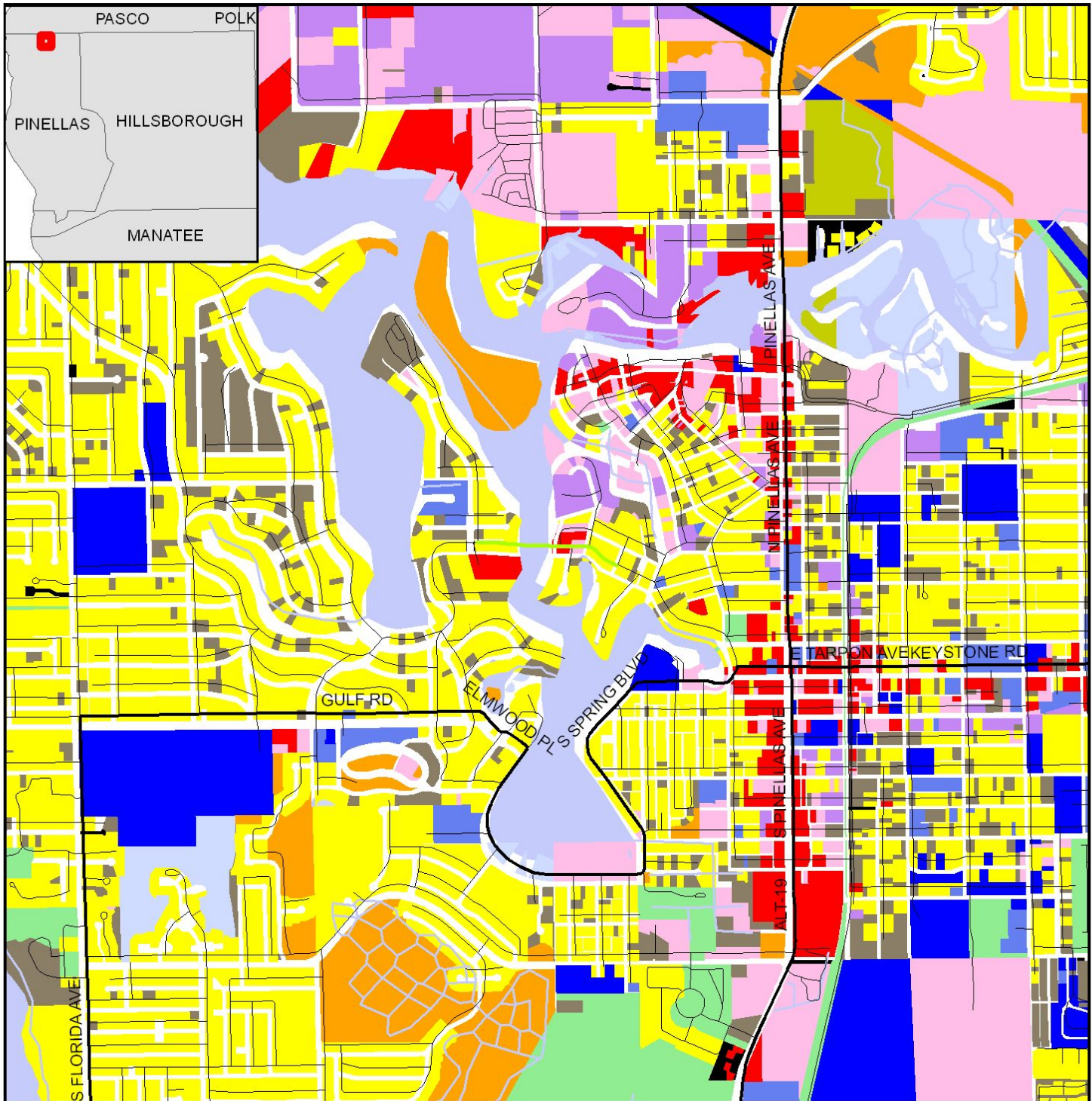
Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Department of Transportation
Florida Fish & Wildlife Conservation Commission

- | | | |
|-----------------------------|--------------------------|--------------------------|
| ● ETDM Alternative Point | — Major Road | ■ Low Habitat Quality |
| ● ETDM Alternative Terminus | — Local Road or Trail | ■ Medium Habitat Quality |
| — ETDM Alternative Segment | — Railroad | ■ High Habitat Quality |
| ■ ETDM Alternative Polygon | — River, Stream or Canal | |
| | ■ Water Body | |

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.2 Miles



Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Department of Revenue
Florida Department of Transportation
Florida County Property Appraiser Offices

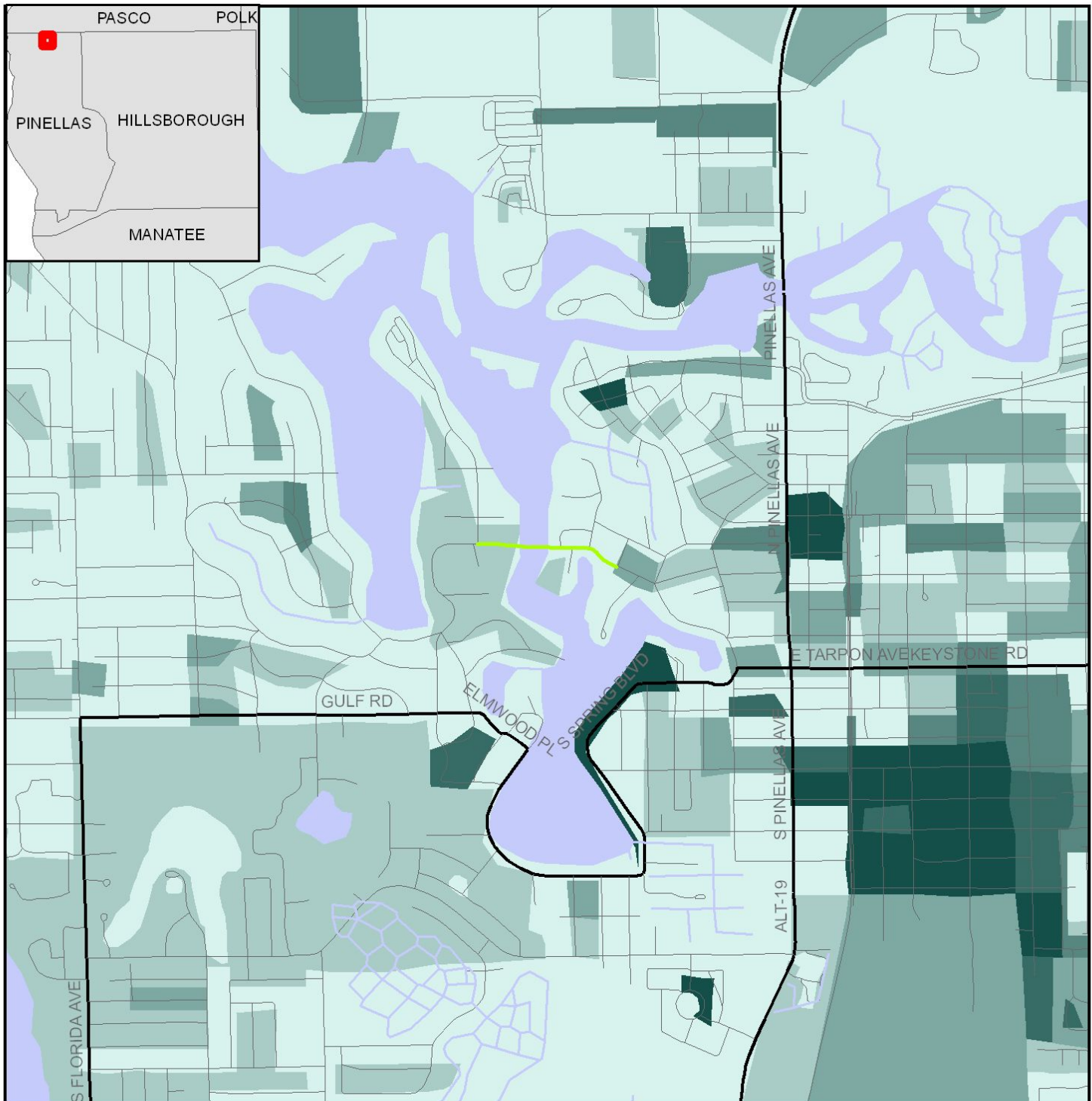
Land Use Map

- | | | | |
|--|---|---|---|
| ● ETDM Alternative Point | — Railroad | ■ Open (Not Agricultural) | ■ Retail/Office |
| ● ETDM Alternative Terminus | — River, Stream or Canal | ■ Other | ■ Vacant (Residential) |
| — ETDM Alternative Segment | ■ Agricultural | ■ Public | ■ Vacant (Nonresidential) |
| ■ ETDM Alternative Polygon | ■ Industrial | ■ Right-of-Way | ■ Water |
| — Major Road | ■ Institutional | ■ Recreational | □ No Data |
| — Local Road or Trail | ■ Mining | ■ Residential | |

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



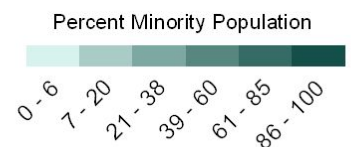
0 0.2 Miles



Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

Minority Population Distribution Map

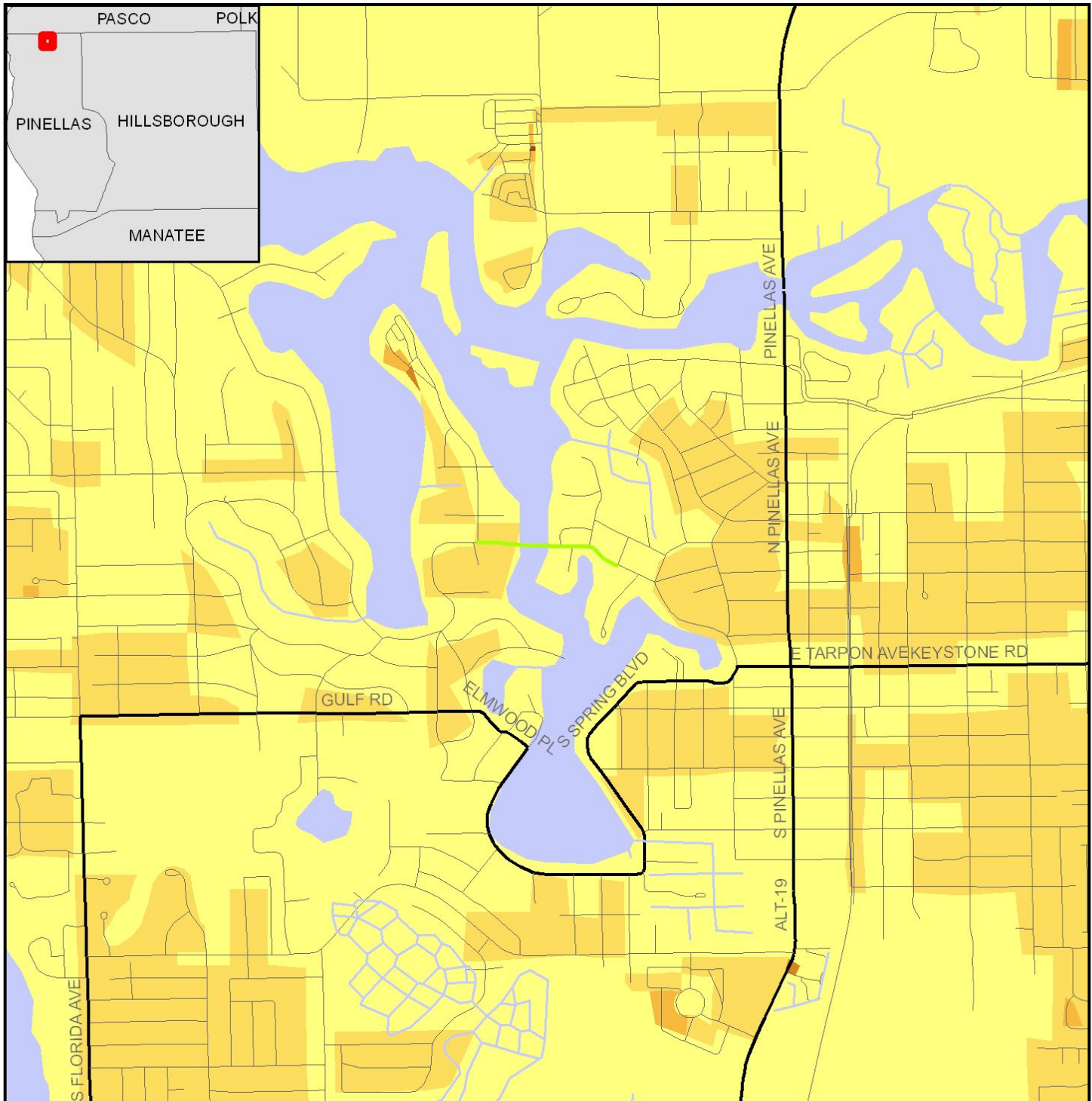
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue

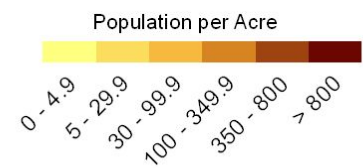


0 0.2 Miles



Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

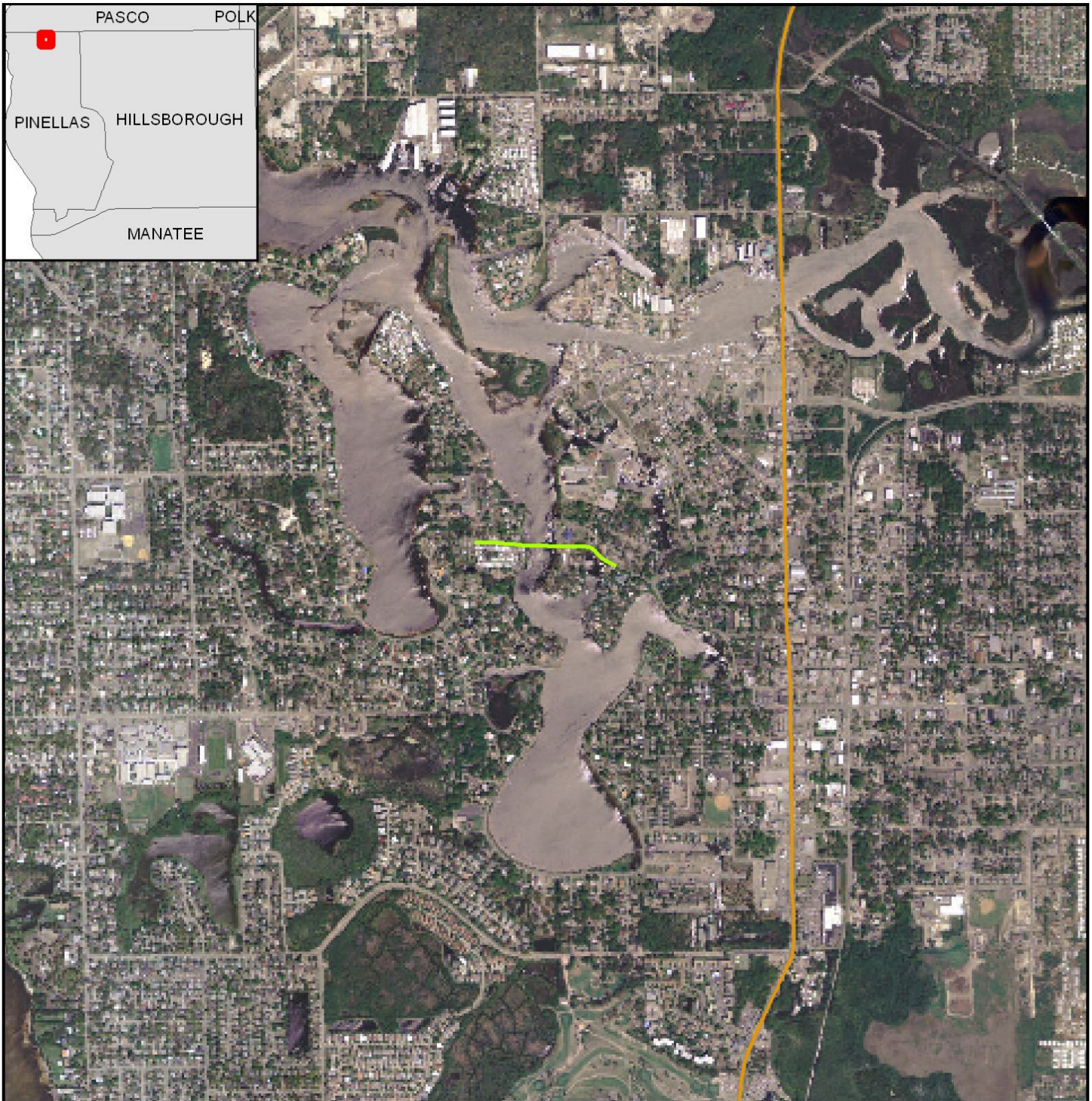
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.5 Miles

Project Aerial Map



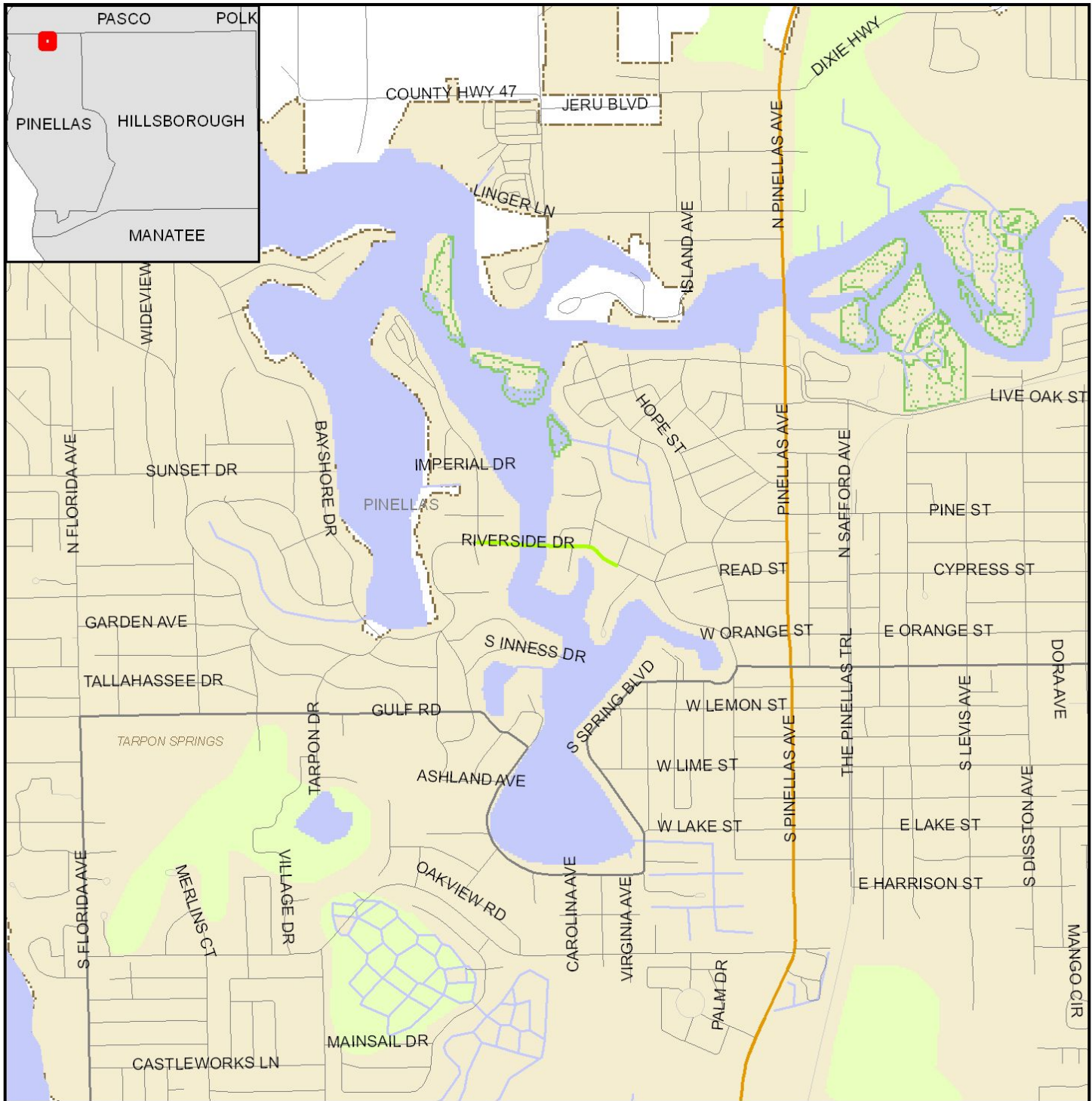
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Primary and Limited Access Highway
- Secondary, Unlimited Access Highway
- Other Highway Feature

Data Sources:
Highways - Geographic Data Technology, Inc.
Digital Orthophotograph - US Geological Survey

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Project Location Map

0 0.3 Miles



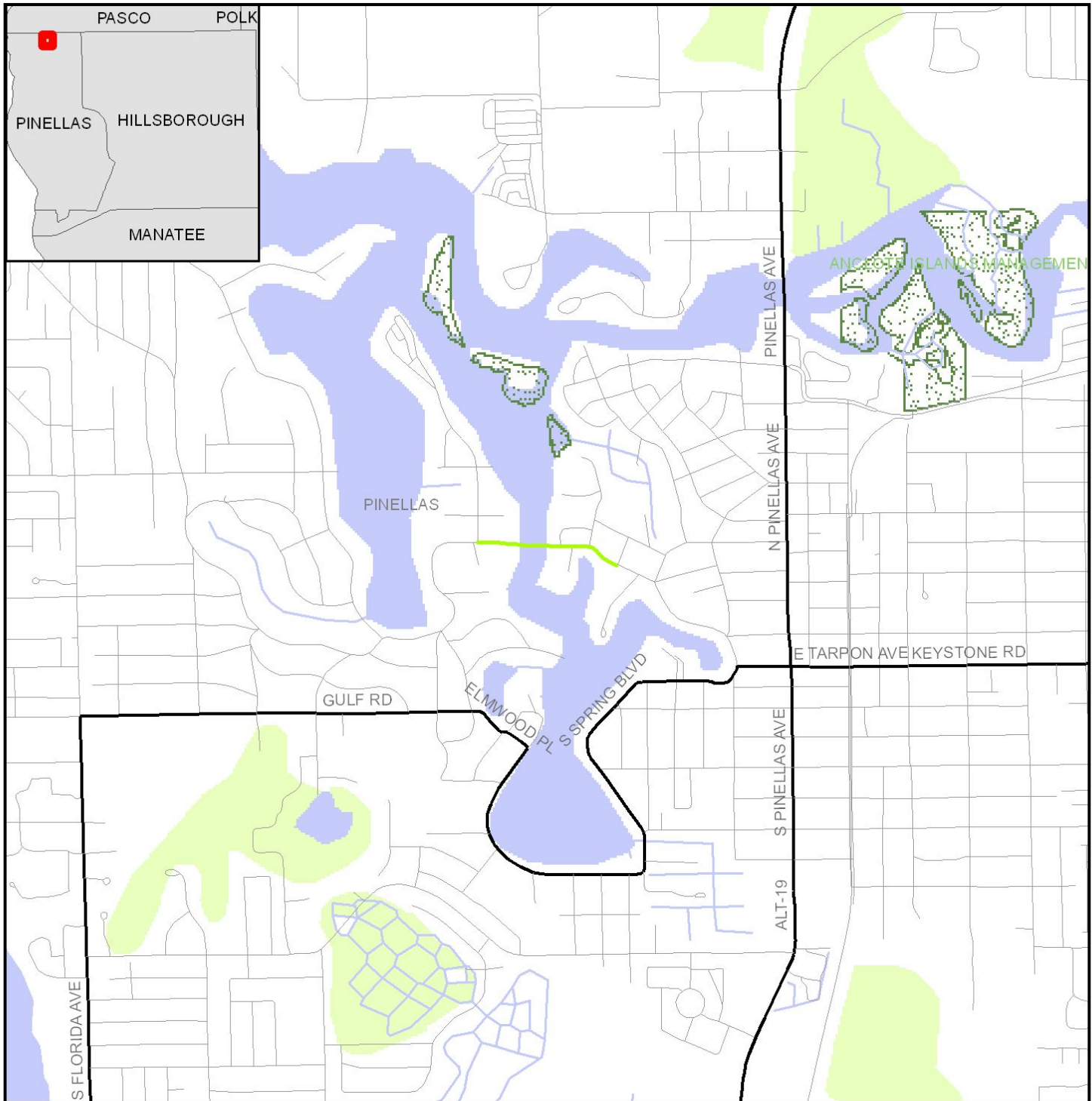
Data Sources:

Geographic Data Technology, Inc.
US Geological Survey
US Census Bureau
County Property Appraisers
Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Managed Conservation Lands
- Primary and Limited Access Highway
- Secondary, Unlimited Access Highway
- Connecting Road
- Local Road or Trail
- Other Roadway Feature
- Toll Road
- Railroad
- Airport
- City Limits
- County Boundaries

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Conservation and Recreation Area Map

0 0.5 Miles



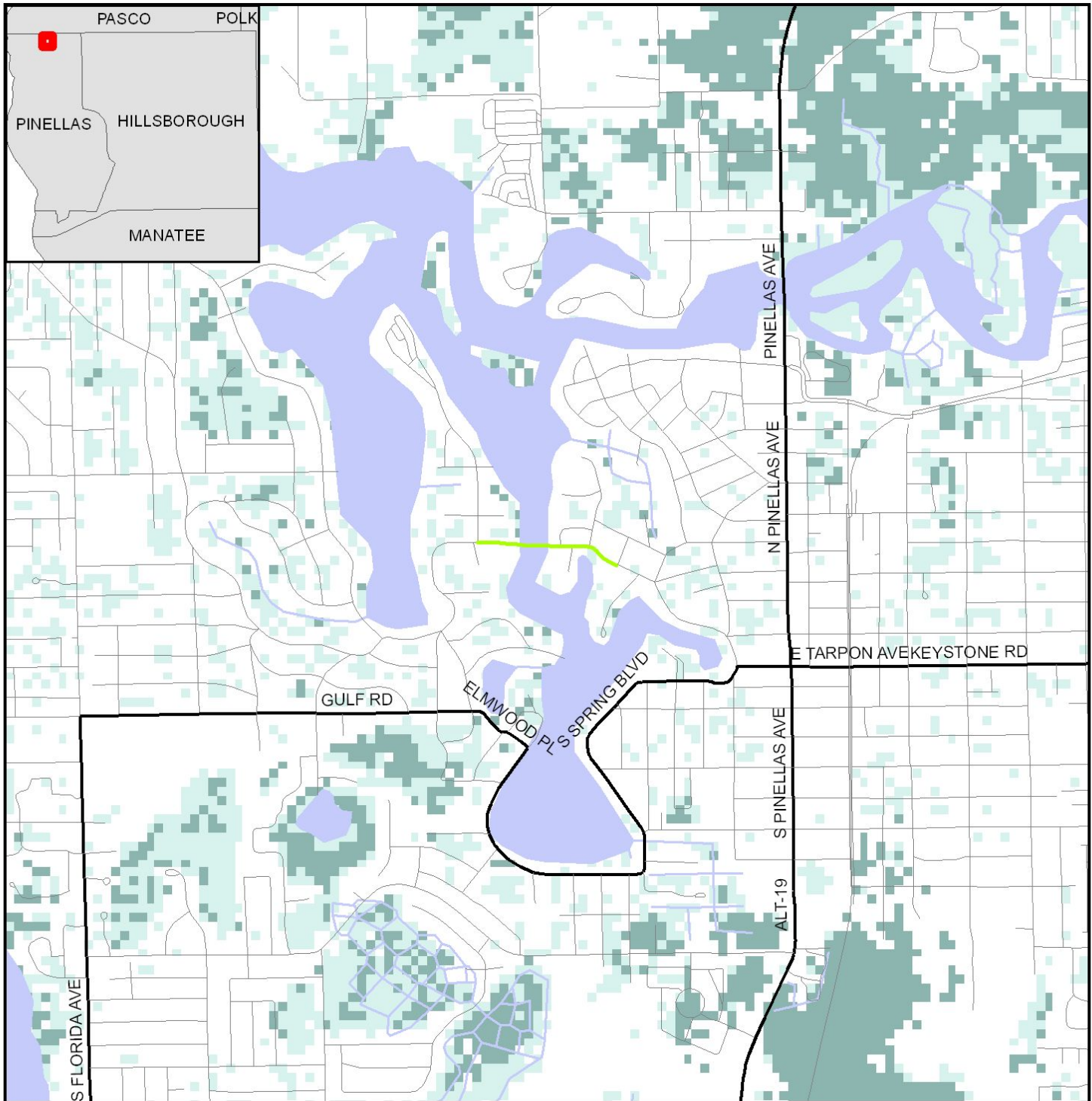
Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- ETDM Alternative Terminus
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Conservation or Recreation Area
- Major Road
- Local Road or Trail
- Railroad
- County Boundary

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.4 Miles



Species Potential Habitat Model Map

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body

Potential Habitat Richness

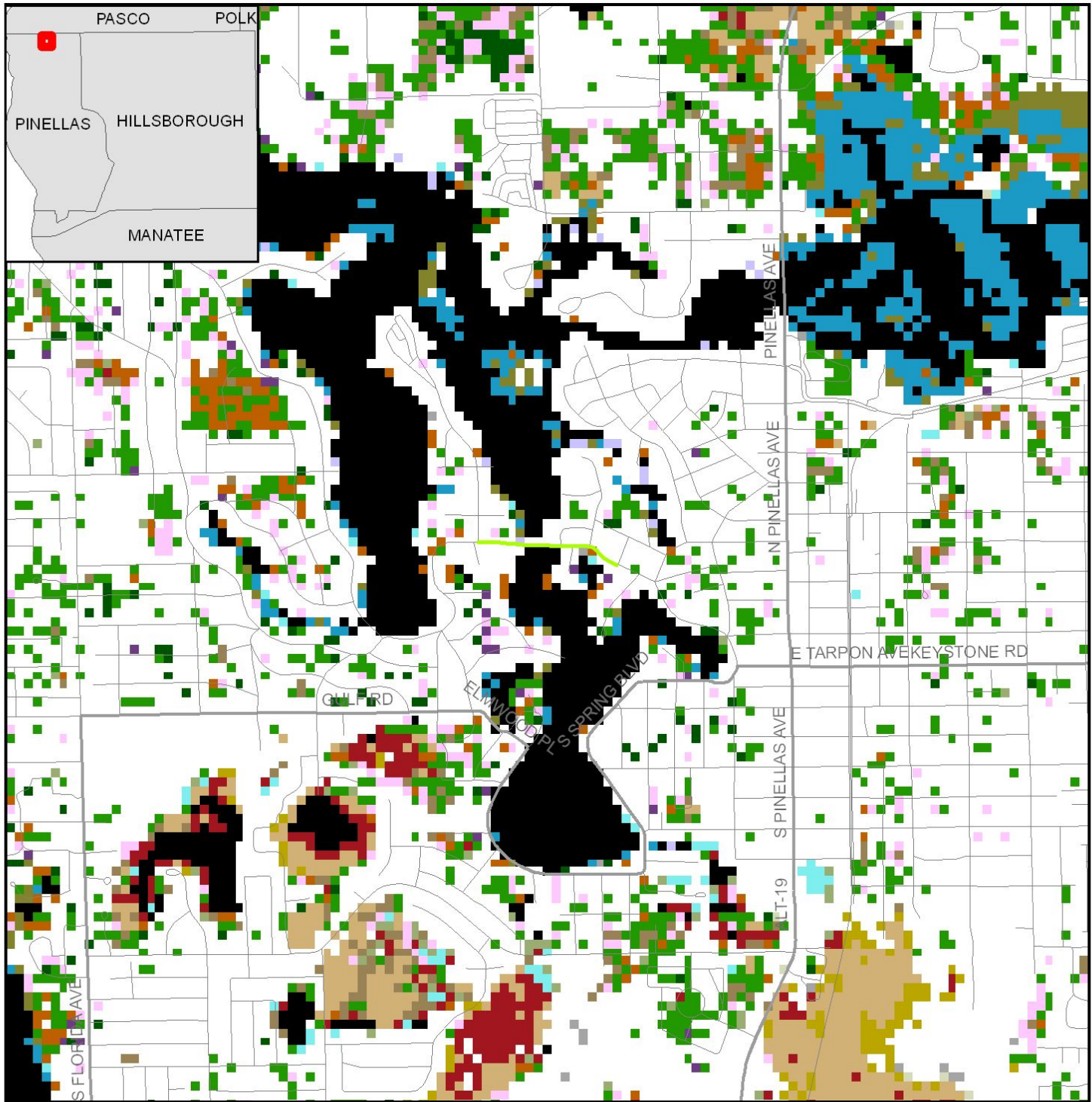
- 1 - 2 Species
- 3 - 5 Species
- 6 - 8 Species
- 9 - 10 Species
- 11 - 13 Species

Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Department of Transportation
Florida Fish & Wildlife Conservation Commission

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



0 0.5 Miles

Vegetation and Land Cover Map

- | | | | | | | |
|---------------------------|----------------------------|----------------------------------|----------------------------|---------------------|---------------------|-------------------|
| ETDM Alternative Polygon | Not Classified | Hardwood Hammocks and Forests | Bay Swamp | Mangrove Swamp | Unimproved Pasture | Brazilian Pepper |
| ETDM Alternative Segment | Coastal Strand | Pinelands | Cypress Swamp | Scrub Mangrove | Sugar cane | High Impact Urban |
| ETDM Alternative Terminus | Sand/Beach | Cabbage Palm-live Oak Hammock | Cypress/Pine/Cabbage Palm | Tidal Flats | Citrus | Low Impact Urban |
| ETDM Alternative Point | Xeric Oak Scrub | Tropical Hardwood Hammock | Mixed Wetland Forest | Open Water | Row and Field Crops | Extractive |
| Major Road | Sand Pine Scrub | Freshwater Marsh and Wet Prairie | Hardwood Swamp | Shrub and Brushland | Other Agriculture | |
| Local Road or Trail | Sandhill | Sawgrass Marsh | Hydric Hammock | Grassland | Exotic Plants | |
| | Dry Prairie | Cattail Marsh | Bottomland Hardwood Forest | Bare Soil/Clearcut | Australian Pine | |
| | Mixed Hardwood-pine Forest | Shrub Swamp | Salt Marsh | Improved Pasture | Melaleuca | |

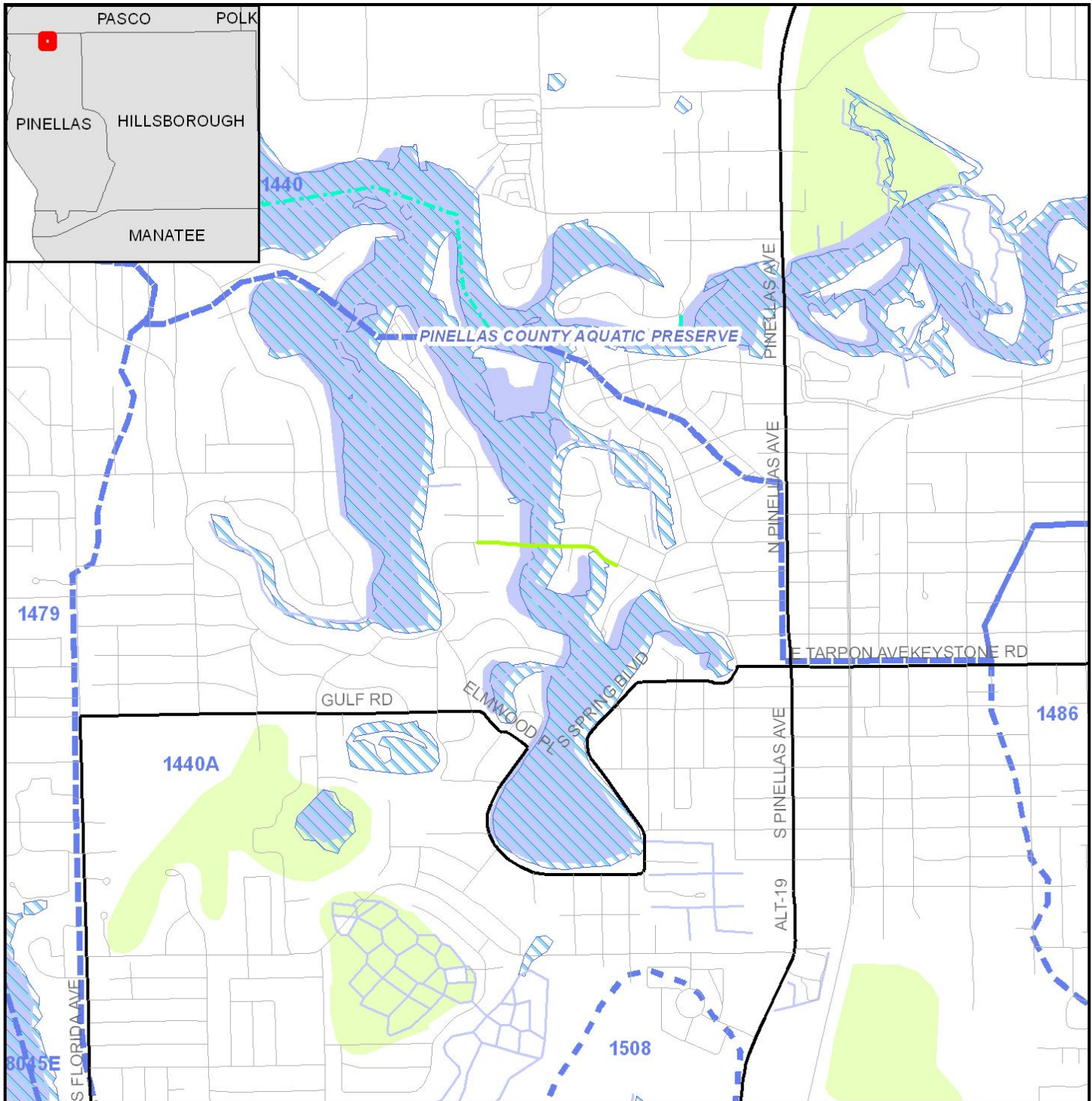
Data Sources:

Geographic Data Technology, Inc.; Florida Department of Transportation; Florida Fish and Wildlife Conservation Commission

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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Water Resources Map

0 0.5 Miles

Legend:

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- 1st Magnitude Spring
- River, Stream or Canal
- Navigable Water Way
- Drainage Basin
- Outstanding Florida Water
- Surface Water Class I
- Surface Water Class II
- Water Body
- Swamp/Marsh

Data Sources:

Geographic Data Technology, Inc. Florida Department of Transportation Florida Geological Survey
 US Geological Survey Florida Department of Environmental Protection US Bureau of Transportation Statistics

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Printed on: 6/30/2011

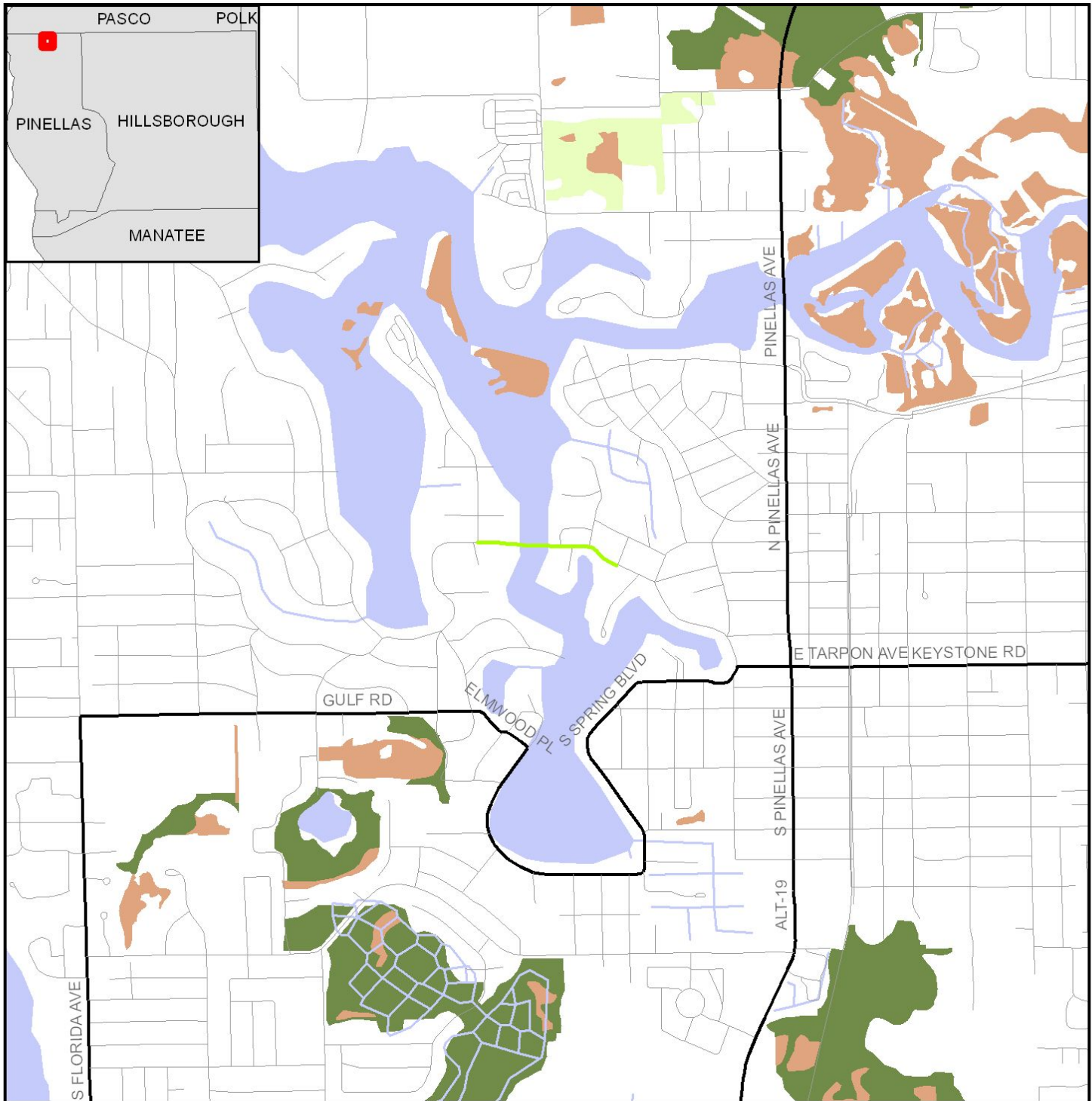
Map Generated on: 11/2/2010

etdm
EPA Regional Decision Making

Environmental Screening Tool

est

13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive), Alternative #1 Chesapeake Drive to Forest Avenue



Wetland Resource Map

0 0.25 Miles



- | | | |
|---------------------------|------------------------|--------------------------------|
| ETDM Alternative Polygon | River, Stream or Canal | Non-vegetated Wetland |
| ETDM Alternative Segment | Water Body | Vegetated Non-forested Wetland |
| ETDM Alternative Terminus | | Wetland Forested Mixed |
| ETDM Alternative Point | | Wetland Coniferous Forest |
| Major Road | | Wetland Hardwood Forest |
| Local Road or Trail | | |

Data Sources: Geographic Data Technology, Inc.; Florida Water Management Districts; US Geological Survey

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Legend			
Color Code	Meaning	ETAT	Public Involvement
0	None	The issue is present, but the project will have no impact on the issue; project has no adverse effect on ETAT resources; permit issuance or consultation involves routine interaction with the agency.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Affected community supports the proposed project. Project has positive effect.
2	Minimal to None	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during development with a moderated amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community interaction will be required during project development.
4	Substantial	The project has substantial adverse effects but ETAT understands the project need and will be able to seek avoidance and minimization or mitigation options during project development. Substantial interaction will be required during project development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement will be required during project development to address community concerns.
5	Dispute Resolution	Project does not conform to agency statutory requirements and will not be permitted. Dispute resolution is required before the project proceeds to programming	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
	No ETAT Consensus	ETAT members from different agencies assigned a different degree of effect to this project, and the ETDM coordinator has not assigned a summary degree of effect.	
	No ETAT Reviews	No ETAT members have reviewed the corresponding issue for this project, and the ETDM coordinator has not assigned a summary degree of effect.	

Supporting Documents

Date	Type	Size	Link	Name / Description
11/02/2010	Photo	819 KB	http://etdmpub.fla-etat.org/est/servlet/blobViewer?blobID=10443	Maps and Pictures of Beckett Bridge: Maps and Pictures of Beckett Bridge
11/02/2010	Hardcopy Map (from Attach Document Tool)	1.01 MB	http://etdmpub.fla-etat.org/est/servlet/blobViewer?blobID=10442	Project Location Map: Project Location Map
11/02/2010	Form SF-424: Application for Federal Assistance	811 KB	http://etdmpub.fla-etat.org/est/servlet/blobViewer?blobID=10441	Form SF-424: Application for Federal Assistance: Form SF-424: Application for Federal Assistance



Advanced Notification Package

**BOARD OF COUNTY
COMMISSIONERS**

Nancy Bostock
Neil Brickfield
Calvin D. Harris
Susan Latvala
John Morroni
Karen Williams Seel
Kenneth T. Welch



October 6, 2010

Ms. Lauren P. Milligan
Florida State Clearinghouse
Department of Environmental Protection
3900 Commonwealth Blvd., Mail Station 47
Tallahassee, Florida 32399-3000

**RE: Advance Notification
Beckett Bascule Bridge Project PD&E Study
ETDM # 13040
Riverside Drive from Chesapeake Drive to Forest Avenue
Financial Project ID Number: 424385-1-28-01
Pinellas County, Florida**

Dear Ms. Milligan:

We are sending this Advance Notification (AN) Package to your office for distribution to State agencies that conduct Federal consistency reviews (consistency reviewers) in accordance with the Coastal Zone Management Act and Presidential **Executive Order 12372**. We are also distributing the AN Package to local and Federal agencies. Although we will request specific comments during the permitting process, we are asking that permitting and permit reviewing agencies (consistency reviewers) review the attached information and provide us with their comments.

This is a Federal-aid action and the Florida Department of Transportation (FDOT) District 7, in consultation with the Federal Highway Administration, will determine what type of environmental documentation will be necessary. The determination will be based upon the selected consultant environmental evaluations and comments from other agencies. Please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program.

In addition, please review the project's consistency, to the maximum extent feasible, with the approved Comprehensive Plan of the local government to comply with **Chapter 163 of the Florida Statutes**.

PLEASE ADDRESS REPLY TO:
440 Court Street
Clearwater, Florida 33756
Phone: (727) 464-3251
Website: www.pinellascounty.org



Ms. Milligan
ETDM #
October 6, 2010
Page 2

FDOT District Seven is submitting this project through the Programming Screen of the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) in coordination with this AN Package. The project is listed as **ETDM # 13040 – Beckett Bascule Bridge Project**. Environmental Technical Advisory Team (ETAT) members should review this project on the ETDM website. Non-ETAT agencies can review this project at the public access website located at: <http://etdmpub.fla-etat.org/>.

We are looking forward to receiving your comments on the project. Consistency reviewers have 45 days from the Programming Screen Notification to provide their comments. Once you have received their comments, you will supply a summary and consistency determination for your agency within 60 days of the Programming Screen Notification. If you need more review time, send a written request for an extension to our office within the initial 60 days comment period.

Your comments should be addressed to:

Robert C. Meador
Division Manger
Department of Public Works
Pinellas County
440 Court Street
Clearwater, Florida 33756

Your expeditious handling of this notice will be appreciated.

Sincerely,



Robert C. Meador
Division Manger

RCM/ddf
Attachments

ADVANCE NOTIFICATION MAILING LIST

cc:
Federal Highway Administration, Division Administrator
Federal Highway Administration – **ETAT Representative**
Federal Emergency Management Agency-Mitigation Division, Chief
Federal Railroad Administration
Federal Transit Administrator – **ETAT Representative**
U.S. Department of the Interior-Bureau of Land Management, Eastern States Office
U.S. Department of Housing and Urban Development, Regional Environmental Officer
U.S. Department of the Interior-U.S. Geological Survey, Chief

Ms. Milligan
ETDM #
October 6, 2010
Page 3

U.S. Environmental Protection Agency - **ETAT Representative**
U.S. Department of Interior-U.S. Fish and Wildlife Service - **ETAT Representative**
U.S. Army Corps of Engineers-Regulatory Branch - **ETAT Representative**
U.S. Department of Commerce-National Marine Fisheries Service- Southeast
U.S. Department of Commerce-National Marine Fisheries Service - Southeast Regional
Superintendent Conservation Division - **ETAT Representative**
U.S. Department of Agriculture – Southern Region
U.S. Department of Interior – National Park Service – Southeast Regional Office – **ETAT Representative**
Federal Aviation Administration, Airports District Office
U.S. Department of Health and Human Services-National Center for Environmental Health
U.S. Department of Interior-Bureau of Indian Affairs-Office of Trust Responsibilities
U.S. Coast Guard – Seventh District – Commander (oan) – **ETAT Representative**
Florida Inland Navigation District
Poarch Band of Creek Indians of Alabama
Muscogee (Creek) Nation of Oklahoma
Seminole Tribe of Florida
Miccosukee Tribe of Indians of Florida
Seminole Nation of Oklahoma
Mississippi Band of Choctaw Indians
Florida Fish and Wildlife Conservation Commission - **ETAT Representative**
U.S. Forest Service – **ETAT Representative**
Florida Department of Environmental Protection - **ETAT Representative**
Florida Department of Environmental Protection – **State Clearinghouse**
Florida Department of State - **ETAT Representative**
Florida Department of Community Affairs - **ETAT Representative**
Florida Department of Agriculture and Consumer Services - **ETAT Representative**
Federal Transit Administrator - **ETAT Representative**
Tampa Bay Regional Planning Council
Southwest Florida Water Management District - **ETAT Representative**
National Marine Fisheries Service St. Petersburg Branch Office
FDOT Environmental Management Office, Engineer/Manager
Pinellas County Commission Chairperson
Pinellas County Administrator
Pinellas County Public Works Director
City of Tarpon Springs Mayor
City of Tarpon Springs Public Works Director
Tarpon Springs Chamber of Commerce
Pinellas County Metropolitan Transportation Planning Organization
Michael Fasano– United States Senator - District 11
Gus Bilirakis – United States Representative – Congressional District 9

Advance Notification Package

Project #13040 - Beckett Bridge over Whitcomb Bayou (Riverside Drive)

Programming Screen - Published on 11/11/2010

Printed on: 11/11/2010

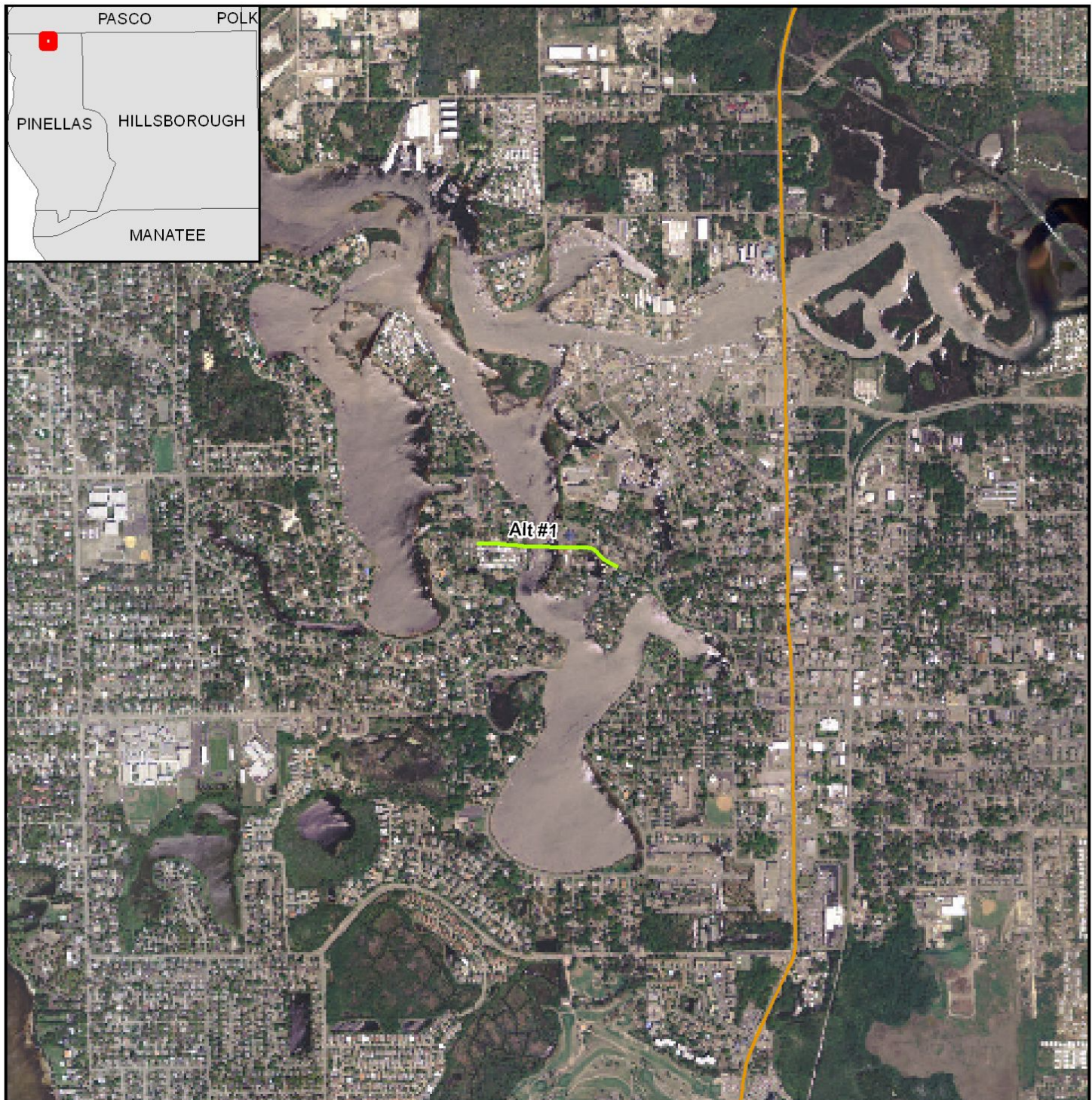
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Location Maps

13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive)

Chesapeake Drive to Forest Avenue



0 0.5 Miles

Project Aerial Map



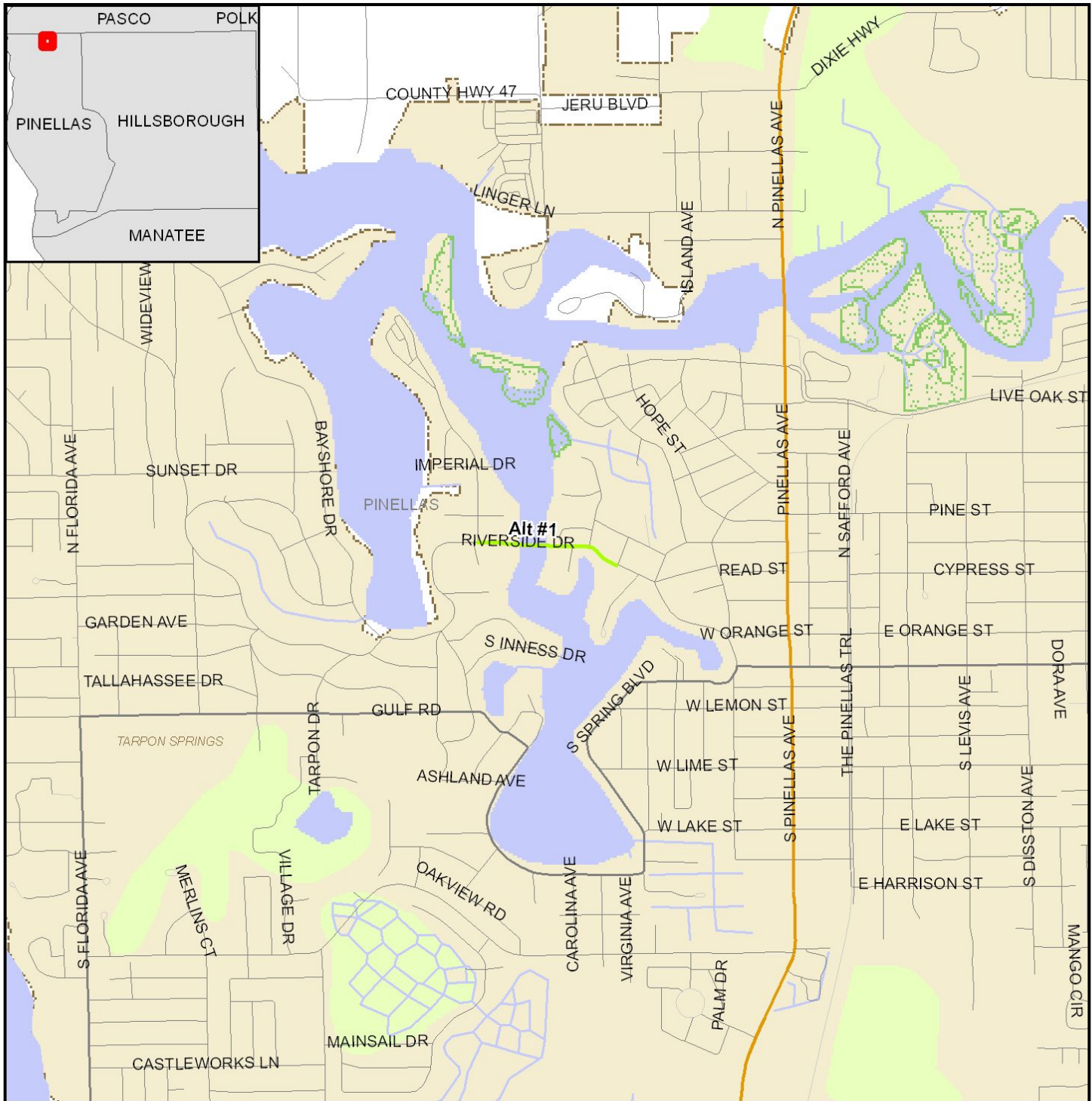
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Primary and Limited Access Highway
- Secondary, Unlimited Access Highway
- Other Highway Feature

Data Sources:
Highways - Geographic Data Technology, Inc.
Digital Orthophotograph - US Geological Survey

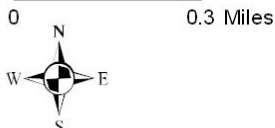
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13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive)

Chesapeake Drive to Forest Avenue



Project Location Map



Data Sources:

Geographic Data Technology, Inc.
US Geological Survey
US Census Bureau
County Property Appraisers
Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
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etdm
Efficient Transportation Decision Making

Environmental Screening Tool **est**

Map Generated on: 11/2/2010



DISCLAIMER: The Fact Sheet data consists of the most up-to-date information available at the time the Advance Notification Package is published. Updates to this information may be found on the ETDM website at <http://etdmpub.fl.a-etat.org>

Special Note: Please be aware of the selected Milestone date when viewing project data on the ETDM website. Snapshots of project and analysis data have been taken for Project #13040 at various points throughout the project's life-cycle. On the website these **Project Milestone Dates** are listed in the the project header immediately after the project contact information. Click on any of the dates listed to view the information available on that date.

Project Description

#13040 Beckett Bridge over Whitcomb Bayou (Riverside Drive)

District	District 7	Phase	Programming Screen
County	Pinellas	From	Chesapeake Drive
Planning Organization	FDOT District 7	To	Forest Avenue
Plan ID		Financial Management No.	42438512801
LAP Agency	Pinellas County (Already PD&E LAP Certified)	Agency Completing NEPA Document	Local Agency (with FDOT oversight)
Federal Involvement	Potential Future Federal Funding Federal Permit Federal Action Federal Funding		
Contact Information	Name: Steve Love Phone: (813) 975-6410 E-mail: steve.love@dot.state.fl.us		

Project Description Data

Description Statement

This project's Project Development and Environment (PD&E) Study will evaluate replacement and rehabilitation alternatives for the Beckett Bridge over Whitcomb and Minetta Bayous. The structure is proposed to remain two lanes, but replacement alternatives will include appropriate road shoulders and sidewalks to meet current design standards. The project will include roadway improvements to Riverside Drive/North Spring Boulevard from Chesapeake Drive to Forest Avenue resulting in a project length of approximately 0.31 mile.

Typical Section: Bridge

The existing bridge consists of two 10-foot wide travel lanes with 2-foot wide sidewalks on either side. The clear width of the bridge between the outer railings is 24 feet.

Due to right of way constraints, an evaluation of the proposed typical section will be made during the PD&E. It is anticipated that the typical section will consist of two 12-foot wide travel lanes with 4-foot wide bike lanes and 5-foot wide sidewalks on either side. Eleven-foot travel lanes and combined bicycle and pedestrian facilities may be considered if necessary.

Typical Section: Roadway

The existing roadway is a mostly rural typical section and varies between 10-foot and 11-foot wide travel lanes. Sidewalk is provided on the north side of the road west of the bridge and on the south side of the road east of the bridge.

The proposed typical section will consist of a 30-foot curb-to-curb roadway providing for two 11-foot travel lanes, 4-foot wide bike lanes and 5-foot wide sidewalks on either side. Right of way constraints may require consideration of a combined bicycle and pedestrian path on one side of the road.

Navigation

The Whitcomb Bayou is a tidal and navigable body of water providing area residents with direct access to the Anclote River and the Gulf of Mexico. The channel is not used for commerce. The sizes of water craft that pass under the bridge are variable, but are all pleasure type craft.

Estimated Project Costs:

PD&E \$750,000
Design \$2,800,000
Construction \$12,000,000
Construction Engineering & Inspection \$1,680,000
Post Design Services \$560,000
TOTAL \$17,790,000

PROJECT BACKGROUND

The Beckett Bridge (Bridge NO. 154000) over Whitcomb and Minetta Bayous is located in the City of Tarpon Springs in Pinellas County, Florida. Riverside Drive/North Spring Boulevard (via the Beckett Bridge) provides the most efficient and direct access route from the area north and west of the bayous to the downtown area of Tarpon Springs. This facility is also used as an evacuation route, providing access to major arterials in Pinellas County, such as Alternate US 19 and US 19.

The structure is maintained and operated by Pinellas County. The drawbridge currently provides the only access for various vessels docking on Whitcomb and Minetta Bayous. This drawbridge is not permanently tended by a bridge tender. Openings are provided by Pinellas County staff on a per call basis.

This 360 foot long drawbridge (Bridge #154000) consists of a single leaf bascule that was originally constructed as a timber structure in 1924 and reconstructed as a concrete structure in 1956 and rehabilitated 1996. This bridge has not been previously recorded or evaluated for listing in the National Register of Historic Places (NRHP). This evaluation will be conducted as part of the PD&E Study.

The bridge consists of nine 32 foot long (average) concrete approach spans, and a center single leaf bascule span, 40 feet long over the channel, which is not part of the Intracoastal Waterway. The bascule span provides approximately 6 feet of vertical navigational clearance over the channel when the leaf is locked in the down position. The bridge has a sufficiency rating of 44.9, and it has been classified by the FDOT as functionally obsolete and structurally deficient. The mechanical and electrical systems are obsolete, and require considerable maintenance by Pinellas County staff. A speed limit of 20 mph was posted to reduce vibrations on the bridge. The concrete approaches have nearly reached their intended 50-year design service life. Current weight restrictions prevent school busses from crossing the bridge. This requires school buses for 3 public schools to take a 2-mile detour in the mornings and afternoons.

A technical evaluation was recently prepared to determine whether repairs could be made to this structure and to what extent or if complete replacement was necessary. The evaluation found that repairs to the movable span could be made now, but replacement of the structure would be necessary within the next ten years. The PD&E phase for this project will evaluate the need to replace or rehabilitate the functionally obsolete and structurally deficient bridge.

Purpose and Need Statement

Introduction

The purpose of this project is to provide for the safe, efficient movement of vehicles within this area of Pinellas County and Tarpon Springs. The project will also provide local and regional connectivity across Whitcomb and Minetta Bayous for the 5,400 residents of the area, as well as emergency evacuation across the bayous. The Beckett Bridge is a mechanical draw bridge that has undergone multiple repairs through the years with another repair to the rolling lift and guide mechanisms planned for 2010/2011. These repairs were identified from a technical evaluation performed by Pinellas County in 2009. That evaluation also recommended that this bridge be replaced within ten years.

Regional Connectivity

The Beckett Bridge is located on Riverside Drive/North Spring Boulevard, a local collector in the City of Tarpon Springs. Riverside Drive/North Spring Boulevard provides access across Whitcomb and Minetta Bayous for approximately 5,400 residents and serves direct access to the emergency evacuation route for these residents.

This facility is not on a regional road network; however it does serve as the primary and only reasonable access route for these residents of Tarpon Springs, elementary, middle and high schools, emergency services, and the county's Fred Howard Park. Permanent closure of this structure would result in a detour for some residents and commuters in excess of 2 miles and could have a detrimental affect on emergency access and affect access to the local marina located on the east end of the bridge.

Emergency Evacuation

Beckett Bridge, located within Evacuation Zone A, is used as a hurricane evacuation route as Riverside Drive/North Spring Boulevard is an extension of Tarpon Avenue, which is a designated evacuation route. The bridge provides access across Whitcomb and Minetta Bayous for approximately 5,400 residents to major arterials including Alternate US 19 and US Highway 19.

Future Population and Employment Growth in Corridor

Referencing the socio-economic data developed for the MPO's 2035 LRTP, the Beckett Bridge project is located in Planning Sector 1 which is projected to grow in population from 26,395 in 2006 to 33,726 by 2035, or roughly 22%. Population within adjacent Planning Sectors 2 and 3 in the upper north county area is expected to increase by 16,038 or approximately 14%. Employment within Planning Sector 1 is expected to increase by approximately 4,841 jobs from 15,490 in 2006 to 20,331 by 2035. Employment within adjacent Planning Sectors 2 and 3 is expected to increase by another 4,265 jobs by 2035.

The Beckett Bridge provides access for the area north and west of the bayous to Tarpon Springs' downtown and planned growth areas.

Future Traffic

On October 28, 2008, a 24-hour traffic study was conducted on the Beckett Bridge. That study found an eastbound volume of 3,920 vehicles and a westbound volume of 3,930 for a total AADT of 7,850. Additionally, a 72-hour traffic count was taken in December 2004. The counts taken at that time showed approximately 8,000 vehicles per day crossing Beckett Bridge.

On nearby Meres Boulevard (Carolina Ave to Alt US 19), the MPO 2035 LRTP Traffic Volume Forecast anticipates a volume of 9,500 vehicles per day. The 2008 volume across this same segment was 6,354 vehicles per day. The Alt US 19/Pinellas Avenue (Tarpon Ave to Orange St) corridor anticipates 19,500 vehicles in 2035 up from the 16,900 vehicles in 2008. The Plan anticipates a slight increase in traffic volumes on Tarpon Avenue (Alt US 19 - Safford Ave) from 17,700 in 2008 to 18,000 vehicles in 2035.

The 2035 LRTP does not evaluate the Level of Service (LOS) for Beckett Bridge. Meres Boulevard 2008 LOS is C. The associated roadways Alt US19 and Tarpon Avenue operated at LOS D and F respectively in 2008. Although this project will not add capacity, bridge replacement is necessary to continue to equalize traffic volumes on roadways providing access to the area north and west of the bayous in Tarpon Springs.

Any proposed bridge replacement is expected to remain two lanes but will include appropriate road shoulders and sidewalks to meet current geometric design standards. The project will also include roadway improvements from Chesapeake Drive to Forest Avenue to improve approaches to the bridge. Replacement of the Beckett Bridge is not expected to improve the level of service along Riverside Drive/N. Spring Boulevard; however, it is expected to maintain an acceptable level of service on roadways in the area by providing alternative travel routes.

Safety/Crash Rates

In 2009, Pinellas County had a crash rate of 162.7 per 100 Million Vehicle Miles of Travel (VMT). This was somewhat higher than the statewide average of 120/100 Million VMT. Pinellas County has historically had higher than statewide averages which is typical of a densely urbanized county with high traffic volumes.

Crash rates for the subject area of Beckett Bridge are virtually unchanged over the past three years, as a minimal amount of accidents occurred on the bridge. Crash totals on Beckett Bridge for the past three years are as follows:

Year Total Crashes

2009 0

2008 2

2007 1

The low number of crashes is most likely due to the low posted speed limit of 20 mph. This low speed limit was posted to reduce vibrations on the bridge. While there have not been a significant number of crashes, there have been a number of reports of tire damage. Tire damage has been caused by the protrusion of the steel curb on the draw span due to the misalignment of the lifting mechanism. This is expected to be addressed by the planned repairs in 2010/2011.

The structure is proposed to remain two lanes, but replacement alternatives will include safety measures such as road shoulder and sidewalk on both sides of the bridge. The project will also include improvements to the bridge approaches for a project length of approximately 0.31 mile.

Transit

Pinellas Suncoast Transit Authority's (PSTA) Route 66 services north and south bound Alt US 19. Additionally, Route 66 via east and westbound Dr. M. L. King Boulevard connects those riders commuting on US 19. Pasco County Public Transit Route 18 services riders north of Live Oak Street and Dodecanese Boulevard in Pinellas County. Headways for PSTA Route 66 and Pasco County Transit Route 18 range from 30 minutes during peak hours to 60 minutes during off-peak hours. This route is in service from 5:10 a.m. to 8:05 p.m. Monday through Saturday, and approximately 8:00 a.m. to 6:00 p.m. Sunday and Holidays.

Replacement of the Beckett Bridge will provide for improved pedestrian access to the bus route along Alt US 19. Additionally, bridge replacement will allow for transport of Pinellas County School students requiring transport. Due to the current weight restriction on the Beckett Bridge, school buses are required to travel Meres Boulevard and Whitcomb Boulevard to access three schools west of Alt US 19. This creates an additional route distance of over 2 miles per bus, per direction, twice per day.

Access to Intermodal Facilities and Freight Activity Centers

Beckett Bridge is a residential corridor with one nearby freight related center. The MPO's 2008 Goods Movement Study identified the Northwest Tarpon Springs Industrial Area as a potential Regional Freight Activity Center. This area is west of Alt US 19 at Anclote Boulevard and Anclote Roads, north of the Beckett Bridge. Alt US 19, also known as SR 595, Anclote Boulevard, Anclote Road, Live Oak Street and Tarpon Avenue (Alt US 19 - US 19) are all unrestricted Truck Routes as shown on the Pinellas County Truck Route Plan. An improved Beckett Bridge would improve access to these roadways which access the freight center through improved travel lane widths and removal of the 20 mph speed restriction.

The Beckett Bridge also provides access to the PSTA/Pasco County Public Transit transfer centers located at Alt US 19/Pinellas Avenue and Dodecanese Boulevard and the Tarpon Mall area at US 19 and Dr. M.L. King Jr. Boulevard.

Relief to Parallel Facilities

The Beckett Bridge corridor provides the primary alternative for east-west travel in west Tarpon Springs as it is a continuation of Tarpon Avenue which is the primary east-west corridor through the city. There are two other routes that serve as east-west travel alternatives - Whitcomb Boulevard and Meres Boulevard.

Whitcomb Boulevard is a two-lane minor collector roadway that primarily carries local residential traffic. It's traffic count is low and is not measured due to its local nature.

Meres Boulevard is a collector roadway that experienced a "C" LOS in 2008. This road currently provides access to the western end of Tarpon Springs primarily for traffic south of the city. Construction of the Meres Boulevard extension from Alt US 19 to US 19 is currently planned as part of the Meres Crossing development on the southwest corner of Alt US 19 and Meres Boulevard. Construction of this extension is expected to better distribute east-west traffic through Tarpon Springs; however improvement of the Beckett Bridge is still seen as necessary to provide alternative travel choices for the residents in the northwest are of the city.

Bikeways and Sidewalks

The existing bridge currently has 2 foot wide sidewalks in each direction but no separate bicycle lanes. Pinellas County has an active Bike Lane Program and current policy states that bike lanes are to be incorporated into all roadway improvement projects along county roadways, if deemed feasible. Bicycles will be accommodated across any proposed bridge replacement alternatives through road shoulders or bike lanes .

Pinellas County also has an active sidewalk and pedestrian program. The County incorporates sidewalks and appropriate pedestrian features in all of its roadway projects. Any proposed bridge replacement alternatives will include sidewalks across the bridge.

Plan Consistency

This project is consistent with the Transportation Element of the Pinellas County Comprehensive Plan, as amended on March 17, 2009. This project is not a capacity improvement and therefore is not specifically listed as such in the Pinellas County MPO 2035 Long Range Transportation Plan

(LRTP), adopted December 2009.

The project, however, does adhere to the goals and policies of the LRTP by meeting Objective 1.10. Objective 1.10 states: "Ensure the safe accommodation of motorized and non-motorized traffic while reducing the incidence of vehicular conflicts within the county's major transportation corridors."

The project's PD&E Study is also included in the Pinellas County Capital Improvement Program, the FDOT Work Program, the Pinellas County MPO Transportation Improvement Program (TIP), and the FDOT FY 2010 State Transportation Improvement Program (STIP).

Project Funding

While Pinellas County has funding programmed in the Capital Improvement Program for bridge improvements, the funding is limited. Therefore, the County is seeking funding participation through other sources such as state and federal programs.

The County's funding source consists of the infrastructure sales tax, also known as the Penny for Pinellas. Other local sources may also consist of Transportation Impact Fee revenues.

Summary of Public Comments not available at this time

Justification:

There are no Public Comments available at this time.

Consistency

- Consistent with Air Quality Conformity.
- Consistency information for Coastal Zone Management Program is not available.
- Consistent with Local Government Comp Plan.
- Consistent with MPO Goals and Objectives.

Potential Lead Agencies

- Federal Highway Administration

Exempted Agencies

Agency Name	Justification	Date
Federal Rail Administration	No involvement.	08/24/2010
Federal Transit Administration	No involvement.	08/24/2010
National Park Service	No involvement.	08/24/2010

Project Attachments

Date	Type	Size	Link / Description
11/02/2010	Photo	819 KB	http://etdmpub.flh-eta.org/est/servlet/blobViewer?blobID=10443 Maps and Pictures of Beckett Bridge: Maps and Pictures of Beckett Bridge
11/02/2010	Hardcopy Map (from Attach Document Tool)	1.01 MB	http://etdmpub.flh-eta.org/est/servlet/blobViewer?blobID=10442 Project Location Map: Project Location Map
11/02/2010	Form SF-424: Application for Federal Assistance	811 KB	http://etdmpub.flh-eta.org/est/servlet/blobViewer?blobID=10441 Form SF-424: Application for Federal Assistance: Form SF-424: Application for Federal Assistance

Alternative #1 - No Build

Alternative Description

From:	Chesapeake Drive	To:	Forest Avenue
Type:	Bridge	Status:	ETDM QA/QC
Total Length:	0.31 mi.	Cost:	\$16,880,000.00
Modes:	Roadway Bicycle Pedestrian	SIS:	No

Segment Description(s)

Location and Length							
Segment No.	Name	Beginning Location	Ending Location	Length (mi.)	Roadway Id	BMP	EMP
Segment #1	Beckett Bridge over Whitcomb	Chesapeake Drive	Forest Avenue	0.31			
Jurisdiction and Class							
Segment No.		Jurisdiction		Urban Service Area		Functional Class	
Segment #1		County		In		URBAN: Collector	
Base Conditions							
Segment No.	Year	AADT		Lanes		Config	
Segment #1	2008	7850		2		Lanes Undivided	

Interim Plan				
Segment No.	Year	AADT	Lanes	Config
Segment #1				
Needs Plan				
Segment No.	Year	AADT	Lanes	Config
Segment #1	2035		2	Lanes Undivided
Cost Feasible Plan				
Segment No.	Year	AADT	Lanes	Config
Segment #1	2035			
Funding Sources				
Segment No.	COUNTY	FEDERAL	Unknown	
Segment #1		\$352,000.00	\$398,000.00	

Eliminated Alternatives

No eliminated alternatives present.

Community-Desired Features

No Data Available

Purpose and Need Reviews

Not Applicable

Environmental Information

The following tables show results of standard data analyses that compare the locations of the project alternatives with locations of various environmental resources, as recorded in the ETDM Geographic Information System database. This report provides results for various resources within 500 feet from the center of the planned corridor. Results for additional types of resources and buffer distances may be viewed on the ETDM Environmental Screening Tool web site, or may be requested from the project contact as indicated on the Advance Notification cover letter. Public access to the ETDM Environmental Screening Tool is provided by the Florida Department of Transportation at the following web address: <http://etdmpub.fl-a-etat.org>

Coastal Zone Consistency Review Is Required?

YES

Potential Navigable Waterway Crossing Features Found?

NO

Alternative #1

Alternative #1 Summary

		0 ft.	500 ft.		1320 ft.	
Analysis Type	Date Run	Count	Count	Acres	Count	Acres
Land Uses						
District 7 Generalized Landuse	--	--	--	--	--	--
Wetlands						
National Wetlands Inventory	11/02/2010	--	1	10.03	--	--
SWFWMD Wetlands 2008	11/02/2010	--	0	0.0	--	--
Floodplains						
DFIRM FLOOD HAZARD ZONES	11/02/2010	--	5	55.09	--	--
FEMA Flood Insurance Rate Maps 1996	11/02/2010	--	4	55.09	--	--
Wildlife and Habitat						
2003 FFWCC Habitat and Landcover GRID	11/02/2010	--	--	55.08	--	--
2008 SWFWMD FL Land Use and Land Cover	11/02/2010	--	7	55.09	--	--
Florida Managed Areas	11/02/2010	--	0	0.0	--	--
Florida Natural Areas Inventory Managed Lands	--	--	--	--	--	--
Strategic Habitat and Conservation Areas 2000	--	--	--	--	--	--
Outstanding Florida Waters						
Other Outstanding Florida Waters	11/02/2010	--	1	10.64	--	--
Aquatic Preserves						

List of Aquatic Preserves	11/02/2010	--	1	10.64	--
Cultural Resources					
Field Survey Project Boundaries	11/02/2010	--	6	160.86	--
Florida Site File Cemeteries	11/02/2010	--	0	0.0	--
Florida Site File Historic Bridges	11/02/2010	--	0	0.0	--
Florida Site File Historic Standing Structures	11/02/2010	--	7	0.0	--
Resource Groups	11/02/2010	--	1	0.07	--
Coastal Barrier Resources					
Coastal Barrier Resource System	11/02/2010	--	0	0.0	--
Contamination					
Brownfield Location Boundaries	11/02/2010	--	0	0.0	--
FDEP Off Site Contamination Notices	11/02/2010	--	0	0.0	--
National Priority List Sites	11/02/2010	--	0	0.0	--
Solid Waste Facilities	11/02/2010	--	0	0.0	--
Superfund Hazardous Waste Sites	11/02/2010	--	0	0.0	--
Toxic Release Inventory Sites	11/02/2010	--	0	0.0	--
Sole Source Aquifer					
Sole Source Aquifers	11/02/2010	--	0	0.0	--
Noise Sensitive Facilities					
Geocoded Health Care Facilities	11/02/2010	--	1	0.0	--
Geocoded Laser Facilities	11/02/2010	--	0	0.0	--
Geocoded Schools	11/02/2010	--	0	0.0	--
Essential Fish Habitat Potential					
Environmentally Sensitive Shorelines	11/02/2010	--	9	0.0	--
Florida Artificial Reefs	11/02/2010	--	0	0.0	--
Florida Reef Locations and Names	11/02/2010	--	0	0.0	--
Florida Sea Grass Bed Scar Damage	11/02/2010	--	0	0.0	--
Mangroves	11/02/2010	--	0	0.0	--
Seagrass Beds (Showing Continuous/Discontinuous)	11/02/2010	--	3	0.56	--
Submerged Lands Act	11/02/2010	--	0	0.0	--
Farmlands					
Generalized Agricultural Land Use	11/02/2010	--	0	0.0	--
Prime Farm Land	11/02/2010	--	0	0.0	--
Communities					
Census Data	11/02/2010	--	21	55.09	--
Census data Block Groups - Indicators	11/02/2010	--	2	55.09	--
County Demographics	11/02/2010	--	1	55.09	--
Recreation Areas					
Existing Recreational Trails 2005	11/02/2010	--	0	0.0	--
Florida State Parks	11/02/2010	--	0	0.0	--
Geocoded Parks	11/02/2010	--	0	0.0	--
Parcel Derived Parks	11/02/2010	--	0	0.0	--
Wild and Scenic Rivers					
Wild and Scenic Rivers	11/02/2010	--	--	0	0.0
Navigable Waterway Crossing?					
Potential Navigable Waterway Crossings	11/02/2010	0	--	--	--

National Wetlands Inventory

<http://www.fl-a-etat.org/est/metadata/nwip.htm>

Wetland areas from the National Wetlands Inventory summarized by wetland system type. - analysis run on 11/02/2010

System	100 Ft.		200 Ft.		500 Ft.	
	Acr	Pct	Acr	Pct	Acr	Pct
ESTUARINE	1.5	19.01%	3.7	20.7%	10.0	18.21%

DFIRM FLOOD HAZARD ZONES

http://www.fl-a-etat.org/est/metadata/dfirm_fldhaz.htm

FLOOD HAZARD ZONES OF THE DIGITAL FLOOD INSURANCE RATE MAP (DFIRM) - analysis run on 11/02/2010

	100 Ft.		200 Ft.		500 Ft.	
Flood Zone	Acr	Pct	Acr	Pct	Acr	Pct
0.2 PCT ANNUAL CHANCE FLOOD HAZARD	0.0	0.19%	0.6	3.33%	2.1	3.81%
AE	8.1	99.81%	17.0	95.83%	51.9	94.15%
X			0.1	0.84%	1.1	2.04%

FEMA Flood Insurance Rate Maps 1996

<http://www.fla-etat.org/est/metadata/fema96.htm>

FEMA Flood Insurance Rate Maps 1996 summarized by zone. See metadata for descriptions of zones. - analysis run on 11/02/2010

	100 Ft.		200 Ft.		500 Ft.	
Zone	Acr	Pct	Acr	Pct	Acr	Pct
AE	8.1	99.81%	17.0	95.83%	51.9	94.15%
X			0.1	0.84%	1.1	2.04%
X500	0.0	0.19%	0.6	3.33%	2.1	3.81%

2003 FFWCC Habitat and Landcover GRID

http://www.fla-etat.org/est/metadata/gfchab_03.htm

2003 Habitat and Landcover Grid from the Florida Fish and Wildlife Conservation Commission summarized by type. Data is currently not displayed in maps. - analysis run on 11/02/2010

	100 Ft.		200 Ft.		500 Ft.	
Description	Acr	Pct	Acr	Pct	Acr	Pct
DRY PRAIRIES	0.2	2.63%	0.2	1.25%	1.1	2.02%
EXOTIC PLANTS			0.2	1.25%	0.5	0.81%
FRESHWATER MARSH AND WET PRAIRIE			0.2	1.25%	0.5	0.81%
HARDWOOD HAMMOCKS AND FORESTS	0.2	2.63%	0.2	1.25%	2.2	4.05%
HIGH IMPACT URBAN	5.8	71.05%	10.6	60.00%	29.4	53.44%
LOW IMPACT URBAN	0.4	5.26%	2.2	12.50%	6.7	12.15%
MANGROVE SWAMP			0.2	1.25%	0.9	1.62%
MIXED HARDWOOD-PINE FORESTS					0.7	1.21%
OPEN WATER	0.9	10.53%	2.9	16.25%	10.3	18.62%
PINELANDS	0.2	2.63%	0.4	2.50%	2.0	3.64%
SALT MARSH					0.5	0.81%
SAND - BEACH	0.2	2.63%	0.2	1.25%	0.2	0.40%
SHRUB AND BRUSHLAND	0.2	2.63%	0.2	1.25%	0.2	0.40%

2008 SWFWMD FL Land Use and Land Cover

http://www.fla-etat.org/est/metadata/lu_swfwmd_2008.htm

2008 SWFWMD FL Land Use and Land Cover - analysis run on 11/02/2010

	100 Ft.		200 Ft.		500 Ft.	
Land Use Classification	Acr	Pct	Acr	Pct	Acr	Pct
BAYS AND ESTUARIES	2.1	25.41%	4.3	24.18%	10.5	19.06%
COMMERCIAL AND SERVICES	0.6	7.6%	1.5	8.35%	3.0	5.43%
INDUSTRIAL					0.6	1.15%
RESIDENTIAL HIGH DENSITY	1.2	14.77%	2.5	14.25%	3.8	6.9%
RESIDENTIAL MED DENSITY (2-5 DWELLING UNITS)	4.3	52.21%	9.4	53.22%	37.2	67.47%

Other Outstanding Florida Waters

http://www.fla-etat.org/est/metadata/ofw_other.htm

Other Outstanding Florida Waters - analysis run on 11/02/2010

Name	100 Ft.	200 Ft.	500 Ft.
PINELLAS COUNTY AQUATIC PRESERVE	✓	✓	✓

List of Aquatic Preserves

<http://www.fla-etat.org/est/metadata/aquap.htm>

Aquatic preserves listed by Name. - analysis run on 11/02/2010

Name	100 Ft.	200 Ft.	500 Ft.
PINELLAS COUNTY AQUATIC PRESERVE	✓	✓	✓

Field Survey Project Boundaries		http://www.fla-etat.org/est/metadata/shpo_surveys.htm	
Field Survey Project Boundaries - analysis run on 11/02/2010			
Title	100 Ft.	200 Ft.	500 Ft.
AN ARCHAEOLOGICAL AND HISTORICAL SURVEY OF THE UNINCORPORATED AREAS OF PINELLAS COUNTY, FLORIDA	✓	✓	✓
HISTORIC PROPERTIES SURVEY, TARPON SPRINGS	✓	✓	✓
SPONGE DOCK CULTURAL DISTRICT SURVEY	✓	✓	✓
ASSESSMENT OF POTENTIAL EFFECTS UPON HISTORIC PROPERTIES: PROPOSED 150-FOOT TARPON SPRINGS WIRELESS TELECOMMUNICATIONS TOWER (RIDAN INDUSTRIES FL-1002), PINELLAS COUNTY, FLORIDA	✓	✓	✓
COUNTYWIDE CULTURAL RESOURCES SURVEY, PINELLAS COUNTY, FLORIDA	✓	✓	✓
HISTORIC RESOURCES SURVEY OF TARPON SPRINGS			✓

Florida Site File Historic Standing Structures		http://www.fla-etat.org/est/metadata/shpo_structures.htm		
Historic Standing Structures recorded in the Florida State Historic Preservation Office Master Site File - analysis run on 11/02/2010				
Site ID	Structure Name	100 Ft.	200 Ft.	500 Ft.
PI01391	BURTS HOUSE			✓
PI01463	FERNALD, LEON HOUSE			✓
PI01464	321 HIGH ST		✓	✓
PI01465	331 HIGH ST		✓	✓
PI01540	210 PAMPAS AVE		✓	✓
PI01626	208 N SPRING BLVD			✓
PI11735	108 W CANAL STREET			✓

Resource Groups		http://www.fla-etat.org/est/metadata/shpo_res_groups.htm	
Resource Groups - analysis run on 11/02/2010			
Site Name	100 Ft.	200 Ft.	500 Ft.
TARPON SPRINGS HISTORIC DISTRICT			✓

Geocoded Health Care Facilities		http://www.fla-etat.org/est/metadata/gc_health.htm		
Geocoded Health Care Facilities - analysis run on 11/02/2010				
Type	Name	100 Ft.	200 Ft.	500 Ft.
NURSING HOME	TARPON BAYOU CENTER			✓

Environmentally Sensitive Shorelines		http://www.fla-etat.org/est/metadata/sensshr.htm	
Environmentally Sensitive Shorelines from FWRI, summarized by type. - analysis run on 11/02/2010			
Type	100 Ft.	200 Ft.	500 Ft.
10D: SCRUB-SHRUB WETLANDS			81.3454
5: MIXED SAND AND GRAVEL BEACHES, BARS, AND GENTLY SLOPING BANKS	192.2109	246.4658	252.2147
8B: SHELTERED SOLID MAN-MADE STRUCTURES	606.2779	1219.4932	2883.2501
8C: SHELTERED RIPRAP			620.3003

Seagrass Beds (Showing Continuous/Discontinuous)		http://www.fla-etat.org/est/metadata/seagrass.htm		
Seagrass beds broken down by whether the bed is continuous or discontinuous - analysis run on 11/02/2010				
Description	200 Ft.		500 Ft.	
	Acr	Pct	Acr	Pct
DISCONTINUOUS	0.0	0.09%	0.6	1.02%

US Census Bureau data by block. Detailed information is for each of the entire blocks that intersect an analysis area. - analysis run on 11/02/2010

	Males	Females	Native Hawaiian and Other Pacific Islander Alone	2000 Population	# Households	# White	# Black	# Native American	# Asian	# Hispanic	# Other Race
Totals	233	263	0	496	187	480	5	0	5	15	1

Census data Block Groups - Indicators - analysis run on 11/02/2010

	Speak English "Not At All"	Housing Units With No Vehicle Available	Housing Units With 1 Vehicle Available	Housing Units With 2 Vehicles Available	Housing Units With 3 Vehicles Available	Housing Units With 4 vehicles Available	Housing Units With 5 or More Vehicles Available
Totals	22	60	313	153	43	6	0

2000 Census General Demographic Profile by County - analysis run on 11/02/2010

Description	# Male	# Female	Median Age	# White	# Black or African American	# American Indian, Eskimo, or ...	# Asian	# Native Hawaiian and Other P...	# Some Other Race	# Hispanic or Latino (of any r...	Total Number of Households	Average Household Size	100 Ft.	200 Ft.	500 Ft.
921482	438959	482523	43	791111	82556	2719	18984	484	10482	42760	414968	2.17			✔

Permits Required

Permit Name	Type	Review Date
Environmental Resource Permit	State	11/11/10
U.S. Coast Guard Bridge Permit	Federal	11/11/10

Technical Studies Required

Technical Study Name	Type	Review Date
Cultural Resource Assessment	ENVIRONMENTAL	08/24/10
Noise Study Report	ENVIRONMENTAL	08/24/10
Geotechnical Report	ENGINEERING	08/24/10
Contamination Screening Evaluation Report	ENVIRONMENTAL	08/24/10
Traffic Analysis	ENGINEERING	08/24/10
Type 2 CE	ENVIRONMENTAL	08/24/10

General Project Commitments

No Data Available

Screening Summary Overview

Not Applicable

Agency Comments and Summary Degrees of Effect

Not Applicable

Resource Maps

A hardcopy map series for this project is available on the Public ETDM Website. Please click on the link below (or copy this link into your Web Browser) in order to view a listing of the hardcopy maps available for this project:

<http://etdmpub.fl-a-etat.org/est/index.jsp?tpID=13040&startPageName=Hardcopy%20Maps>

Special Note: Please be sure that when the Hardcopy Maps page loads, the **Project Milestone Date** corresponding to this Advance Notification is selected. Hardcopy map snapshots have been taken for Project #13040 at various points throughout the project's life-cycle, so it is important that you view the correct snapshot.

Class of Action

No Data Available

Dispute Resolution Activity Log

No Data Available

Ancillary Documentation

No Data Available

Transmittal List

Official Transmittal List

	Organization	Name
1.	Bureau of Indian Affairs	* Office of Trust Responsibilities - Environmental Services Staff
2.	FDOT District 7	Gonzalez, Roberto
3.	Federal Aviation Administration	* Airports District Office
4.	Federal Highway Administration	Anderson, Linda
5.	Federal Highway Administration	Kendall, Cathy
6.	Federal Highway Administration	Williams, Marvin L.
7.	Federal Transit Administration	Youngkin, Dale
8.	FIHS Central Office	Powell, Dusty
9.	FL Department of Agriculture and Consumer Services	Hardin, Dennis
10.	FL Department of Agriculture and Consumer Services	Morris, Vince
11.	FL Department of Community Affairs	Donaldson, Gary
12.	FL Department of Community Affairs	Penrose, Jo
13.	FL Department of Environmental Protection	Milligan, Lauren P.
14.	FL Department of Environmental Protection	Schatzman, Jillian
15.	FL Department of Environmental Protection	Stahl, Chris
16.	FL Department of State	Jones, Ginny L.
17.	FL Department of State	Kammerer, Laura
18.	FL Department of State	McManus, Alyssa

19.	FL Department of State	Yates, Brian
20.	FL Department of Transportation	Bixby, Marjorie
21.	FL Fish and Wildlife Conservation Commission	Gilbert, Terry
22.	FL Fish and Wildlife Conservation Commission	Poole, MaryAnn
23.	FL Fish and Wildlife Conservation Commission	Sanders, Scott
24.	Florida Inland Navigation District	* Mr. David Roach
25.	Miccosukee Tribe of Indians of Florida	Terry, Steve
26.	Miccosukee Tribe of Indians of Florida	* The Honorable Mr. Colley Billie, Chairman
27.	Mississippi Band of Choctaw Indians	* The Honorable Miko Mr. Beasley Denson
28.	Muscogee (Creek) Nation	* The Honorable Mr. A.D. Ellis, Principal Chief
29.	National Marine Fisheries Service	Rydene, David A.
30.	National Marine Fisheries Service	Sramek, Mark
31.	National Park Service	Barnett, Anita
32.	Natural Resources Conservation Service	Robbins, Rick A.
33.	Pinellas County MPO	Bartolotta, Al
34.	Pinellas County MPO	Brinson, Ryan
35.	Poarch Band of Creek Indians	* The Honorable Mr. Buford Rolin, Chairman
36.	Seminole Nation of Oklahoma	* The Honorable Mr. Leonard M. Harjo, Principal Chief
37.	Seminole Tribe of Florida	Steele, Willard S.
38.	Seminole Tribe of Florida	* The Honorable Mr. Mitchell Cypress, Chairman
39.	Seminole Tribe of Florida	York, Elliott
40.	Southwest Florida Water Management District	Miller, C. L.
41.	Southwest Florida Water Management District	O'Neil, Paul W.
42.	Tampa Bay Regional Planning Council	Cooper, Suzanne T.
43.	Tampa Bay Regional Planning Council	Meyer, John M.
44.	US Army Corps of Engineers	Barron, Robert B.
45.	US Army Corps of Engineers	Fellows, John
46.	US Coast Guard	Overton, Randy
47.	US Department of Health and Human Services	* National Center for Environmental Health Centers for Disease Control and Prevention
48.	US Department of Housing and Urban Development	* Regional Environmental Officer
49.	US Department of Interior	* Bureau of Land Management, Eastern States Office
50.	US Department of Interior	Director, USGS-FISC
51.	US Environmental Protection Agency	Dominy, Madolyn
52.	US Fish and Wildlife Service	Mecklenborg, Todd S.
53.	US Fish and Wildlife Service	Monaghan, Jane

* Hardcopy recipient

Application for Federal Assistance SF-424		Version 02
*1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		*2. Type of Application * If Revision, select appropriate letter(s) <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation *Other (Specify) _____ <input type="checkbox"/> Revision
3. Date Received:		4. Applicant Identifier: 424385-1-28-01
5a. Federal Entity Identifier:		*5b. Federal Award Identifier:
State Use Only:		
6. Date Received by State:		7. State Application Identifier:
8. APPLICANT INFORMATION:		
*a. Legal Name: Pinellas County		
*b. Employer/Taxpayer Identification Number (EIN/TIN): 59-6000-800		*c. Organizational DUNS: 055200216
d. Address:		
*Street 1: 440 Court Street Street 2: *City: Clearwater County: Pinellas *State: Florida Province: *Country: USA *Zip / Postal Code 33756		
e. Organizational Unit:		
Department Name: Pinellas County Department of Public Works		Division Name: Transportation Planning
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: Mr. *First Name: Robert Middle Name: C. *Last Name: Meador Suffix: Title: Division Manager Organizational Affiliation:		
*Telephone Number: 727-464-3760		Fax Number: 727-464-4363
*Email: rmeador@pinellascounty.org		

Application for Federal Assistance SF-424

Version 02

***9. Type of Applicant 1: Select Applicant Type:**

B. County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

*Other (Specify)

***10 Name of Federal Agency:**

U.S. Department of Transportation - Federal Highway Administration

11. Catalog of Federal Domestic Assistance Number:

20.205

CFDA Title:

Highway Planning and Construction

***12 Funding Opportunity Number:**

*Title:

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

City of Tarpon Springs and Pinellas County

***15. Descriptive Title of Applicant's Project:**

The Beckett Bridge is located on Riverside Drive/N. Spring Boulevard in the City of Tarpon Springs, Florida. Riverside Drive/N. Spring Boulevard provides access across Whitcomb Bayou. The Bridge serves as a primary access route for the coastal communities and emergency services to the mainland. This project is proposed to replace the Beckett Bridge over Whitcomb Bayou. The structure is proposed to remain two lanes, but will include appropriate road shoulders and sidewalks. The project will include roadway improvements from Chesapeake Drive to Forest Avenue resulting in an approximately 0.31 mile project.

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

*a. Applicant: FL-009, FL010, FL-011

*b. Program/Project: FL-009

17. Proposed Project:

*a. Start Date: January 1, 2011

*b. End Date: January 30, 2013

18. Estimated Funding (\$):

*a. Federal	<u>\$398,000</u>
*b. Applicant	<u>\$352,000</u>
*c. State	<u> </u>
*d. Local	<u> </u>
*e. Other	<u> </u>
*f. Program Income	<u> </u>
*g. TOTAL	<u>\$750,000</u>

***19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☒ a. This application was made available to the State under the Executive Order 12372 Process for review on _____
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☐ c. Program is not covered by E. O. 12372

***20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

☐ Yes ☒ No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U. S. Code, Title 218, Section 1001)

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions

Authorized Representative:

Prefix: Ms. *First Name: Karen

Middle Name: Williams

*Last Name: Seel

Suffix:

*Title: Pinellas County Commission – Chair

*Telephone Number: 727-464-3278

Fax Number: 727-464-3022

* Email: kseel@pinellascounty.org

*Signature of Authorized Representative: Karen Williams Seel

*Date Signed: 10/4/10

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)

Prescribed by OMB Circular A-102

Application for Federal Assistance SF-424

Version 02

***Applicant Federal Debt Delinquency Explanation**

The following should contain an explanation if the Applicant organization is delinquent of any Federal Debt.



APPENDIX B

Planning Consistency Documents

*(Pinellas County TIP and CIP, FDOT Work Program, and
FDOT District 7 STIP)*

07/30/2010 14.48.50
 07/01/2010 19.26.15
 GEOGRAPHIC DISTRICT 07
 ADOPTED PLAN

FLORIDA DEPARTMENT OF TRANSPORTATION
 STATE TRANSPORTATION IMPROVEMENT PROGRAM
 FISCAL YEAR 2011

PAGE 2332
 WPAPJ93 (A)

 HIGHWAYS

ITEM NO	DESCRIPTION	OLD ITEM							
COUNTY	TYPE OF WORK								
RDWY ID PROJ LGTH	EXIST/IMPROVE/ADD (LANES)								
FEDERAL AID NUMBER	FISCALYR FUND								
4206291	BRYAN DAIRY RD								
	FROM STARKEY RD TO 72ND ST NORTH								
PINELLAS	ADD LANES & RECONSTRUCT								
15000089	1.463 MI	6	6	2					
SFTL-285-R	2011	HPP							
		CIGP							
		LFP							
		TRIP							
	** ITEM TOTALS **								
4228001	US 19 (SR 55)								
	FROM 38TH AVE N TO PINELLAS/PASCO CTY LN								
PINELLAS	ROAD/SLOPE PROTECTION								
15150000	26.263 MI	0	0	0					
	2011	DIH							
4230833	SR 688/WALSINGHAM RD								
	/ULMERTON RD FROM SR 699 TO 119TH ST N								
PINELLAS	SIGNING/PAVEMENT MARKINGS								
.000		0	0	0					
	2011	DIH							
4242621	I-275 SKYWAY ROOF								
	REPLACEMENT AT NORTH AND SOUTH REST AREAS								
PINELLAS	REST AREA								
15170000	.837 MI	4	0	0					
	2011	DIH							
4243851	BECKETT BASCULE								
	BRIDGE ALTERNATIVE ANALYSIS								
PINELLAS	FEASIBILITY STUDY								
15000000	.001 MI	0	0	0					
	2011	S129							
		TCSP							
		LF							
	** ITEM TOTALS **								
4245323	CITY OF ST PETE								
	PINELLAS TRL TRAFFIC CTL AT 58TH ST S & 49TH ST S								
PINELLAS	TRAFFIC CONTROL DEVICES/SYSTEM								
.000		0	0	0					
9045-130-C	2011	SE							

Capital Improvement Program

Ten-Year Work Plan: FY2013–FY2022

www.pinellascounty.org/budget

Pinellas County Beach Restoration



Before



After

Parameters: Function: Transportation Budget Type Code: Planning Funds: Governmental

Project Description: Beckett Bridge reconstruction / replacement. Note: This budget forecast is assuming/anticipating 50% Grant Funding starting in FY16.

CIE Elements	Not Applicable
CIP Phase	Design
County Road Corridor	Not Applicable
Location	Tarpon Springs
Originating Department	DEI Public Works
Penny Program	Transportation and Traffic Flow
TIF District	Various

Pinellas County Capital Improvement Program, FY2011 - FY2016 Project Summary Report

Category : Bridges, Repairs & Improve.

Project No: 2161		Title: Beckett Bridge Project Development & Environm					
Cost Center: 8411300		Department: Public Works		Primary Fund: 0401		CIE: No	
Sub-cost Center: 8411314		Organization: CO ADMIN		Secondary Fund:		CIE Element: Not Applicable	
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	TOTAL
COSTS:							
Professional Svcs	398,000	352,000	0	0	0	0	750,000
TOTAL COSTS:	398,000	352,000	0	0	0	0	750,000
RESOURCES:							
Penny for Pinellas	0	352,000	0	0	0	0	352,000
Grant-Federal	398,000	0	0	0	0	0	398,000
TOTAL RESOURCES:	398,000	352,000	0	0	0	0	750,000
Description: Prepare a Project Development & Environment Study to determine the type of improvements or replacement necessary for the Beckett Bridge.							

Project No: 2085		Title: Beckett Bridge Repairs					
Cost Center: 8411300		Department: Public Works		Primary Fund: 0401		CIE: No	
Sub-cost Center: 8411301		Organization: CO ADMIN		Secondary Fund:		CIE Element: Not Applicable	
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	TOTAL
COSTS:							
Professional Svcs	30,000	0	0	0	0	0	30,000
Construction	400,000	0	0	0	0	0	400,000
Testing	10,000	0	0	0	0	0	10,000
TOTAL COSTS:	440,000	0	0	0	0	0	440,000
RESOURCES:							
Penny for Pinellas	440,000	0	0	0	0	0	440,000
TOTAL RESOURCES:	440,000	0	0	0	0	0	440,000
Description: Structural and mechanical repairs to Beckett Bridge.							



Five Year Work Program

2012-2017 G1

(Updated: 2/15/2012-21:15:01)

District 07 - Pinellas County

Category: Highways

Phase: PD & E

Item Number: 424385-1

[Display current records in a Report Style](#)

Project Summary

Transportation System: NON-INTRASTATE OFF STATE HIGHWDistrict 07 - Pinellas County

Description: Beckett Bascule Bridge Alternative Analysis

Type of Work: FEASIBILITY STUDY

[View Scheduled Activities](#)

Item Number: 424385-1

Length: 0.001

Project Detail

Fiscal Year:	2012	2013	2014	2015	2016	2017
Highways/PD & E						
Amount:	\$1,000					

MAJOR ROAD NETWORK

2035 Lanes Policy Plan

Legend Lanes & Median Type

- 2 Lane Undivided
- 4 Lane Undivided
- 2 Lane Enhanced
- 4 Lane Enhanced
- 2 Lane Divided
- 4 Lane Divided
- 6 Lane Divided
- 8 Lane Divided
- 4 Partially Controlled
- 6 Partially Controlled
- 6 Lane Auxiliary
- 1 Lane One Way
- 2 Lane One Way
- 3 Lane One Way
- 4 Lane One Way
- 4 Lane Freeway
- 6 Lane Freeway
- 8 Lane Freeway
- 12 Lane Freeway

(Enhanced = Improve to Urban Standards)

Gulf of Mexico

Old Tampa Bay

Downtown Clearwater

Downtown St Petersburg



2035 Long Range Transportation Plan



Pinellas County MPO

Plot Date: December 9, 2009

C:\Transportation MPO Mapping

\Project Files\L RTP Policy Plan.mxd

10/04/11
10.54.45
PINELLAS MPO

FLORIDA DEPARTMENT OF TRANSPORTATION
FEDERAL OBLIGATIONS - PROJECT DETAIL
FFY 2011 (10/01/2010 - 09/30/2011)

PAGE 4
FPMOBL10 (A)

HIGHWAYS

ITEM NO	DESCRIPTION	OLD ITEM							
COUNTY	PROJ LGTH	TYPE OF WORK							
RDWY ID	FEDERAL AID NUMBER	EXIST/IMPROVE/ADD (LANES)	PRELIMINARY	RIGHT-OF-WAY	RAILROADS &	CONSTRUCTION	GRANTS &		
			ENGINEERING		UTILITIES		MISC.		
4227211	CLAM BAYOU PHASE II								
	SHARED USE TRAIL								
PINELLAS		BIKE PATH/TRAIL							
	.000	0 0 0							
ST10 383 R		ST10	0	0	0	499,915	0		
S117 116 R		S117	0	0	0	27,323	0		
9045 129 C		SE	0	0	0	942,020	0		
		S112	0	0	0	7,934	0		
	** ITEM TOTALS **		0	0	0	1,477,192	0		
4230833	SR 688/WALSINGHAM RD								
	/ULMERTON RD FROM SR 699 TO 119TH ST N								
PINELLAS		SIGNING/PAVEMENT MARKINGS							
	.000	0 0 0							
1851 137 P		HSP	0	0	0	1,028	0		
4243851	BECKETT BASCULE								
	BRIDGE ALTERNATIVE ANALYSIS								
PINELLAS		FEASIBILITY STUDY							
15000000	.001 MI	0 0 0							
S129 343 R		ACEM	17,035	0	0	0	0		
		S129	98,000	0	0	0	0		
		TCSP	282,965	0	0	0	0		
	** ITEM TOTALS **		398,000	0	0	0	0		
4243981	TANGERINE AVE								
	FROM E OF 53RD ST S TO W OF 51ST ST S								
PINELLAS		SIDEWALK							
	.000	0 0 0							
9045 133 C		EB	0	0	0	34,830	0		
		SE	0	0	0	60,550	0		
	** ITEM TOTALS **		0	0	0	95,380	0		
4245326	CITY OF ST PETE								
	PED CROSSG ENHANCEMENT 64	CROSSWALKS							
PINELLAS		TRAFFIC CONTROL DEVICES/SYSTEM							
	.000	0 0 0							
9045 134 C		SE	32,000	0	0	0	0		



APPENDIX C

Geotechnical Studies

*(Williams Earth Science Report for Crutch Bent
Foundations, 1994; Williams Earth Science Phase 1
Geotechnical Report, 2009)*



***Williams Earth Science Report for Crutch Bent
Foundations, 1994***

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2.1 Field Exploration	1
2.2 Laboratory Testing	2
3.0 SUBSURFACE CONDITIONS	3
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3.1.1 Abutment Borings	3
3.1.2 Bridge Borings	3
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4.0 EVALUATION AND RECOMMENDATIONS	4
4.1 General	4
4.2 Analysis of Steel HP Piles	4
5.0 LIMITATIONS	5

Appendix A

Site Location Map
 Boring Location Map
 Report of Core Borings
 Soil Test Borings

Appendix B

Gradation Curves

Appendix C

Pile Capacity Curves
 "SPT94" Computer Output

1.0 PROJECT INFORMATION

1.1 Introduction

As requested by Mr. Timothy Farrell, P.E. of DSA Group, Inc., in his request for services dated October 3, 1994, Williams Earth Sciences, Inc. has analyzed crutch bent foundations for Beckett Bridge Repairs. The project is located in Township 27 South, Range 15 East, Sections 11 and 12, on the Anclote River in Pinellas County, Florida. Figure 1, shown in Appendix A, illustrates the location of the project.

The Beckett Bridge is a two-lane bascule bridge 20 feet across and 358 feet long with two 2 foot wide sidewalks on each side. The approach span foundations structures are constructed of 14 inch square prestressed concrete piles. Plans provided to us by DSA Group show that the existing bridge consists of four spans on the east approach and five spans on the west approach. The bascule is approximately 40 feet long and rests on a concrete pier.

1.2 Information Provided

Williams Earth Sciences, Inc. has reviewed the Subsurface Exploration Report provided to DSA Group by Professional Services Industries, Inc., (PSI) dated January 7, 1994. Also reviewed was the Preliminary Investigation Report by David Volkert and Associates, Inc., dated February 2, 1994. A Bridge Inspection Report prepared by Kisinger, Campo and Associates Corp. was also made available. These items were sent to us in a Letter of Transmittal dated November 4, 1994, from DSA Group, Inc. along with a plan and elevation sheet of the bridge. The Letter of Transmittal requested Williams Earth Sciences, Inc. to perform capacity analyses on HP 14 x 73 and HP 14 x 89 steel piles. The letter also requested Williams Earth Sciences, Inc. to provide estimated settlements of the existing 14-inch square prestressed concrete piles. The settlement analysis however will be submitted in a separate report.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Our field exploration consisted of performing three Standard Penetration Test (SPT) borings. Two borings were performed near the abutments on the east and west approaches to the existing bridge and one boring was performed on the westbound lane of the bridge deck adjacent to the west side of the bascule. The test boring locations are shown on Figure 2 in Appendix A. In addition, a Report of Core Borings has been included. The test location of the SPT borings performed by PSI are also shown on Figure 2 and the Report of Core Borings.

A lane closure and Maintenance of Traffic (MOT) was necessary for the borings performed on the bridge. The bridge deck was cored with a 6-inch barrel for drilling purposes and the hole was patched using Quickrete after completion of the test boring.

While on site, the drill crew retrieved both a soil and water sample for corrosion testing at the laboratory. The water sample was taken from the middle of the Anclote River and the soil sample was taken 1 foot below the ground surface adjacent to Boring B-3.

2.2 Laboratory Testing

Grain size determination and natural moisture content tests were performed on selected samples to assist in soil classification and to provide a general indication of the engineering properties of the soils. The grain size test was performed in general accordance with ASTM D-442.

Corrosion testing was performed on one soil and one water sample to determine the environmental classification. The environmental classifications have been summarized in Table 1 and the results are reported in Appendix B.

Table 1: Summary of Environmental Classification for Soil and Water Samples

Sample ID	Sample Date	EAST Sample Location	Sample Type	Sample Depth	pH	Chlorides ppm	Sulfates ppm	Resistivity ohm-cm
S-1	10/20/94	West approach, north side	Soil	1.0	8.8	300	<2	1440
W-1	10/20/94	Middle of channel	Water	1.0	7.9	14,000	7,920	41

3.0 SUBSURFACE CONDITIONS

3.1 Subsurface Conditions

3.1.1 Abutment Borings

The major subsurface conditions encountered in our exploration are outlined below. A more detailed description of the subsurface soils is provided in the form of individual boring logs in Appendix B. Subsurface conditions may vary across the site and between boring locations.

Borings B-1 and B-3 were performed on land on the east and west sides of the bridge respectively. The soils types and strata depths encountered on these borings were fairly similar. Generally, very loose to medium dense fine sands were found from ground surface to approximately 13 feet below ground surface. The sands were slightly shelly and silty from 8 to 13 feet below the ground surface in Boring B-1. From 13 to approximately 19 feet, the soils encountered were very loose to loose, clayey to very clayey fine sands. Boring B-3 encountered firm green clay with limestone fragments from 18 to 21 feet below ground surface.

In Borings B-1 and B-3, limestone with blow counts ranging from 50=5 inches to 50=1 inch was encountered to termination depths of 75.3 feet and 81.5 feet respectively. However, at Boring B-1 a hard sandy clay with limestone pebbles was encountered from 47 to 58 feet below ground surface. At Boring B-3, the strata from 47 to 53 feet contained interpocketed silty limestone and green sandy clay. There was also a possible void at 69 to 71 feet at this boring location as evidenced by a 2 foot drop in the drill rod.

3.1.2 Bridge Borings

Boring B-2 was performed through the bridge over the Anclote River. The water depth was measured to be approximately 5 feet deep to the top of the mudline. The mudline was measured to be approximately 18 feet below the top of the bridge deck where drilling commenced. From 18 (mudline) to 25 feet below the top of the bridge deck, very loose fine sand was encountered. From 25 to 95 feet limestone was found with blow counts ranging from 50=5 inches to 50=1 inch. The strata from 68 to 75 feet, however, had blows on the order of 55 blows per foot. At 95 feet below the top of the bridge deck a very loose shelly fine sand was encountered. Below this stratum the blows increased to 50=1 inch. However, there was no recovery of the samples. The boring was terminated at 108 feet.

3.2 Groundwater and Surface Water

The groundwater depths at the time of drilling for Borings B-1 and B-3 were measured to be 5.5 and 3.5 feet below ground surface. The groundwater depth for Boring B-2 was found to be 5 feet to the mudline.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General

The evaluations that follow were performed under the assumption that steel piles HP 14 x 73 or HP 14 x 89 are to be used as crutch bents. Therefore, driven square prestressed piles, drilled shafts, steel pipe piles and shallow foundations have not been evaluated in this report.

As previously stated, the settlement predictions on the existing 14-inch square prestressed concrete piles will be provided in a separate report. Our analysis for future settlement assumes that construction of a new bridge will not influence the piles on the existing bridge. That is, the existing bridge will be demolished prior to constructing the replacement bridge. If this is not the case, a vibration and settlement monitoring program should be implemented to ensure the safety of motorists during the foundation installation. In addition, vibration monitoring might be necessary during the installation of crutch bent piles.

4.2 Analysis of Steel HP Piles

The computer program "SPT94" was used to analyze HP 14 x 73 and HP 14 x 89 steel piles as crutch bents for the existing bridge. Both steel sections were analyzed at each of the three test borings performed by Williams Earth Sciences, Inc. and as a result, six capacity curves were generated. The curves are shown in Appendix C along with the output created by the computer program. The section properties used as input for the computer runs are as follows:

	HP 14 x 73	HP 14 x 89
Unit Weight	490 pcf	490 pcf
Width	14.0"	14.0"
Depth	13.61"	13.83"
Area	21.4 sq. in.	26.1 sq. in.

For computer analysis purposes the elevations of the borings were assumed to be +5.5 feet for Boring B-1 and +3.5 feet for Boring B-3. Similarly, for Boring B-2 the mudline elevation was assumed to be at -5.0 feet. The elevations assumed were based on water levels at the time of drilling. The elevations shown on the capacity curves should be taken only as estimates.

As previously stated, the required design capacity of the steel piles has not been provided as of this writing, therefore, we can not make recommendations for pile lengths at this time. In addition, when selecting pile lengths and the corresponding allowable capacities from the curves, it should be recognized that the relatively hard limestone can cause buckling of the steel members during driving operations. Therefore, we recommend that a test pile program be considered using the Pile Driving Analyzer (PDA). The PDA offers driving resistance values during driving operations and can detect damage of the member. In addition, the data collected from the PDA can be used to determine driving criteria for production piles. The number of test piles will be determined based on number of crutch piles necessary to support the structure. Also, to minimize damage to the H-pile during installation, we recommend using commercially available H-pile tips with teeth. This device will improve driving alignment, reduce skidding on sloping rock and helps penetrate hard layers of soil and obstruction.

5.0 LIMITATIONS

Evaluations and recommendations presented in this report were prepared for the exclusive use of DSA Group, Inc., their clients, and consultants for the specific application to the Beckett Bridge Repairs Project. These evaluations and recommendations were prepared using generally accepted standards of geotechnical engineering practices. No other warranty is expressed or implied. Also, these evaluations and recommendations are based on design information provided and discussed earlier.

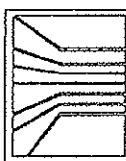
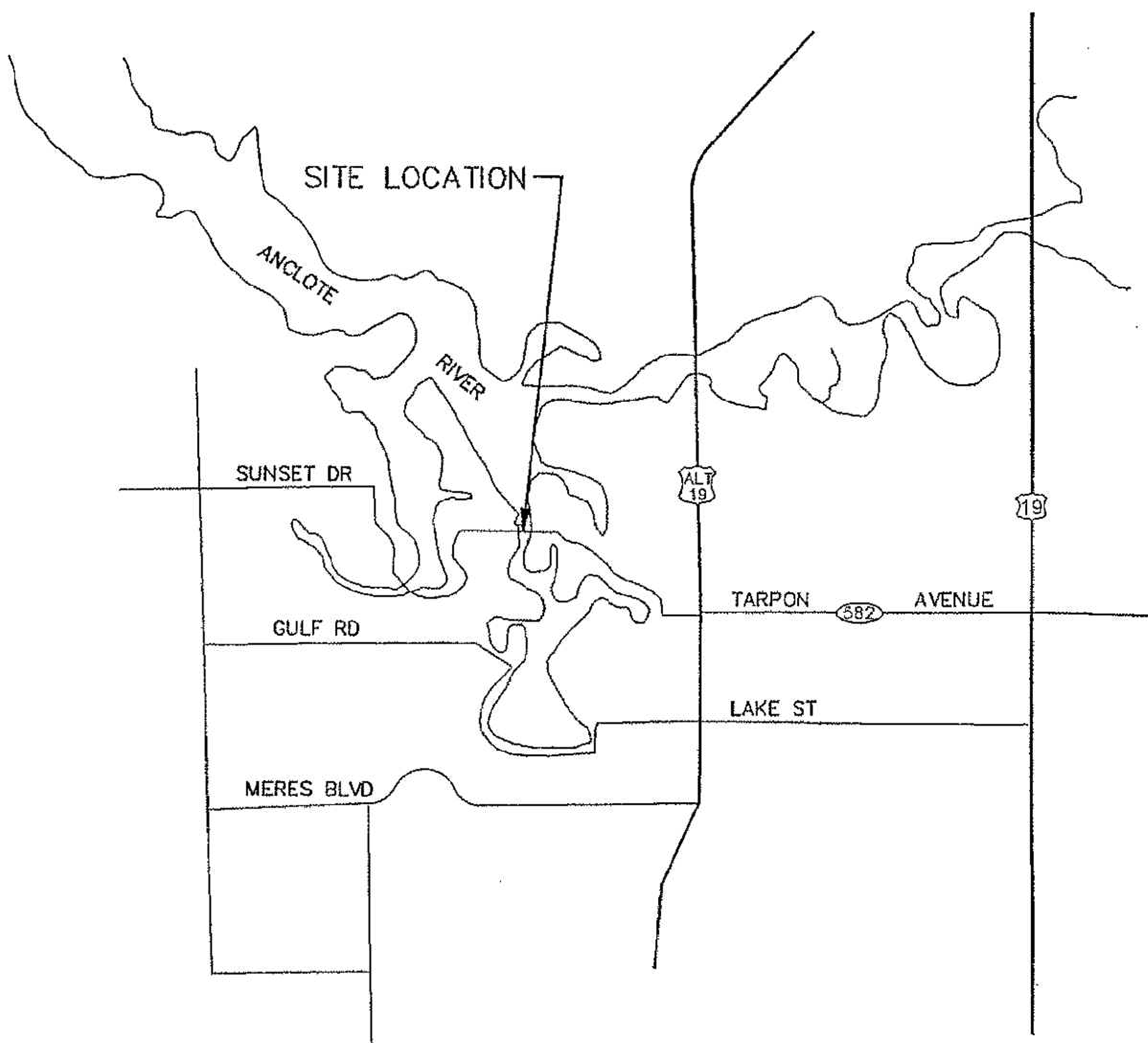
If the structural conditions vary from those stated or should the structure location be changed, the geotechnical engineer should be notified for review of the foundation recommendations.

Furthermore, upon discovery of any site or subsurface condition during construction which appears to deviate from the data obtained during this geotechnical exploration as documented herein, please contact us immediately so that we may visit the site, observe the differing conditions, and thus evaluate this new information with regards to our evaluation and recommendations contained herein.

The recommendations presented previously represent design and construction techniques which we feel are both applicable and feasible for the planned construction. It is our recommendation that Williams Earth Sciences, Inc. be provided the opportunity to review the final foundation plans construction specification to evaluate whether the recommendations have been properly interpreted and implemented.

Involvement of the geotechnical engineer during construction is vitally important to ensure the project is constructed in accordance with the geotechnical report. In addition, if varying subsurface conditions are encountered, resolutions can be obtained quickly. Therefore, we recommend that Williams Earth Sciences, Inc. provide inspection services for the foundation elements of this project.

APPENDIX A
Figure 1 - Site Location Map
Figure 2 - Boring Location Map
Report of Core Borings
Soil Test Borings



WILLIAMS EARTH SCIENCES, INC.

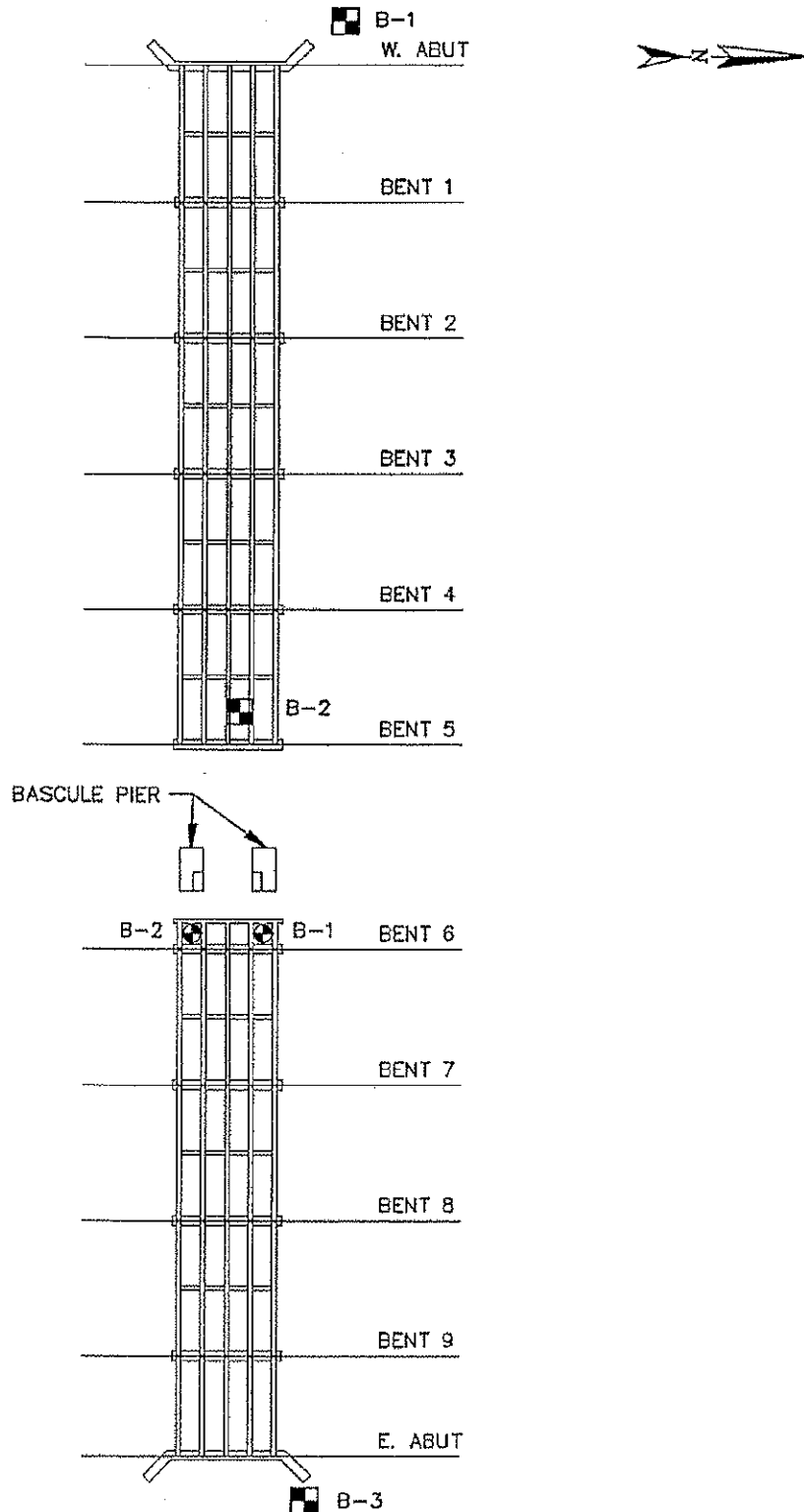
CORPORATE OFFICE:
10000 Endeavour Way, Largo, FL 34647

Largo:	(813) 541-3444	FAX: (813) 541-1510
Jacksonville:	(904) 262-8852	FAX: (904) 262-8854
Panama City:	(904) 747-9419	FAX: (904) 763-2454

**BECKETT BRIDGE REPLACEMENT
PINELLAS COUNTY, FLORIDA**

SITE LOCATION MAP

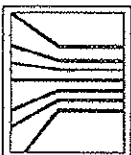
Drawn By: TEJ	Date: 9/11/94	Scale: N.T.S.
Checked By: LDS	Report No. C394348	Figure No. 1



LEGEND

⊕ SPT BORING LOCATION
PERFORMED BY PSI

⊞ SPT BORING LOCATION
PERFORMED BY WES



WILLIAMS EARTH SCIENCES, INC.

CORPORATE OFFICE:
10500 Endeavour Way, Largo, FL 34647

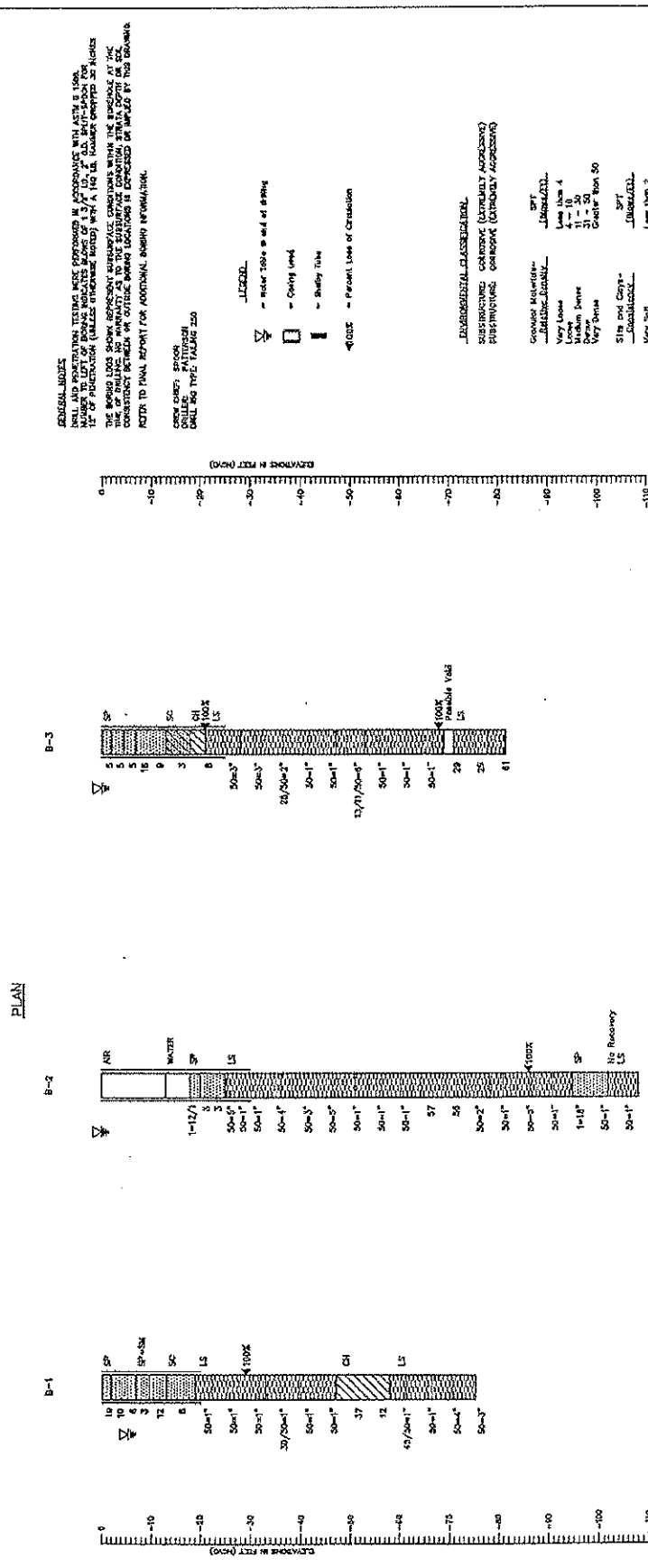
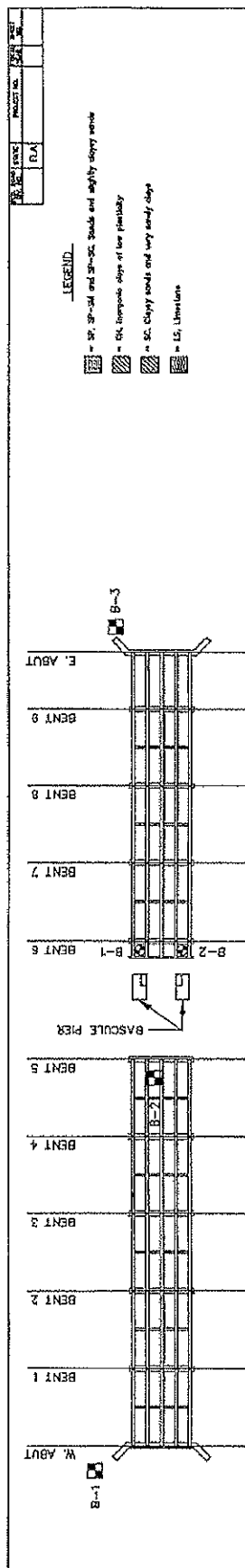
Largo: (813) 541-3444 FAX: (813) 541-1510
Jacksonville: (904) 262-8852 FAX: (904) 262-8864
Panama City: (904) 747-8419 FAX: (904) 753-2454

**BECKETT BRIDGE REPLACEMENT
PINELLAS COUNTY, FLORIDA**

BORING LOCATION MAP

Drawn By: TEJ	Date: 9/11/94	Scale: N.T.S.
Checked By: LDS	Report No. C394348	Figure No. 2

bore

[illegible]

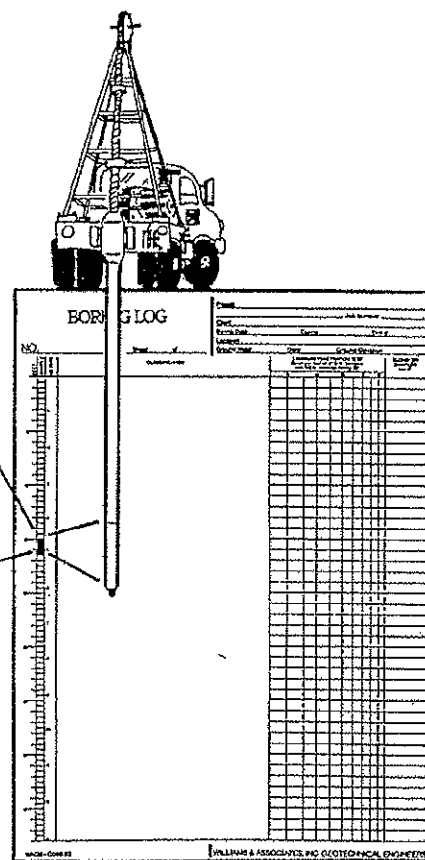
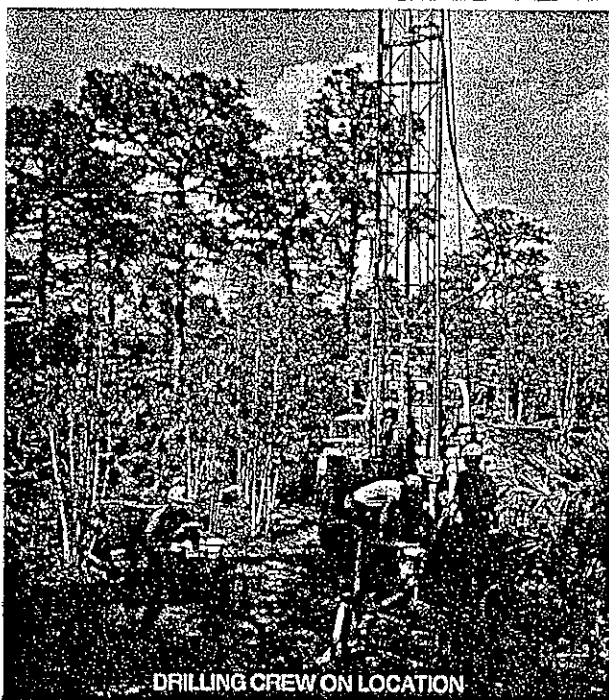
NEW DATE: 2005
 MODEL: 2005
 SERIAL: 2005
 VIN: 2005
 MAKE: 2005
 TYPE: 2005
 TAG: 2005

[illegible]

ENVIRONMENTAL CLASSIFICATION

Counted Methods	SPY	Counted Methods	SPY
Very Loose	Less than 4	Very Soft	Less than 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	11 - 20	Stiff	5 - 10
Dense	21 - 30	Very Stiff	10 - 30
Very Dense	Greater than 30	Hard	Greater than 30

[illegible]



STANDARD PENETRATION TESTING

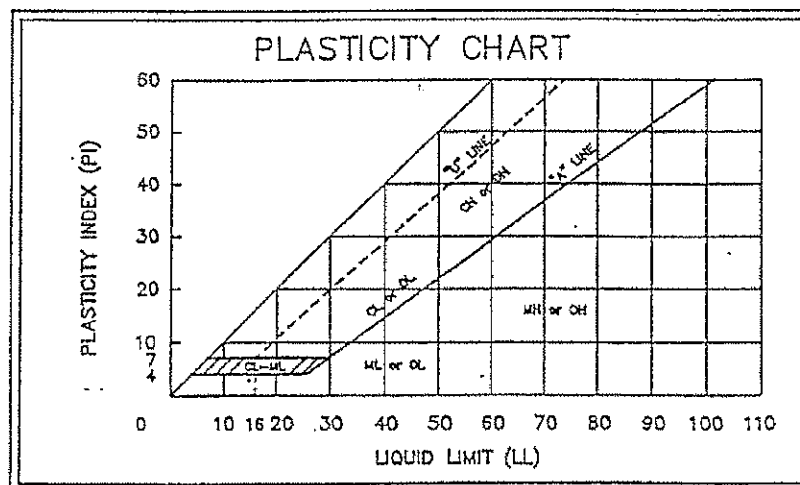
Watching a soil test boring drill crew is a prime example of man and machine working together to explore our environment. The testing process begins with the mixing of a slurry called "drill mud". A mixture of powdered clay and water is used to flush cuttings from the borehole. The mud also stabilizes the hole walls.

For each project, there are drilling and sampling criteria. Most test borings for engineering purposes utilize an industry standard described in ASTM D1586. This procedure requires a sample be obtained using a driven tube-shaped sampler. The sampler is constructed in such a way that the barrel portion splits to allow visual examination of the soil sample. To drive the sampler, a 140-pound hammer is placed on top of the drill rods. The hammer is raised mechanically using a rope (catline) and wench (cat-head), then dropped a standard 30 inches. This operation continues until either 100 blows occur or the sampler is driven 18 inches, whichever occurs first. The number of blows required to advance the sampler each 6-inch increment is recorded. The total number of blows for the last 12 inches of penetration is termed the blow count (N-value).

After the sampler is dislodged and brought to the ground surface, the soil retained in the split barrel is immediately examined and classified. A representative portion of the sample is sealed in a glass jar and labeled. All samples are returned to the laboratory where they are reviewed. Selected samples are chosen for laboratory testing. Samples are stored for a minimum of 60 days.

WILLIAMS
EARTH SCIENCES, Inc.

UNIFIED CLASSIFICATION SYSTEM				
MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS More than 50% retained on NO. 200 sieve *	GRAVELS 50% or more of coarse friction retained on NO. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse friction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly graded sands and gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS 50% or more passes NO. 200 sieve *	SILTS AND CLAYS Liquid limit 50% or less	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
		OL	Organic silts and organic silty clays of low plasticity	
	SILTS AND CLAYS Liquid limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	
		CH	Inorganic clays or high plasticity, fat clays	
		OH	Organic clays of medium to high plasticity	
	Highly Organic Soils		PT	Peat, muck and other highly organic soils
	* Based on the material passing the 3-in. (75-mm) sieve.			



WILLIAMS
EARTH SCIENCES, INC.

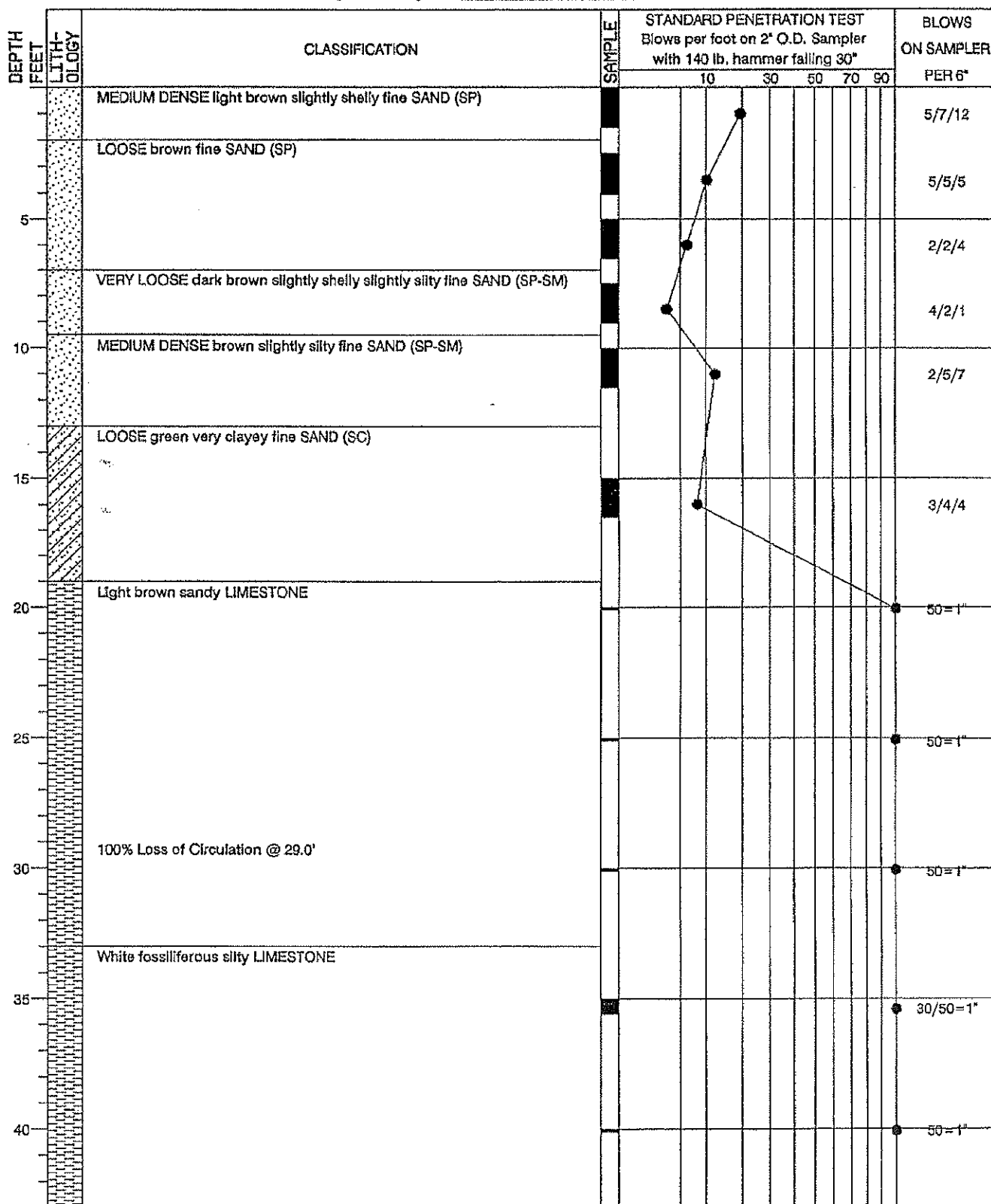


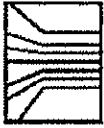
WILLIAMS
EARTH SCIENCES, INC.

TEST BORING LOG

Project BECKETT BRIDGE REPLACEMENT
Boring Location SEE FIELD EXPLORATION PLAN
Ground Elevation N/A
Groundwater Depth 5.5'
Length of Casing Set 20'

Boring No. B-1
Sheet 1 of 2
Job No. C394348
Boring Completed 10/27/94
Driller J. SPOON
Engineer L. SPEARS



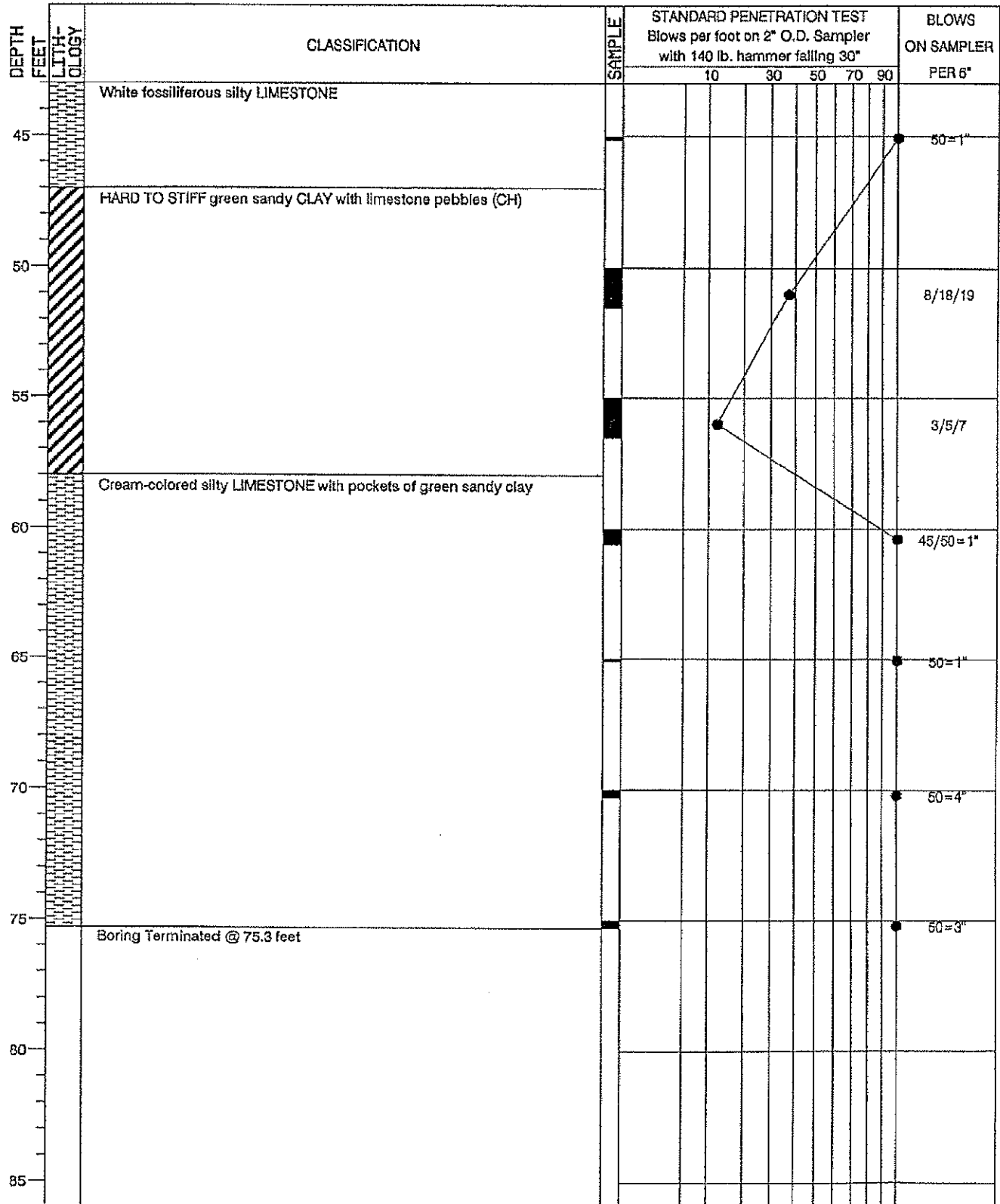


WILLIAMS
EARTH SCIENCES, INC.

TEST BORING LOG

Project BECKETT BRIDGE REPLACEMENT

Boring No. B-1
Sheet 2 of 2
Job No. C394348





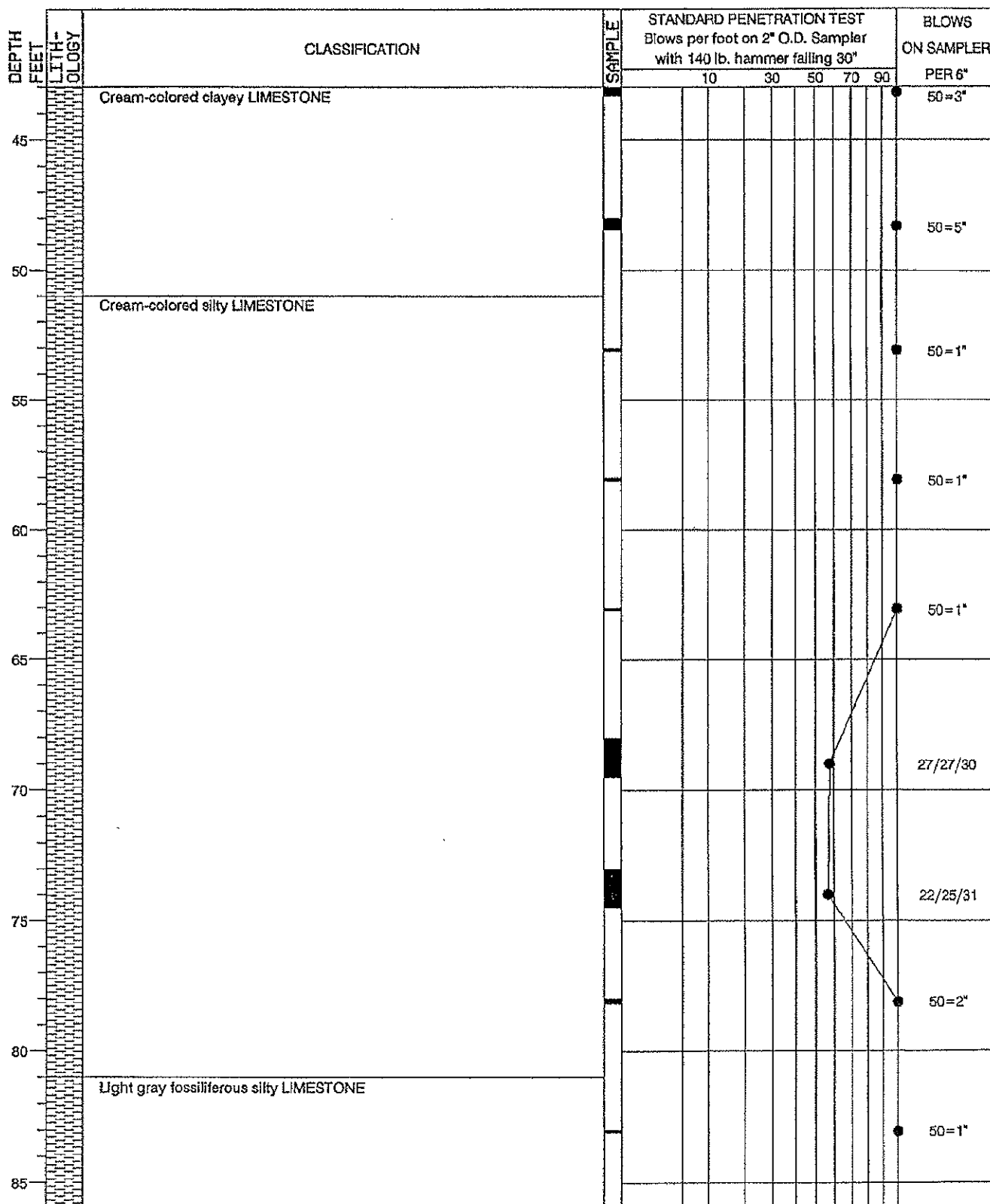
Project BECKETT BRIDGE REPLACEMENT
 Boring Location SEE FIELD EXPLORATION PLAN
 Ground Elevation N/A
 Water Depth 5.0'
 Length of Casing Set 30'

Boring No. B-2
Sheet 1 of 3
Job No. C394348
Boring Completed 10/22/94
Driller J. SPOON
Engineer L. SPEARS

[illegible]

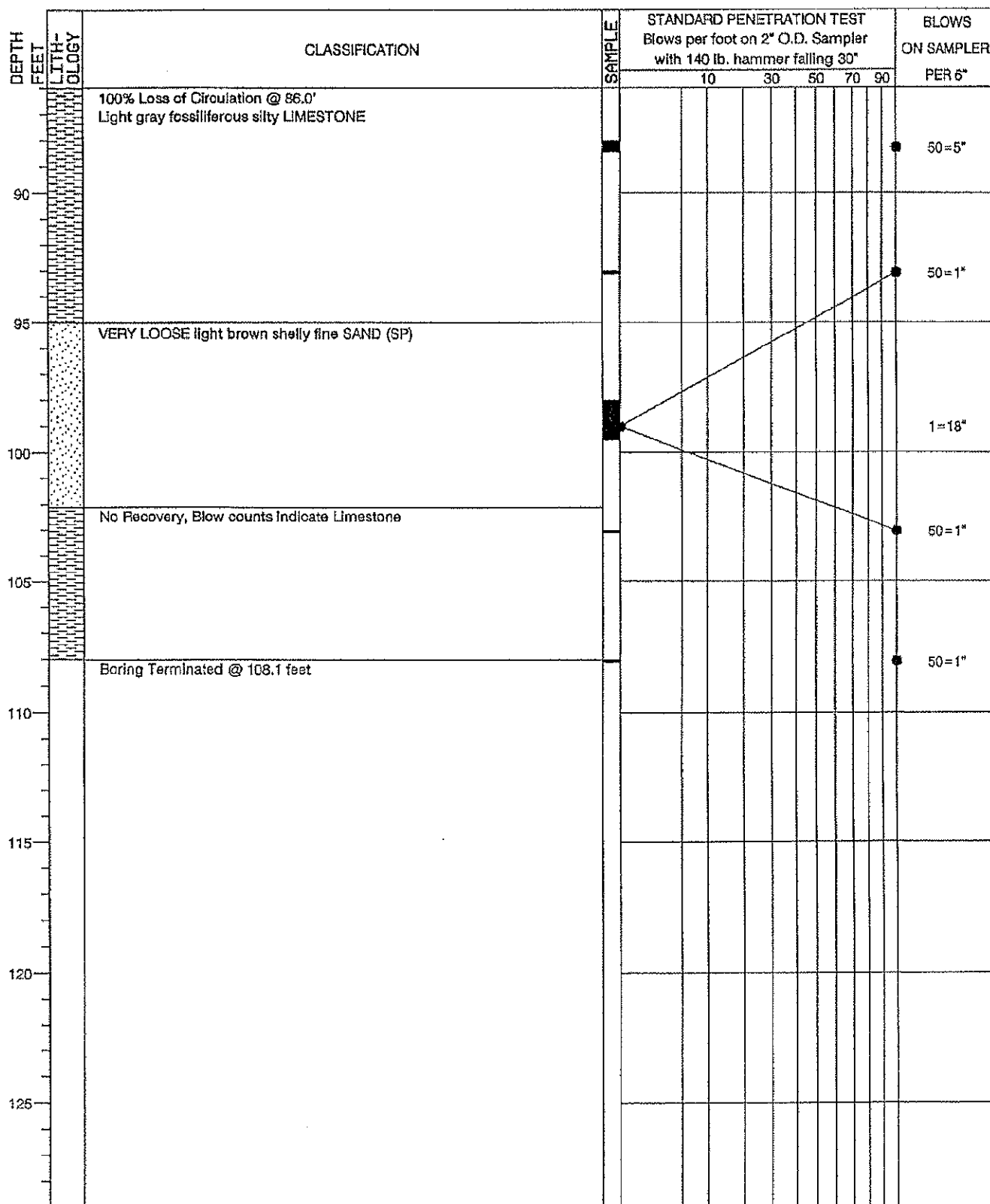
Project BECKETT BRIDGE REPLACEMENT

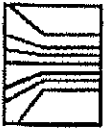
Boring No. B-2
Sheet 2 of 3
Job No. C394348



Project BECKETT BRIDGE REPLACEMENT

Boring No. B-2
Sheet 3 of 3
Job No. C394348





WILLIAMS
EARTH SCIENCES, INC.

TEST BORING LOG

Project BECKETT BRIDGE REPLACEMENT

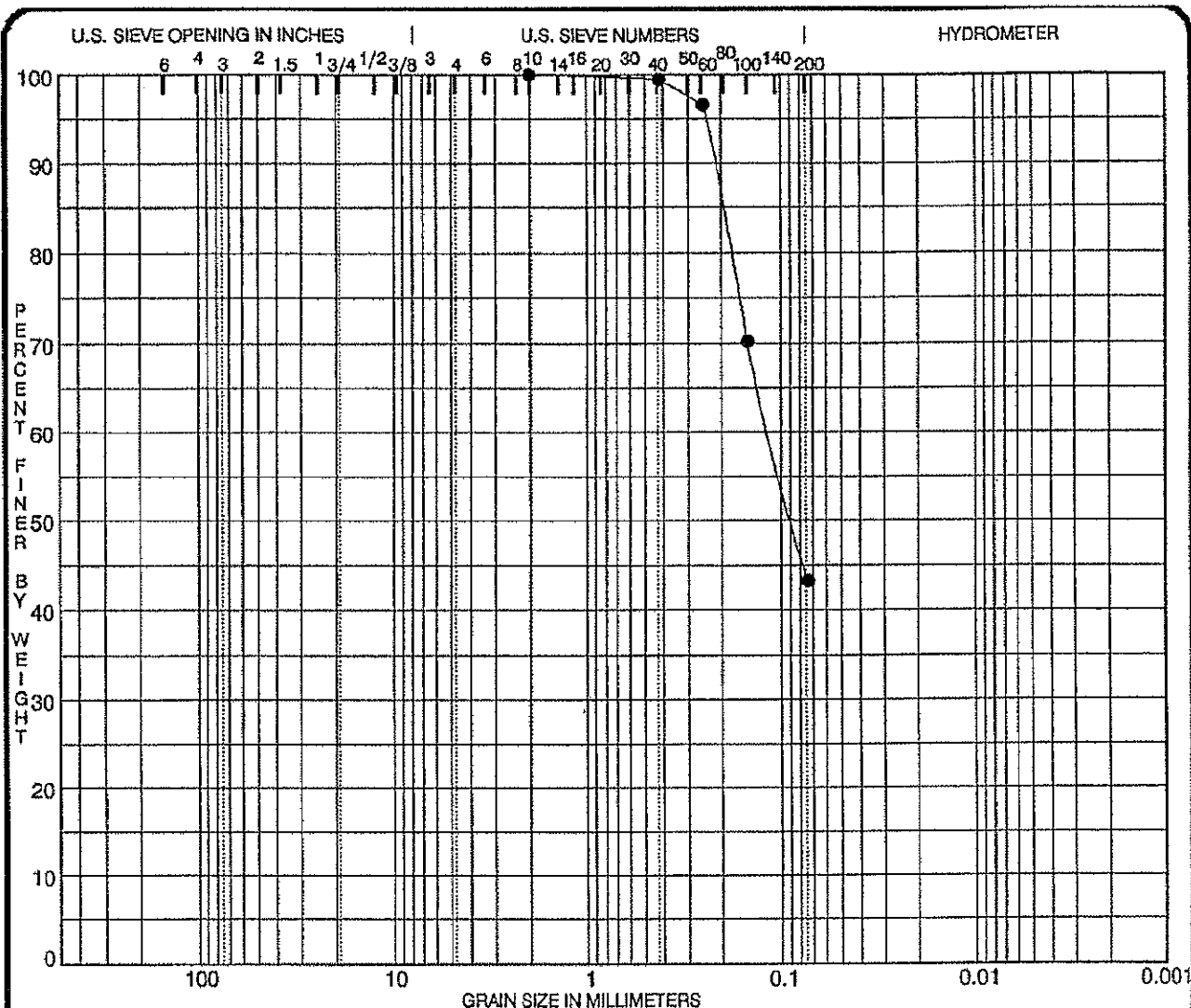
Boring No. B-3

Sheet 2 of 2

Job No. C394348

DEPTH FEET	LITH- OLOGY	CLASSIFICATION	SAMPLE	STANDARD PENETRATION TEST Blows per foot on 2" O.D. Sampler with 140 lb. hammer falling 30"					BLOWS ON SAMPLER PER 6"
				10	30	50	70	90	
45		Cream-colored silty LIMESTONE							50=1"
50		Interpocketed cream-colored silty LIMESTONE and green sandy CLAY							13/11/50=6"
55		Cream-colored silty LIMESTONE							50=1"
60									50=1"
65									50=1"
68.0		100% loss of Circulation @ 68.0'							
70		Possible Void							
72		White silty LIMESTONE							3/5/24
75									34/17/8
80		Cream-colored silty LIMESTONE							37/30/31
81.5		Boring Terminated @ 81.5 feet							

APPENDIX B
Gradation Curves
Corrosion Test Results



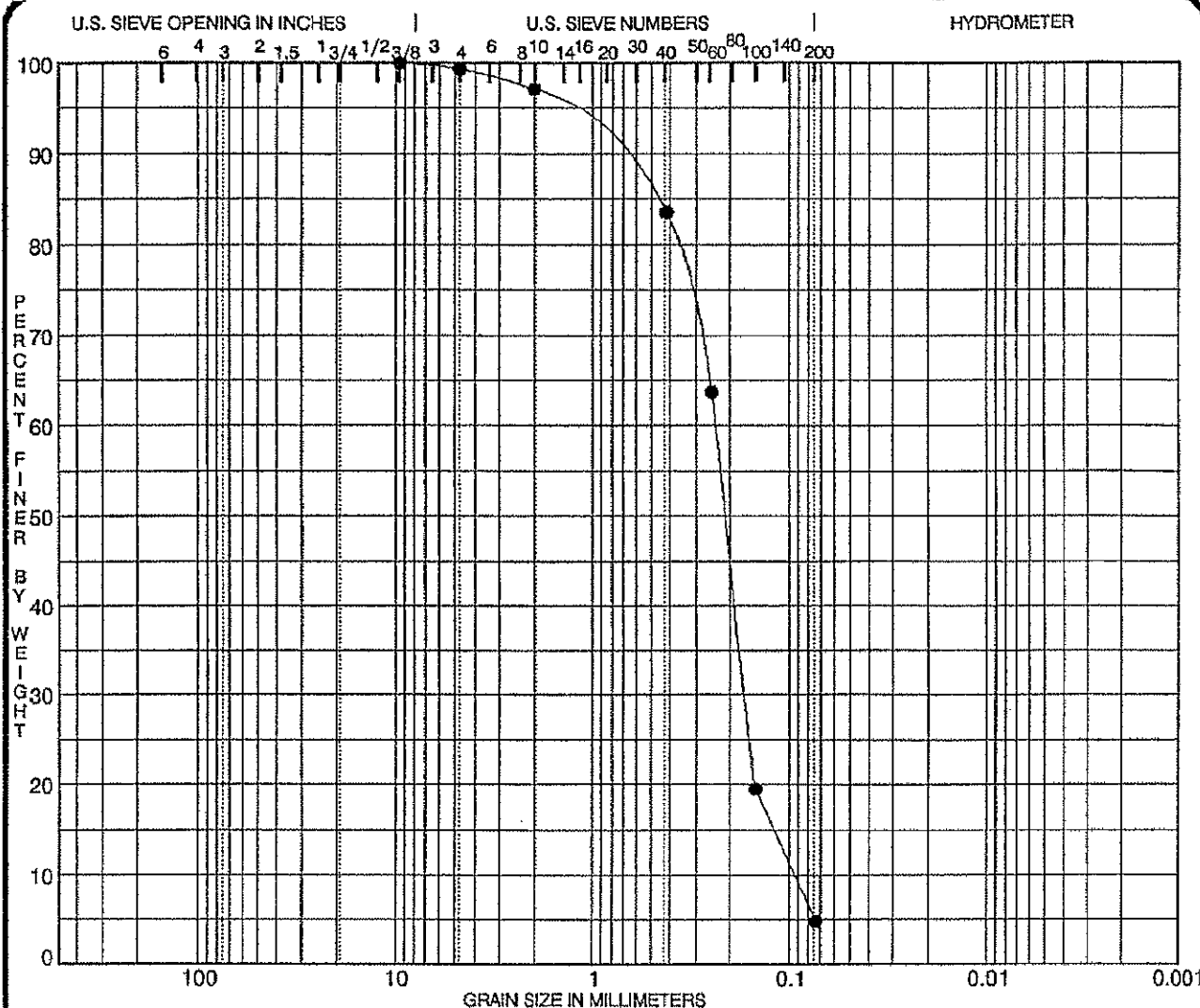
COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

Specimen Identification		Classification				MC%	LL	PL	PI	Cc	Cu
●	B-1	GREEN VERY CLAYEY FINE SAND				29					
	S-6	(SC)									
	15.0' - 16.5'										
Organics		D100	D50	D30	D10	%Gravel	%Sand	%Silt		%Clay	
		2.00	0.088			0	56	44			

PROJECT BECKETT BRIDGE REPLACEMENT JOB NO. C394348

GRADATION CURVES

Williams Earth Sciences, Inc.
Largo, Florida



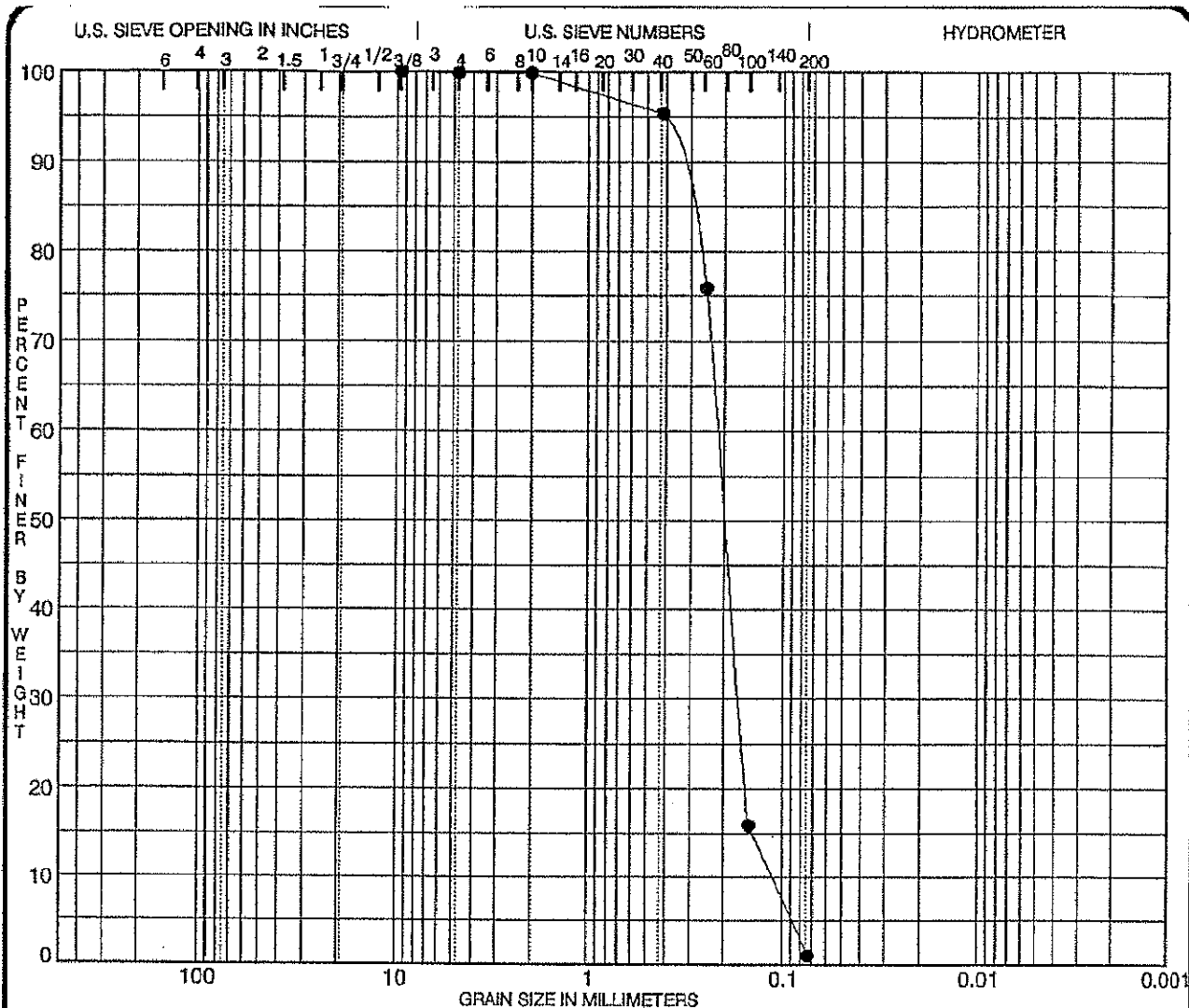
COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

Specimen Identification		Classification				MC%	LL	PL	PI	Cc	Cu
●	B-2	LIGHT BROWN SHELLY FINE SAND				24					
	S-19	(SP)									
	98.0' - 99.5'										
Organics		D100	D50	D30	D10	%Gravel	%Sand	%Silt		%Clay	
		9.51	0.213	0.169	0.095	1	94	5			

PROJECT BECKETT BRIDGE REPLACEMENT JOB NO. C394348

GRADATION CURVES

Williams Earth Sciences, Inc.
Largo, Florida



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

Specimen Identification		Classification				MC%	LL	PL	PI	Cc	Cu
●	B-3	REDDISH BROWN FINE SAND				23					
	S-4	(SP)									
	7.5' - 9.0'										
Organics		D100	D50	D30	D10	%Gravel	%Sand	%Silt		%Clay	
		9.51	0.200	0.168	0.113	0	98	1			

PROJECT BECKETT BRIDGE REPLACEMENT JOB NO. C394348

GRADATION CURVES

Williams Earth Sciences, Inc.
Largo, Florida

CORROSION TEST RESULTS

Job Name: Beckett Bridge Repairs

Job №: C394348

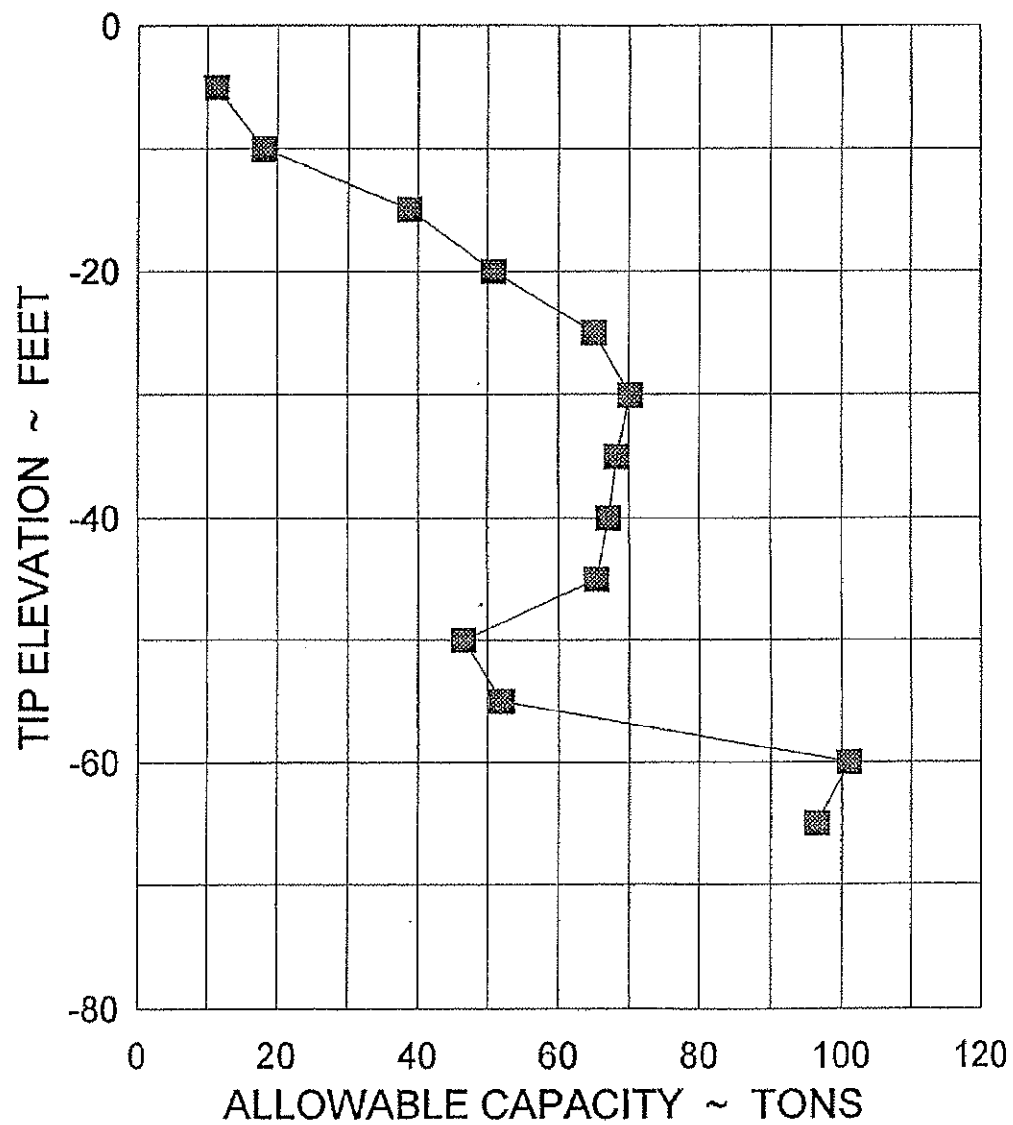
Tested by: M. Fowler

Sample ID	Sample Date	Sample Location	Sample Type	Sample Depth	pH	Chlorides ppm	Sulfates ppm	Resistivity ohm-cm
S-1	10/20/94	West approach, north side	Soil	1.0	8.8	300	<2	1440
W-1	10/20/94	Middle of channel	Water	1.0	7.9	14,000	7,920	41

APPENDIX C
Pile Capacity Curves
"SPT94" Computer Output

BECKETT BRIDGE

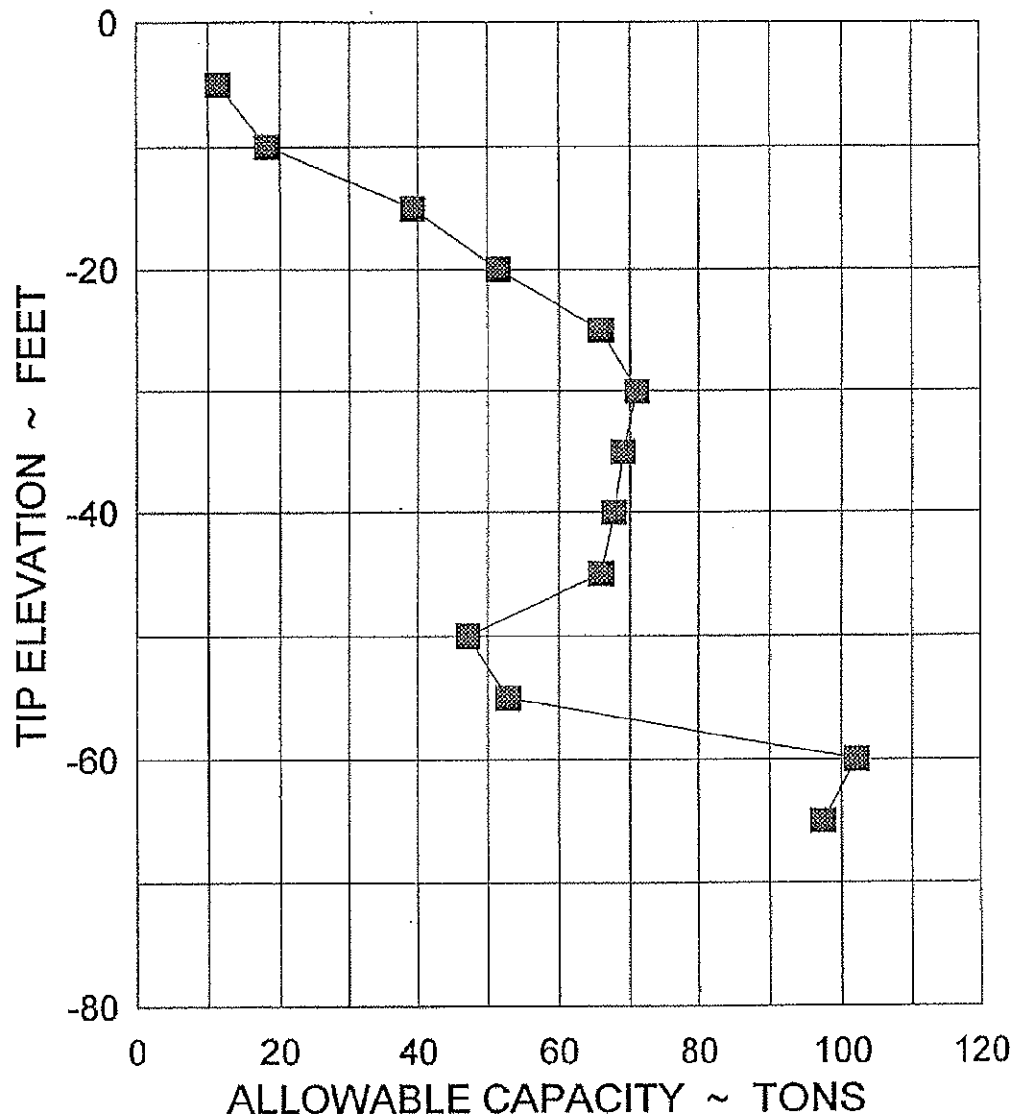
TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-1
HP 14x73

BECKETT BRIDGE

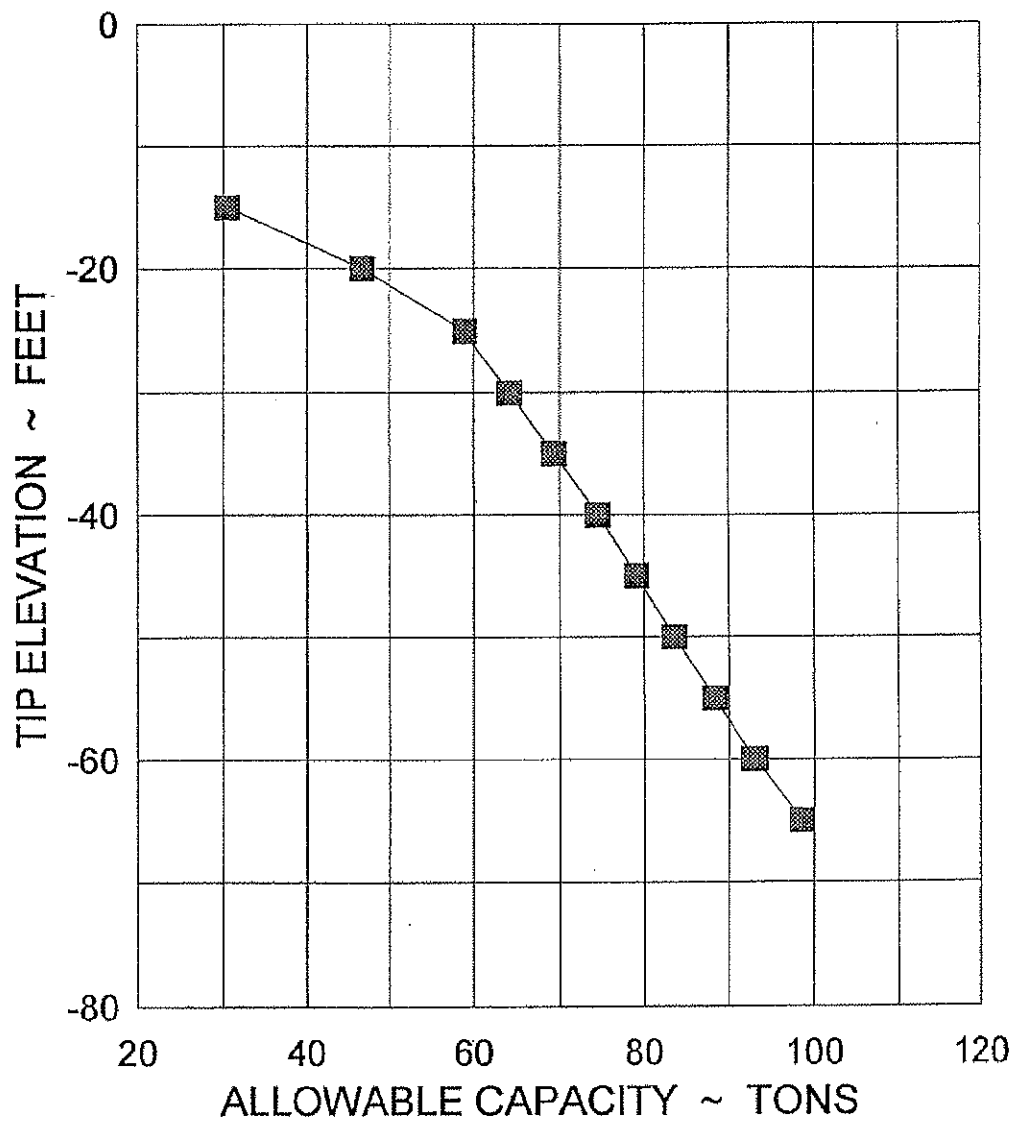
TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-1
HP 14x89

BECKETT BRIDGE

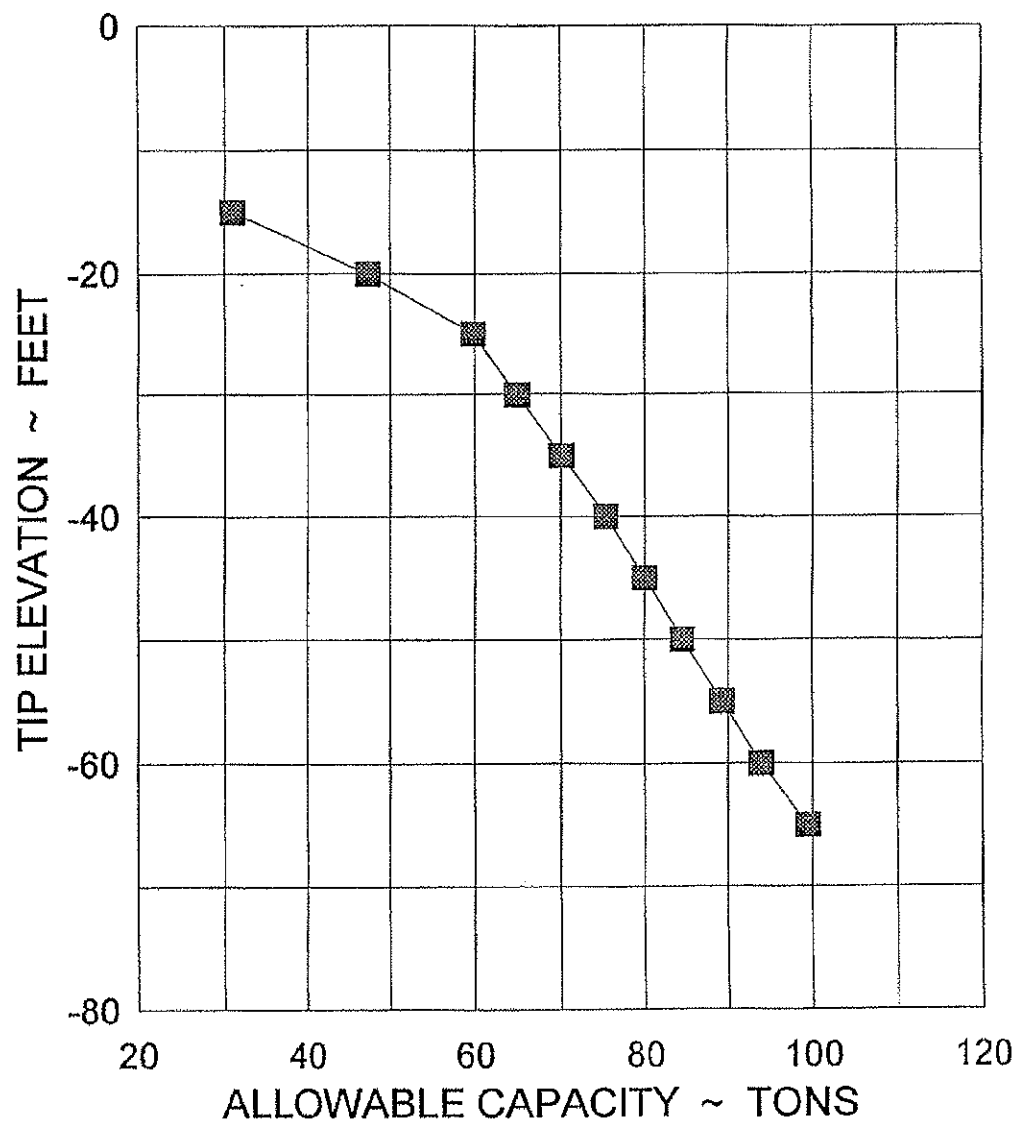
TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-2
HP 14x73

BECKETT BRIDGE

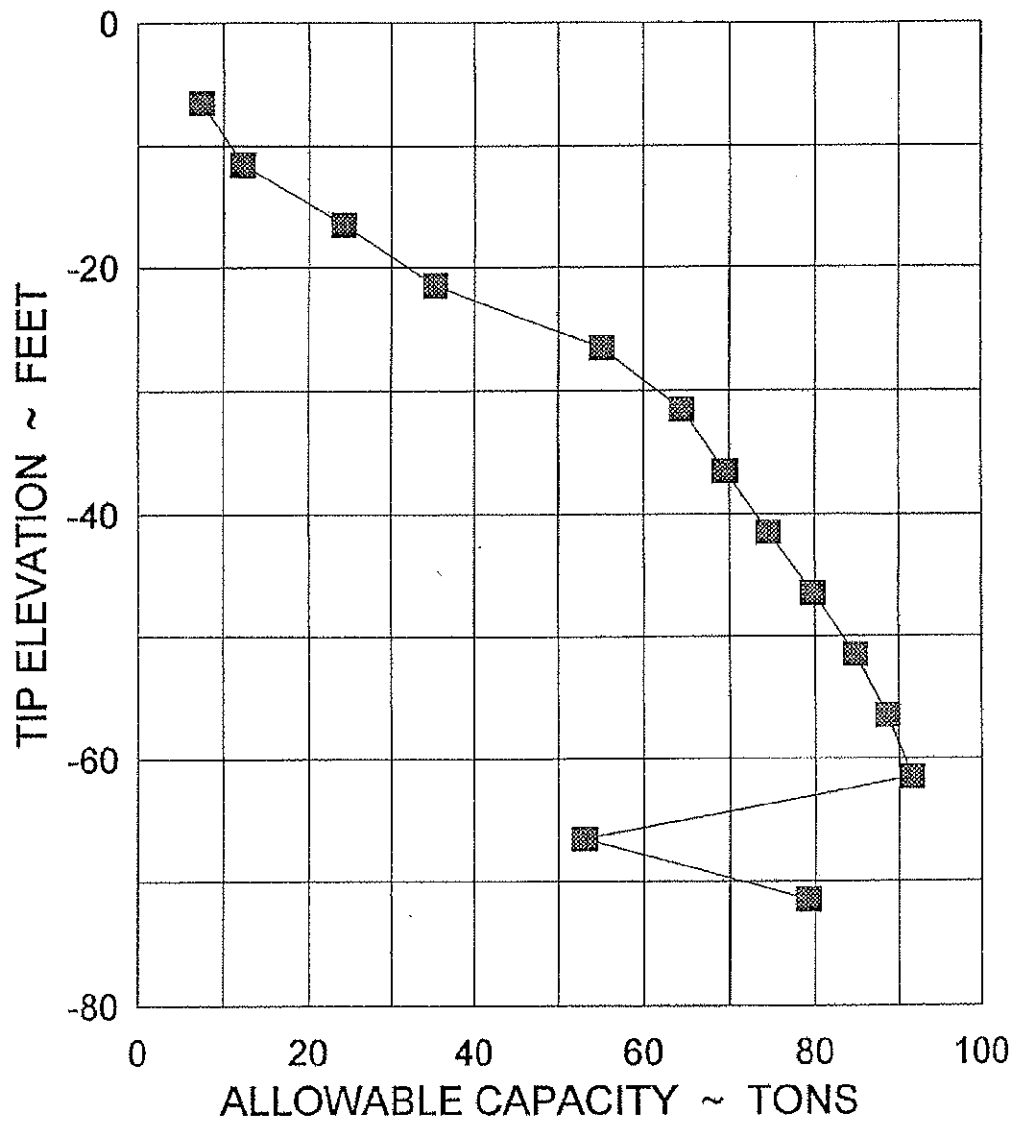
TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-2
HP 14x89

BECKETT BRIDGE

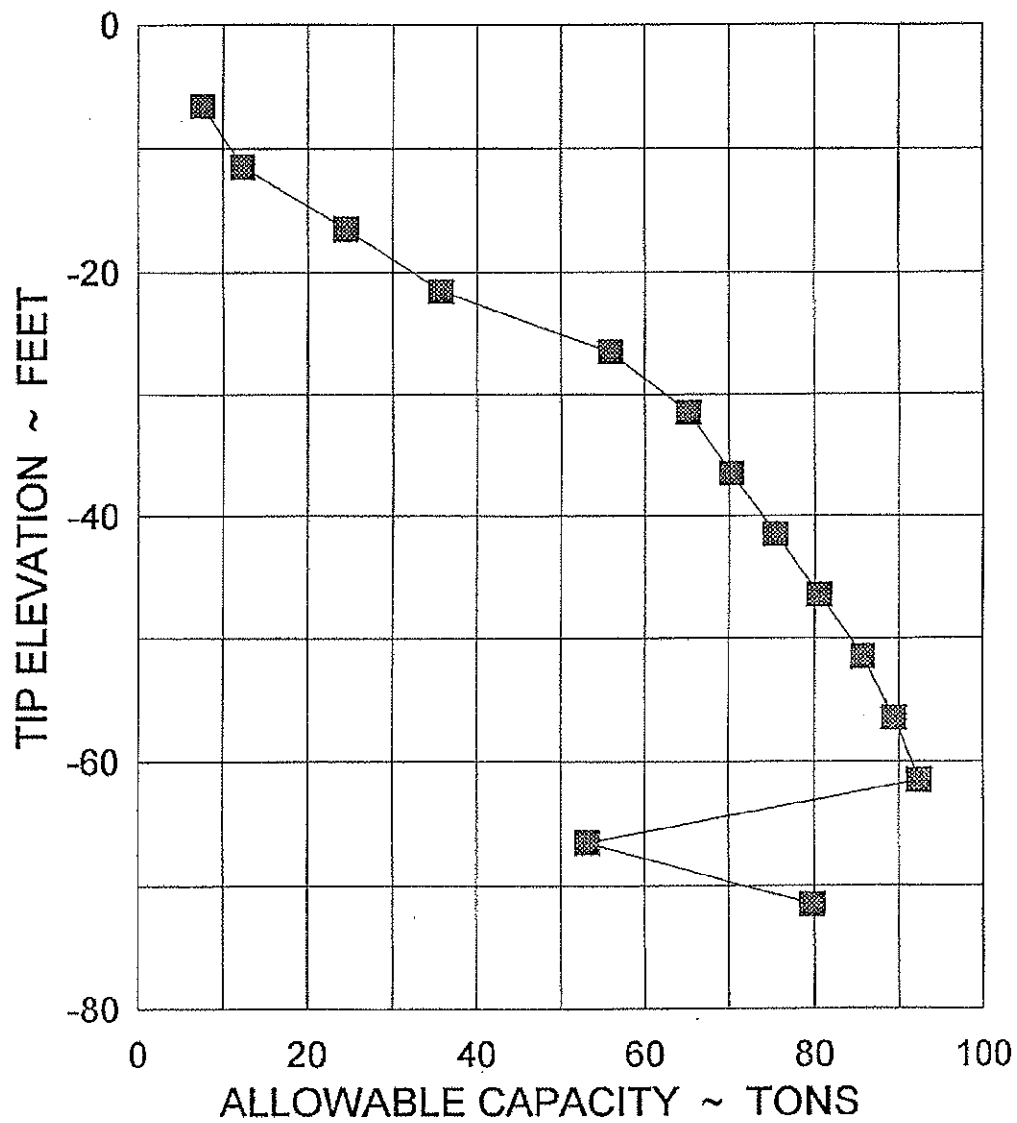
TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-3
HP 14x73

BECKETT BRIDGE

TIP ELEV. vs ALLOWABLE CAPACITY



BORING B-3
HP 14x89

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94		Page 1
Project No: C394348 BECKETT BRIDGE REPAIRS		
Boring No: B-1 HP 14x73		

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT94 - VERSION 1.0 JUNE, 1994
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	C:\SPT94\BECKETT\B173.DAT
RUN DATE	11/09/94
RUN TIME	18:15:06
PROJECT NUMBER	C394348
JOB NAME	BECKETT BRIDGE REPAIRS
SUBMITTING ENGINEER	LDS
BORING NO.	B-1 HP 14x73
DRILLING DATE	10/27/94
STATION NO.	N/A
GROUND SURFACE ELEVATION	5.00 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

Project No: C394348

BECKETT BRIDGE REPAIRS

Boring No: B-1 HP 14x73

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	3.5	19.0	3
2	4.0	1.0	10.0	3
3	6.5	-1.5	3.0	3
4	9.0	-4.0	6.0	3
5	11.5	-6.5	12.0	3
6	16.5	-11.5	8.0	2
7	20.0	-15.0	99.0	4
8	25.0	-20.0	99.0	4
9	30.0	-25.0	99.0	4
10	35.0	-30.0	99.0	4
11	40.0	-35.0	99.0	4
12	45.0	-40.0	99.0	4
13	51.5	-46.5	37.0	2
14	56.5	-51.5	12.0	2
15	60.5	-55.5	99.0	4
16	65.0	-60.0	99.0	4
17	70.0	-65.0	99.0	4
18	75.0	-70.0	99.0	4
19	85.0	-80.0	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING.
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94		Page 3
Object No: C394348	BECKETT BRIDGE REPAIRS	
Boring No: B-1 HP 14x73		

C. PILE INFORMATION

TEST PILE SECTION	ISECT = 4
	{steel H-pile}
WIDTH OF FLANGE	WIDTH = 14.00 INCHES
DEPTH OF SECTION	DEPTH = 13.61 INCHES
TRUE X-SECTIONAL AREA	TAREA = 21.4 INCH ²

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-5.0	.36	4.04	18.82	22.50	11.25	41.33
15.0	-10.0	.55	9.14	27.68	36.28	18.14	63.96
20.0	-15.0	.73	17.33	60.81	77.41	38.71	138.22
25.0	-20.0	.91	26.02	76.60	101.71	50.85	178.30
30.0	-25.0	1.09	35.84	95.27	130.02	65.01	225.29
35.0	-30.0	1.27	46.34	95.27	140.33	70.17	235.60
40.0	-35.0	1.46	56.83	81.15	136.52	68.26	217.67
45.0	-40.0	1.64	69.96	65.95	134.27	67.13	200.21
50.0	-45.0	1.82	77.20	55.38	130.76	65.38	186.14
55.0	-50.0	2.00	90.20	4.75	92.95	46.47	102.44
60.0	-55.0	2.18	99.02	7.08	103.91	51.96	118.08
65.0	-60.0	2.37	109.37	95.27	202.28	101.14	297.55
70.0	-65.0	2.55	119.87	75.82	193.14	96.57	268.95

*** ERROR *** PILE TIP EXCEEDS BORING LOG FOR LENGTH = 75.00 FT

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

Path: C:\SPT94\BECKETT

File: B173 .OUT 7,828 .a.. 11-09-94 6:15:06 pm

Page 2

4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.

5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

Project No: C394348

BECKETT BRIDGE REPAIRS

Boring No: B-1 HP 14x89

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT94 - VERSION 1.0 JUNE, 1994
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

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RUN DATE	11/09/94
RUN TIME	18:16:16
PROJECT NUMBER	C394348
JOB NAME	BECKETT BRIDGE REPAIRS
SUBMITTING ENGINEER	LDS
BORING NO.	B-1 HP 14x89
DRILLING DATE	10/27/94
STATION NO.	N/A
GROUND SURFACE ELEVATION	5.00 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94			Page	2
Project No: C394348		BECKETT BRIDGE REPAIRS		
Piling No: B-1 HP 14x89				

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	3.5	19.0	3
2	4.0	1.0	10.0	3
3	6.5	-1.5	3.0	3
4	9.0	-4.0	6.0	3
5	11.5	-6.5	12.0	3
6	16.5	-11.5	8.0	2
7	20.0	-15.0	99.0	4
8	25.0	-20.0	99.0	4
9	30.0	-25.0	99.0	4
10	35.0	-30.0	99.0	4
11	40.0	-35.0	99.0	4
12	45.0	-40.0	99.0	4
13	51.5	-46.5	37.0	2
14	56.5	-51.5	12.0	2
15	60.5	-55.5	99.0	4
16	65.0	-60.0	99.0	4
17	70.0	-65.0	99.0	4
18	75.0	-70.0	99.0	4
19	85.0	-80.0	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94		Page	3
Project No: C394348		BECKETT BRIDGE REPAIRS	
Piling No: B-1 HP 14x89			

C. PILE INFORMATION

TEST PILE SECTION
 WIDTH OF FLANGE
 DEPTH OF SECTION
 TRUE X-SECTIONAL AREA

ISECT = 4
 {steel H-pile}
 WIDTH = 14.00 INCHES
 DEPTH = 13.83 INCHES
 TAREA = 26.1INCH^2

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-5.0	.44	4.07	19.13	22.76	11.38	41.89
15.0	-10.0	.67	9.21	28.13	36.68	18.34	64.80
20.0	-15.0	.89	17.46	61.80	78.37	39.19	140.17
25.0	-20.0	1.11	26.23	77.83	102.95	51.48	180.78
30.0	-25.0	1.33	36.13	96.81	131.61	65.80	228.42
35.0	-30.0	1.55	46.71	96.81	141.96	70.98	238.77
40.0	-35.0	1.78	57.28	82.46	137.97	68.98	220.43
45.0	-40.0	2.00	70.52	67.01	135.53	67.77	202.54
50.0	-45.0	2.22	77.81	56.27	131.87	65.93	188.14
55.0	-50.0	2.44	90.92	5.79	94.27	47.13	105.85
60.0	-55.0	2.66	99.80	8.64	105.78	52.89	123.06
65.0	-60.0	2.89	110.24	96.81	204.17	102.08	300.98
70.0	-65.0	3.11	120.82	77.04	194.76	97.38	271.80

*** ERROR *** PILE TIP EXCEEDS BORING LOG FOR LENGTH = 75.00 FT

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

Path: C:\SPT94\BECKETT

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Page 2

4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.

5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94		Page 1
Project No: C394348		
Boring No: B-2 HP 14x73		
BECKETT BRIDGE REPAIRS		

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT94 - VERSION 1.0 JUNE, 1994
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	C:\SPT94\BECKETT\B273.DAT
RUN DATE	11/09/94
RUN TIME	18:16:54
PROJECT NUMBER	C394348
JOB NAME	BECKETT BRIDGE REPAIRS
SUBMITTING ENGINEER	LDS
BORING NO.	B-2 HP 14x73
DRILLING DATE	10/22/94
STATION NO.	N/A
GROUND SURFACE ELEVATION	-5.00 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

Project No: C394348

BECKETT BRIDGE REPAIRS

Pile No: B-2 HP 14x73

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	-6.5	1.0	3
2	4.0	-9.0	3.0	3
3	6.5	-11.5	3.0	3
4	9.0	-14.0	99.0	4
5	11.5	-16.5	99.0	4
6	16.5	-21.5	99.0	4
7	20.0	-25.0	99.0	4
8	25.0	-30.0	99.0	4
9	30.0	-35.0	99.0	4
10	35.0	-40.0	99.0	4
11	40.0	-45.0	99.0	4
12	45.0	-50.0	99.0	4
13	51.5	-56.5	57.0	4
14	56.5	-61.5	56.0	4
15	60.5	-65.5	99.0	4
16	65.0	-70.0	99.0	4
17	70.0	-75.0	99.0	4
18	75.0	-80.0	99.0	4
19	80.0	-85.0	.0	3
20	85.0	-90.0	99.0	4
21	90.0	-95.0	99.0	4
22	100.0	-105.0	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

Project No: C394348
 Piling No: B-2 HP 14x73

BECKETT BRIDGE REPAIRS

C. PILE INFORMATION

TEST PILE SECTION
 WIDTH OF FLANGE
 DEPTH OF SECTION
 TRUE X-SECTIONAL AREA

ISECT = 4
 {steel H-pile}
 WIDTH = 14.00 INCHES
 DEPTH = 13.61 INCHES
 TAREA = 21.4 INCH^2

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-15.0	.36	5.09	56.24	60.97	30.49	117.21
15.0	-20.0	.55	13.27	80.49	93.21	46.60	173.69
20.0	-25.0	.73	23.43	95.27	117.98	58.99	213.25
25.0	-30.0	.91	33.93	95.27	128.29	64.14	223.56
30.0	-35.0	1.09	44.42	95.27	138.60	69.30	233.87
35.0	-40.0	1.27	54.91	95.27	148.91	74.45	244.18
40.0	-45.0	1.46	65.40	94.30	158.24	79.12	252.54
45.0	-50.0	1.64	75.64	93.19	167.19	83.60	260.39
50.0	-55.0	1.82	86.07	92.46	176.70	88.35	269.16
55.0	-60.0	2.00	96.30	91.70	185.99	93.00	277.69
60.0	-65.0	2.18	106.20	92.96	196.98	98.49	289.94

*** THE MAXIMUM PILE LENGTH HAS BEEN REACHED

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,

Path: C:\SPT94\BECKETT

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Page 2

FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.

5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

Project No: C394348

BECKETT BRIDGE REPAIRS

Boring No: B-2 HP 14x89

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT94 - VERSION 1.0 JUNE, 1994
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	C:\SPT94\BECKETT\B289.DAT
RUN DATE	11/09/94
RUN TIME	18:17:28
PROJECT NUMBER	C394348
JOB NAME	BECKETT BRIDGE REPAIRS
SUBMITTING ENGINEER	LDS
BORING NO.	B-2 HP 14x89
DRILLING DATE	10/22/94
STATION NO.	N/A
GROUND SURFACE ELEVATION	-5.00 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94			Page	2
Project No: C394348		BECKETT BRIDGE REPAIRS		
Boring No: B-2 HP 14x89				

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	-6.5	1.0	3
2	4.0	-9.0	3.0	3
3	6.5	-11.5	3.0	3
4	9.0	-14.0	99.0	4
5	11.5	-16.5	99.0	4
6	16.5	-21.5	99.0	4
7	20.0	-25.0	99.0	4
8	25.0	-30.0	99.0	4
9	30.0	-35.0	99.0	4
10	35.0	-40.0	99.0	4
11	40.0	-45.0	99.0	4
12	45.0	-50.0	99.0	4
13	51.5	-56.5	57.0	4
14	56.5	-61.5	56.0	4
15	60.5	-65.5	99.0	4
16	65.0	-70.0	99.0	4
17	70.0	-75.0	99.0	4
18	75.0	-80.0	99.0	4
19	80.0	-85.0	.0	3
20	85.0	-90.0	99.0	4
21	90.0	-95.0	99.0	4
22	100.0	-105.0	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

Project No: C394348

BECKETT BRIDGE REPAIRS

Piling No: B-2 HP 14x89

C. PILE INFORMATION

TEST PILE SECTION

ISECT = 4

{steel H-pile}

WIDTH OF FLANGE

WIDTH = 14.00 INCHES

DEPTH OF SECTION

DEPTH = 13.83 INCHES

TRUE X-SECTIONAL AREA

 TAREA = 26.1 INCH²

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-15.0	.44	5.14	57.15	61.84	30.92	118.99
15.0	-20.0	.67	13.37	81.79	94.49	47.25	176.28
20.0	-25.0	.89	23.62	96.81	119.54	59.77	216.35
25.0	-30.0	1.11	34.20	96.81	129.90	64.95	226.71
30.0	-35.0	1.33	44.77	96.81	140.25	70.13	237.06
35.0	-40.0	1.55	55.35	96.81	150.60	75.30	247.41
40.0	-45.0	1.78	65.92	95.82	159.97	79.98	255.79
45.0	-50.0	2.00	76.24	94.70	168.94	84.47	263.64
50.0	-55.0	2.22	86.75	93.95	178.48	89.24	272.43
55.0	-60.0	2.44	97.06	93.18	187.80	93.90	280.98
60.0	-65.0	2.66	107.05	94.47	198.85	99.42	293.32

*** THE MAXIMUM PILE LENGTH HAS BEEN REACHED

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,

Path: C:\SPT94\BECKETT

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FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.

5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

Project No: C394348

BECKETT BRIDGE REPAIRS

Boring No: B-3 HP 14x73

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT94 - VERSION 1.0 JUNE, 1994
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME
RUN DATE
RUN TIME

C:\SPT94\BECKETT\B373.DAT
11/09/94
18:17:55

PROJECT NUMBER
JOB NAME
SUBMITTING ENGINEER
BORING NO.
DRILLING DATE
STATION NO.
GROUND SURFACE ELEVATION
TYPE OF ANALYSIS

C394348
BECKETT BRIDGE REPAIRS
LDS
B-3 HP 14x73
10/20/94
N/A
3.50 FEET
2 - DETERMINATION OF STATIC
PILE BEARING CAPACITIES
FOR A RANGE OF PILE LENGTHS
(CAPACITY VS. TIP ELEVATION)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94			Page	2
Project No: C394348		BECKETT BRIDGE REPAIRS		
Boring No: B-3 HP 14x73				

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	2.0	5.0	3
2	4.0	- .5	5.0	3
3	6.5	-3.0	5.0	3
4	9.0	-5.5	19.0	3
5	11.5	-8.0	9.0	3
6	16.5	-13.0	3.0	2
7	20.0	-16.5	8.0	4
8	25.0	-21.5	99.0	4
9	30.0	-26.5	99.0	4
10	35.0	-31.5	99.0	4
11	40.0	-36.5	99.0	4
12	45.0	-41.5	99.0	4
13	51.5	-48.0	99.0	4
14	56.5	-53.0	99.0	4
15	60.5	-57.0	99.0	4
16	65.0	-61.5	99.0	4
17	69.0	-65.5	50.0	4
18	69.1	-65.6	.0	5
19	71.0	-67.5	.0	5
20	71.1	-67.6	29.0	4
21	75.0	-71.5	25.0	4
22	80.0	-76.5	61.0	4
23	90.0	-86.5	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

Project No: C394348

BECKETT BRIDGE REPAIRS

Pile No: B-3 HP 14x73

C. PILE INFORMATION

TEST PILE SECTION

ISECT = 4

{steel H-pile}

WIDTH OF FLANGE

WIDTH = 14.00 INCHES

DEPTH OF SECTION

DEPTH = 13.61 INCHES

TRUE X-SECTIONAL AREA

 TAREA = 21.4 INCH²

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-6.5	.36	3.47	11.74	14.85	7.42	26.58
15.0	-11.5	.55	5.80	19.25	24.51	12.25	43.76
20.0	-16.5	.73	10.82	38.30	48.39	24.19	86.69
25.0	-21.5	.91	15.25	56.18	70.52	35.26	126.71
30.0	-26.5	1.09	24.51	86.96	110.38	55.19	197.34
35.0	-31.5	1.27	34.75	95.27	128.74	64.37	224.01
40.0	-36.5	1.46	45.11	95.27	138.92	69.46	234.19
45.0	-41.5	1.64	55.53	95.27	149.16	74.58	244.43
50.0	-46.5	1.82	65.97	95.27	159.42	79.71	254.69
55.0	-51.5	2.00	76.42	95.27	169.69	84.85	264.96
60.0	-56.5	2.18	86.89	92.50	177.20	88.60	269.69
65.0	-61.5	2.37	96.60	88.90	183.13	91.57	272.03
70.0	-66.5	2.55	108.70	.00	106.15	53.07	106.15
75.0	-71.5	2.73	114.09	47.09	158.44	79.22	205.53

*** ERROR *** PILE TIP EXCEEDS BORING LOG FOR LENGTH = 80.00 FT

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

Path: C:\SPT94\BECKETT

File: B373 .OUT 8,182 .a.. 11-09-94 6:17:56 pm Page 2

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.
5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

Project No: C394348
 Boring No: B-3 HP 14x89

BECKETT BRIDGE REPAIRS

FLORIDA DEPARTMENT OF TRANSPORTATION
 STRUCTURES DESIGN OFFICE
 STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
 SPT94 - VERSION 1.0 JUNE, 1994
 BASED ON RESEARCH BULLETIN RB-121
 "GUIDELINES FOR USE IN THE SOILS INVESTIGATION
 AND DESIGN OF FOUNDATIONS FOR
 BRIDGE STRUCTURES IN THE STATE OF FLORIDA"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
 TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME
 RUN DATE
 RUN TIME

C:\SPT94\BECKETT\B389.DAT
 11/09/94
 18:18:21

PROJECT NUMBER
 JOB NAME
 SUBMITTING ENGINEER
 BORING NO.
 DRILLING DATE
 STATION NO.
 GROUND SURFACE ELEVATION
 TYPE OF ANALYSIS

C394348
 BECKETT BRIDGE REPAIRS
 LDS
 B-3 HP 14x89
 10/20/94
 N/A
 3.50 FEET
 2 - DETERMINATION OF STATIC
 PILE BEARING CAPACITIES
 FOR A RANGE OF PILE LENGTHS
 (CAPACITY VS. TIP ELEVATION)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT94			Page	2
Project No: C394348		BECKETT BRIDGE REPAIRS		
Boring No: B-3 HP 14x89				

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.5	2.0	5.0	3
2	4.0	-1.5	5.0	3
3	6.5	-3.0	5.0	3
4	9.0	-5.5	19.0	3
5	11.5	-8.0	9.0	3
6	16.5	-13.0	3.0	2
7	20.0	-16.5	8.0	4
8	25.0	-21.5	99.0	4
9	30.0	-26.5	99.0	4
10	35.0	-31.5	99.0	4
11	40.0	-36.5	99.0	4
12	45.0	-41.5	99.0	4
13	51.5	-48.0	99.0	4
14	56.5	-53.0	99.0	4
15	60.5	-57.0	99.0	4
16	65.0	-61.5	99.0	4
17	69.0	-65.5	50.0	4
18	69.1	-65.6	.0	5
19	71.0	-67.5	.0	5
20	71.1	-67.6	29.0	4
21	75.0	-71.5	25.0	4
22	80.0	-76.5	61.0	4
23	90.0	-86.5	.0	0

SOIL TYPE LEGEND

- 0 - BOTTOM OF BORING
- 1 - PLASTIC CLAYS
- 2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
- 3 - CLEAN SAND
- 4 - SOFT LIMESTONE, VERY SHELLY SANDS
- 5 - VOID (NO CAPACITY)

Project No: C394348

BECKETT BRIDGE REPAIRS

Piling No: B-3 HP 14x89

C. PILE INFORMATION

TEST PILE SECTION
 WIDTH OF FLANGE
 DEPTH OF SECTION
 TRUE X-SECTIONAL AREA

ISECT = 4
 {steel H-pile}
 WIDTH = 14.00 INCHES
 DEPTH = 13.83 INCHES
 TAREA = 26.1 INCH²

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	WT. OF PILE (TONS)	ULT. SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED FAILURE CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
10.0	-6.5	.44	3.50	11.93	14.98	7.49	26.91
15.0	-11.5	.67	5.85	19.56	24.75	12.37	44.31
20.0	-16.5	.89	10.91	38.92	48.93	24.47	87.85
25.0	-21.5	1.11	15.38	57.09	71.35	35.68	128.44
30.0	-26.5	1.33	24.70	88.37	111.74	55.87	200.11
35.0	-31.5	1.55	35.02	96.81	130.28	65.14	227.09
40.0	-36.5	1.78	45.47	96.81	140.50	70.25	237.31
45.0	-41.5	2.00	55.97	96.81	150.78	75.39	247.59
50.0	-46.5	2.22	66.49	96.81	161.08	80.54	257.89
55.0	-51.5	2.44	77.03	96.81	171.40	85.70	268.21
60.0	-56.5	2.66	87.58	93.99	178.91	89.45	272.90
65.0	-61.5	2.89	97.37	90.34	184.82	92.41	275.16
70.0	-66.5	3.11	109.56	.00	106.45	53.23	106.45
75.0	-71.5	3.33	115.00	47.85	159.51	79.76	207.36

*** ERROR *** PILE TIP EXCEEDS BORING LOG FOR LENGTH = 80.00 FT

NOTES

1. FOR PILE TIP EMBEDDED IN SOIL TYPE 3 AND 4, END BEARING IS CALCULATED BASED ON BLOCK AREA WHILE TRUE X-SECTIONAL AREA IS USED FOR SOIL TYPE 1 AND 2.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULT. CAPACITY = ULT. SKIN FRICTION + 2*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 3 OR 4,
= ULT. SKIN FRICTION + 3*MOBILIZED END BEARING,
FOR TIP IN SOIL TYPE 1 OR 2.
5. PILE CAPACITIES ARE SET TO ZERO IF THEIR COMPUTED VALUES ARE
NEGATIVE.

PROBLEM COMPLETED

ANALYSIS NO. 1

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

More construction problems are caused by site subsurface conditions than any other factor. As troublesome as subsurface problems can be, their frequency and extent have been lessened considerably in recent years, thanks to the Association of Soil and Foundation Engineers (ASFE).

When ASFE was founded in 1969, subsurface problems were frequently being resolved through lawsuits. In fact, the situation had grown to such alarming proportions that consulting geotechnical engineers had the worst professional liability record of all design professionals. By 1980, *ASFE-member consulting soil and foundation engineers had the best professional liability record.* This dramatic turn-about can be attributed directly to client acceptance of problem-solving programs and materials developed by ASFE for its members' application. *This acceptance was gained because clients perceived the ASFE approach to be in their own best interests.* Disputes benefit only those who earn their living from others' disagreements.

The following suggestions and observations are offered to help you reduce the geotechnical-related delays, cost-overruns and other costly headaches that can occur during a construction project.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

A geotechnical engineering report is based on a subsurface exploration plan designed to incorporate a unique set of project-specific factors. These typically include: the general nature of the structure involved, its size and configuration; the location of the structure on the site and its orientation; physical concomitants such as access roads, parking lots, and underground utilities, and the level of additional risk which the client assumed by virtue of limitations imposed upon the exploratory program. To help avoid costly problems, consult the geotechnical engineer to determine how any factors which change subsequent to the date of his report may affect his recommendations.

Unless your consulting geotechnical engineer indicates otherwise, *your geotechnical engineering report should not be used:*

- When the nature of the proposed structure is changed, for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one;
- when the size or configuration of the proposed structure is altered;
- when the location or orientation of the proposed structure is modified;
- when there is a change of ownership, or
- for application to an adjacent site.

A geotechnical engineer cannot accept responsibility for problems which may develop if he is not consulted after factors considered in his report's development have changed.

MOST GEOTECHNICAL "FINDINGS" ARE PROFESSIONAL ESTIMATES

Site exploration identifies actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing are extrapolated by the geotechnical engineer who then renders an opinion about overall subsurface conditions, their likely reaction to proposed construction activity, and appropriate foundation design. Even under optimal circumstances actual conditions may differ from those opined to exist, because no geotechnical engineer, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. For example, the actual interface between materials may be far more gradual or abrupt than the report indicates, and actual conditions in areas not sampled may differ from predictions. *Nothing can be done to prevent the unanticipated, but steps can be taken to help minimize their impact.* For this reason, most experienced owners retain their geotechnical consultant through the construction stage, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

SUBSURFACE CONDITIONS CAN CHANGE

Subsurface conditions may be modified by constantly-changing natural forces. Because a geotechnical engineering report is based on conditions which existed at the time of subsurface exploration, *construction decisions should not be based on a geotechnical engineering report whose adequacy may have been affected by time.* Speak with the geotechnical consultant to learn if additional tests are advisable before construction starts.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical report. The geotechnical engineer should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a geotechnical engineering report. To help avoid these problems, the geotechnical engineer should be retained to work with other appropriate design professionals to explain relevant geotechnical findings and to review the adequacy



***Williams Earth Science Phase 1 Geotechnical Report,
2009***



WILLIAMS
EARTH SCIENCES, INC.

Choose Integrity.

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Largo, Florida 33777
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www.williamsearthsciences.com

May 18, 2009

Murray McDonough, P.E.
URS Corporation
7650 W. Courtney Campbell Causeway
Tampa, FL 33607-1462

Subject: Phase 1 Geotechnical Report
Beckett Bridge
Pinellas County
Williams' Project No. 1309-004-01

Gentlemen:

Williams Earth Sciences, Inc. (Williams) has completed the Phase 1 Geotechnical work for the referenced project. This work was performed in accordance with our agreement with URS, dated April 17, 2009.

This report contains the results and discussion of the Electrical Resistivity Imaging (ERI) conducted during this Phase 1 Geotechnical study. In addition, recommendations for additional subsurface exploration, settlement and rotation monitoring are provided.

Williams Earth Sciences, Inc. appreciates this opportunity to provide this report and looks forward to continuing working with you on this project. If you have any questions concerning this report, please contact the undersigned.

Sincerely,

WILLIAMS EARTH SCIENCES, INC.

Larry D. Spears, P.E.
Senior Engineer
Florida Registration No. 52105

Brian Jory, P.E.
Senior Geotechnical Engineer
Florida Registration N. 46634

Distribution: (3) Addressee
(1) File

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Appendices

Appendix A

Figure 1 - Site Location Map
Soil Boring Profiles

Appendix B

Electrical Resistivity Imaging Survey Report

1. Project Information

This Phase 1 study was performed to identify karst features in the area of the footprint of the Beckett Bridge foundation. Our original proposal included soil borings spread across the Beckett Bridge footprint to 1) identify the subsurface conditions and 2) to assist in the repair of the existing bridge or design of a replacement bridge. However, due to cost constraints, the scope of work was reduced to simply conducting the ERI study, and performing the soil borings later based on the results of the ERI study. The Beckett Bridge is located in Tarpon Springs, Florida, along Riverside Drive at the Anclote River, as shown on Figure 1, Site Location Map, in Appendix A.

The bridge is multi-spanned and has been experiencing lateral movement and subsidence. The bridge is a two-lane bascule bridge about 20 feet across and 360 feet in length with two-foot wide sidewalks on both sides. The approach span structures are constructed of 14-inch square prestressed concrete piles. There are four spans on the east approach and five spans on the west approach. The bascule is approximately 40 feet long and is supported on a concrete pier. The bridge was originally constructed in 1924 using timber piling and timber bents. The bridge approach spans were reconstructed in 1956 using reinforced concrete, however, the original bascule span remained. Structural repairs were performed in 1979 and crutch bents installed in 1995.

2. Previous Geotechnical Study

Williams provided a report dated November 10, 1994, which provided recommendations for the installation of crutch bents using H-Piles. During the 1994 study, Williams performed three Standard penetration Test (SPT) borings; one was performed at the west abutment, one at the east abutment, and one was performed in the vicinity of the Bent 5, adjacent to the bascule. The two abutment borings were performed from land and the Bent 5 boring was performed from the bridge (as opposed to a barge over water). The results of the borings are included in Appendix A. Two SPT borings were also performed by others (PSI). These two borings were performed at Bent 6 from the bridge. One was performed in the westbound lane and the other was performed in the eastbound lane.

3. Phase 1 Study

For this Phase 1 study, Electrical Resistivity Imaging (ERI) was conducted. The purpose of the ERI testing was to determine the vertical extent and lateral continuity of soil layers and to identify possible karst hazards within the river along the sides of the bridge. The ERI testing was performed by "Subsurface Evaluations, Inc." (SEI) and their report, dated April 28, 2009, is included in Appendix B.

The results of the ERI testing indicated several interesting features and anomalies within the vicinity of the bridge footprint. First, there appears to be an anomaly near Bent 6, with the center approximated just north of the bridge, as depicted on Figure 1 of the SEI report. In addition, there appears to be a shelf at about 20 to 40 feet in depth indicating a change in soil material and/or density, as indicated on Figure 1.

Boring B-1 was performed very close to the ERI anomaly indicated at Bent 6. The boring indicates that there is dense grading to medium dense dark brown to brown fine sand with trace of silt from the mud-line to about 10 feet below the mud-line, followed by a nine foot thick layer of stiff dark gray sandy silt layer, from 10 to 19 feet below the mud-line. The silt layer was underlain by a relatively thin layer of hard limestone, from 19 to 24 feet below the mud-line. From 24 to 40 feet below the mud-line, a medium dense grading to very loose layer of brown fine sand with trace of silt (SP-SM) was encountered. A second layer of hard limestone was present from 40 to 45 feet below the mud-line, followed by medium dense brown fine sand with trace of silt (SP-SM) to the termination depth of the boring at about 57 feet below the mud-line.

Boring B-1 (PSI) and the ERI results correlate at Bent 6. In addition, this anomaly is indicative of a relic sinkhole, albeit in the Anclote River. Boring B-2 was also performed at Bent 6, on the opposite side of the bridge (eastbound lane). This boring indicated somewhat similar soils to Boring B-1, however, there was no evidence of the stiff silt layer at 10 to 19 feet below the mud-line.

The borings conducted by Williams in the 1994 study indicated a soil Stratigraphy that was quite dissimilar to the borings conducted at Bent 6 by PSI. These borings generally indicate a surficial layer of sands to silty sands or clayey soils, followed by very hard limestone to the full depth of the borings. There were a few minor variations in the subsurface soils, such as a thin layer of clay (CH) material in boring B-1 at a depth of 47 to 58 feet below the ground surface; a very loose shelly fine sand layer from 77 to 84 feet below the mud-line at boring B-2; and a possible void from 69 to 71 feet below the ground surface at boring B-3. Nonetheless, the medium dense fine sand with trace of silty soils was not encountered in the SPT borings conducted by Williams.

The nature of encountering highly dissimilar soils in a relatively short distance indicates that this area has localized karst features. Anclote River is known for its erratic karst features. The subsurface is characterized by a sand layer overlying a shallow limestone. There is a lack of clay layering in this area and therefore there is a high degree of localized subsidence and raveling of the surficial soils into the karst limestone. Review of the ERI results indicates that the surficial karst solution features, or surficial relic sinkhole features, may be more prevalent near the center of the bridge. There also appears to be an apparent shelf, as indicated on ERI transects T3 and T4. Review of ERI transects T3, T4 and T5 indicate the possibility of a solution zone near to below the bridge footprint that may be located in a southwest orientation. However, it

may be possible that the bascule bridge footing and the piles may be providing interference of the ERI data.

It has been reported that there has been settlement and rotation of the bents and/or bascule pier. There are a number of potential causes for this, both structurally and geotechnically, however, from a geotechnical standpoint, the causes may be due to subsidence of the piles due to 1) active sinkhole conditions, or 2) insufficient pile bearing both axially and laterally, or some combination of all. Since the settlement and rotation is occurring slowly, it is difficult to ascertain if it is continuing or if the settlement has ceased. Another consideration is the age of the timber piles supporting the bascule pier, which are about 85 years old, and are likely in poor condition due to fatigue, rot, or some other form of deterioration.

As previously mentioned, there was HP 14 X 73 crutch bent piles installed in 1996. The 1996 Plans indicate crutch bents at Bent 6 and Bent 7, and pier stabilizers for the bascule. The lengths of the crutch bent piles varied dramatically from tip elevations of about -30 to -200 feet. These lengths were taken from old facsimile correspondence between Williams and DSA. Interestingly, there was a minimum tip elevation of -35 feet indicated on the plans; therefore, one of the piles did not achieve the minimum tip elevation in accordance with the plans. The piles were also supposedly preformed to an elevation of -27 feet, and the preformed hole was supposed to be grouted. The HP crutch bent piles were also planned to be jacketed using an epoxy mix from elevation -4 to +4 feet, at the splash zone of the piles. Based on the 2007 Bridge Inspection Report, performed by Volkert & Associates, Inc., the "jackets are in good condition with no washouts or exposed base pile".

4. Recommendations

Williams understands that this bridge is under evaluation for repair or replacement. If repair is feasible, then settlement and rotation monitoring of the bents and piers is recommended to determine how, where and the amount that it is occurring so that the bents and/or piers can be shored to stabilize the settlement and rotation. Evaluation of how to shore the bents and/or piers can then be made, however, it will likely require additional crutch bents and stabilizers at the bascule pier if it is determined that the settlement and rotation can be stabilized by reinforcing the substructure.

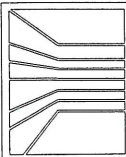
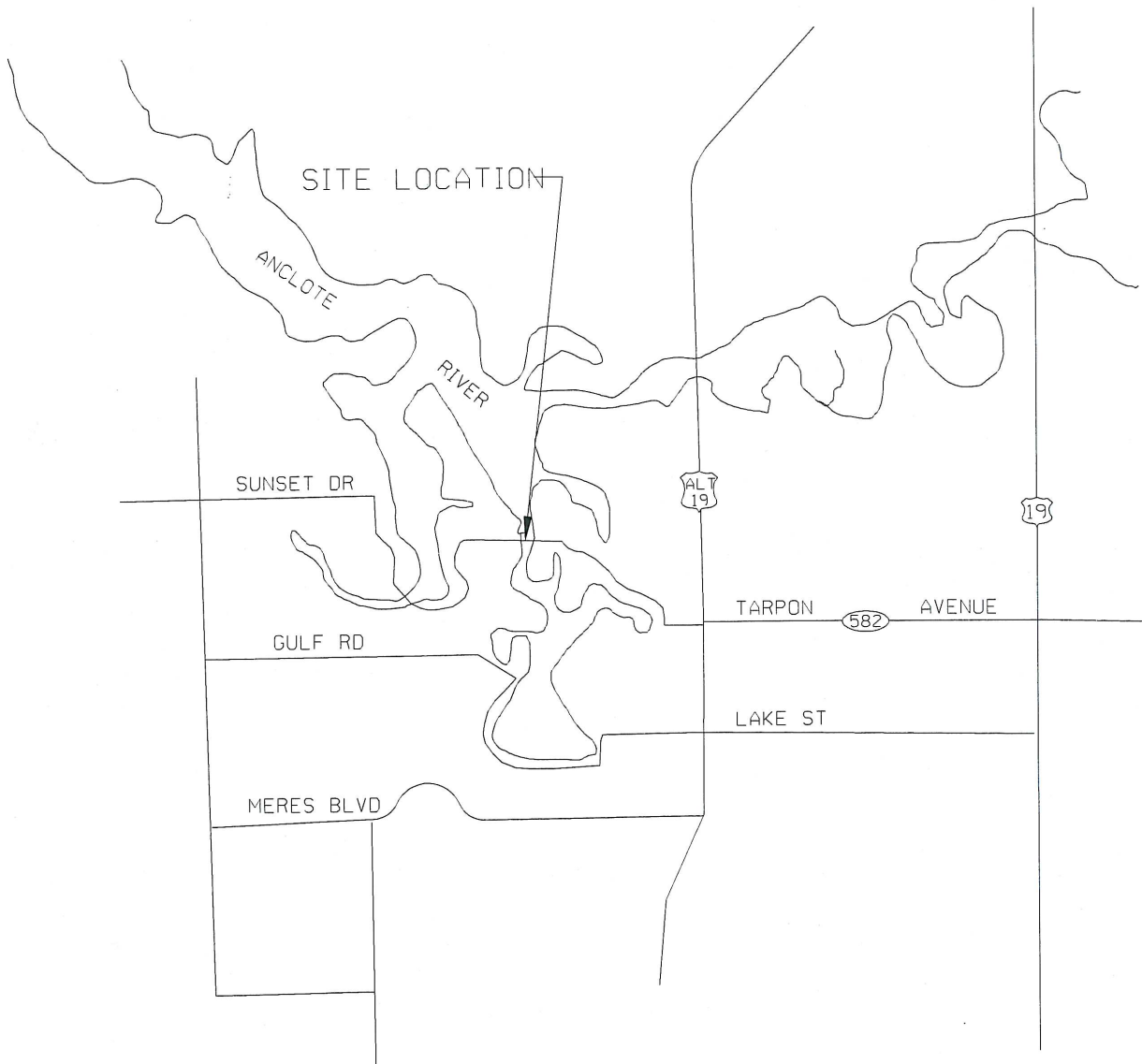
Additional borings may be required if the settlement and rotation is occurring at locations where there is no soils information to assist in the design and construction of the crutch bents or pier stabilizers.

If it is determined that the bridge should be replaced, then additional soil borings will be required to assist in the design and construction. Williams would coordinate with URS on the number of borings, location and depth that best suites the needs of the design and construction, basing it on the subsurface conditions known to be suspect to subsidence for substructure units. Recommendations for foundation design and

selection of foundation support, and recommendations for foundation installation would subsequently be provided in a substructures geotechnical report.



APPENDIX A



WILLIAMS EARTH SCIENCES, INC.

CORPORATE OFFICE:
10600 Endeavour Way, Largo, FL 34647

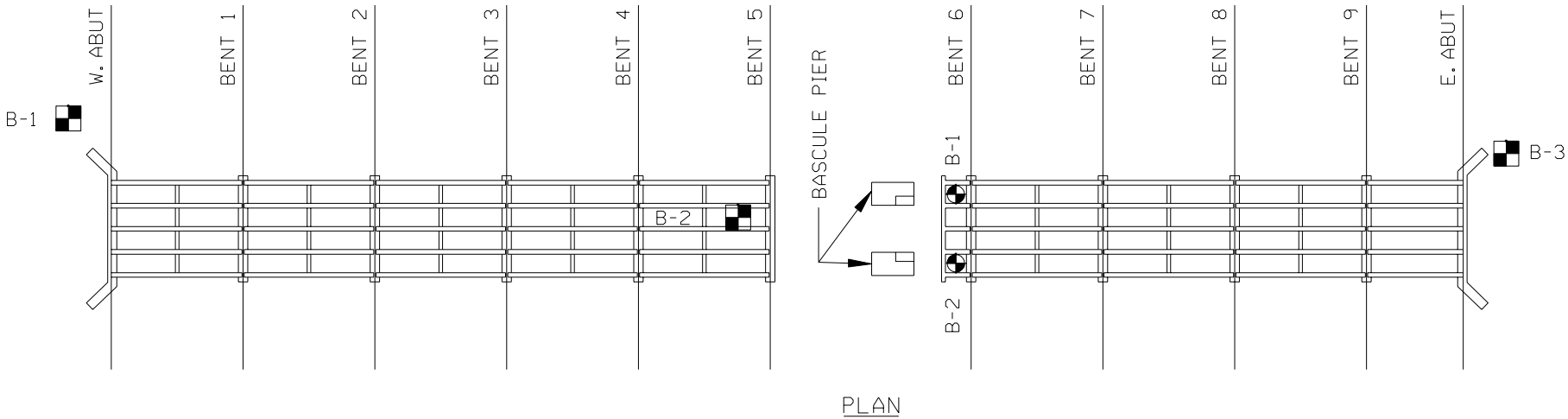
Largo: (813) 541-3444 FAX: (813) 541-1510
Jacksonville: (904) 262-8852 FAX: (904) 262-8864
Panama City: (904) 747-9419 FAX: (904) 763-2454

**BECKETT BRIDGE REPLACEMENT
PINELLAS COUNTY, FLORIDA**

SITE LOCATION MAP

Drawn By: TEJ	Date: 9/11/94	Scale: N.T.S.
Checked By: LDS	Report No. C394348	Figure No. 1

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
	FLA			



- LEGEND**
- [Pattern] = SP, SP-SM and SP-SC, Sands and slightly clayey sands
 - [Pattern] = CH, Inorganic clays of low plasticity
 - [Pattern] = SC, Clayey sands and very sandy clays
 - [Pattern] = LS, Limestone

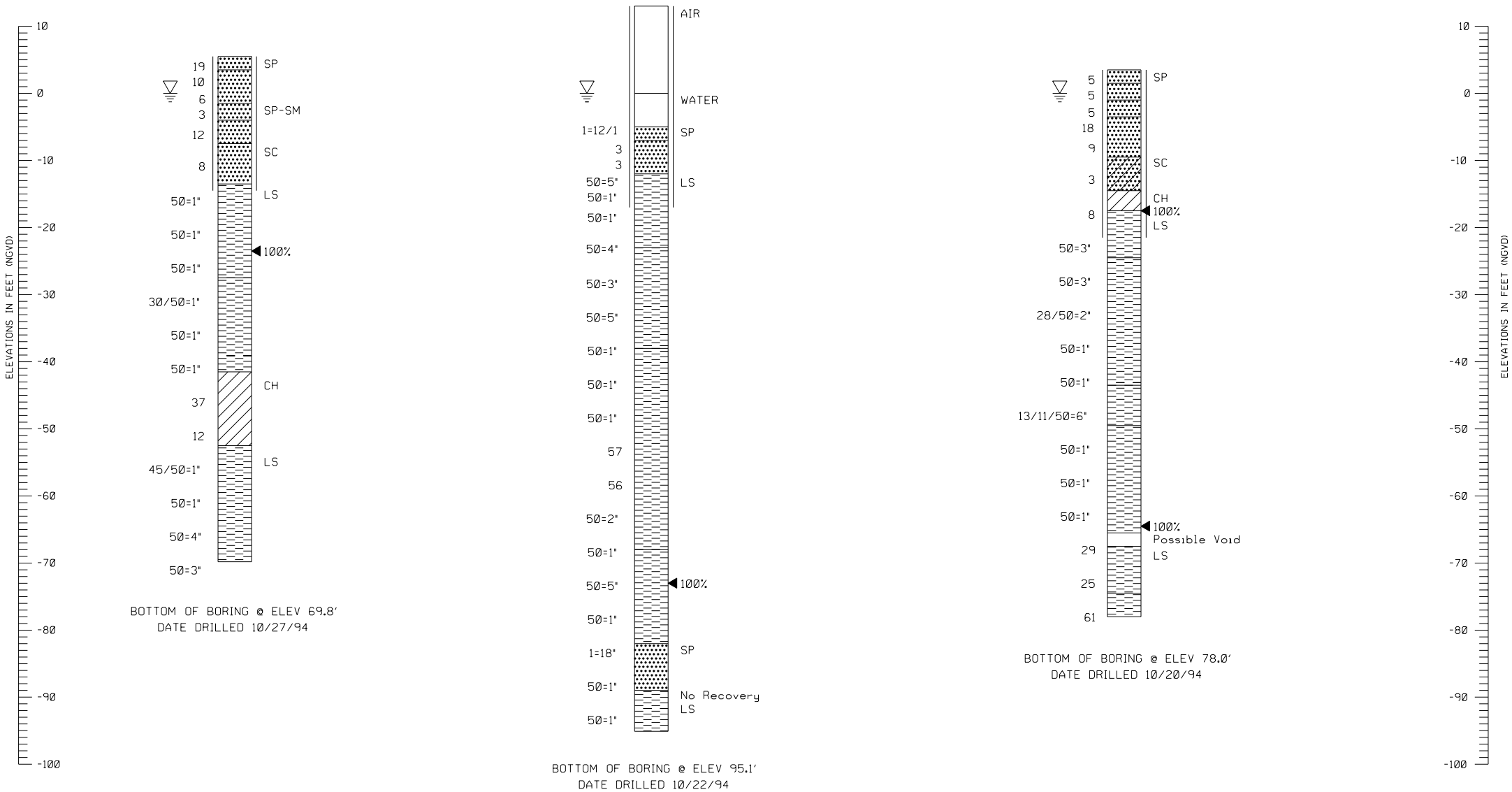
GENERAL NOTES

DRILL AND PENETRATION TESTING WERE PERFORMED IN ACCORDANCE WITH ASTM D 1586. NUMBER TO LEFT OF BORING INDICATES BLOWS OF 1 3/8" I.D., 2" O.D. SPLIT-SPOON FOR 12" OF PENETRATION (UNLESS OTHERWISE NOTED) WITH A 140 LB. HAMMER DROPPED 30 INCHES.

THE BORING LOGS SHOWN REPRESENT SUBSURFACE CONDITIONS WITHIN THE BOREHOLE AT THE TIME OF DRILLING. NO WARRANTY AS TO THE SUBSURFACE CONDITION, STRATA DEPTH OR SOIL CONSISTENCY BETWEEN OR OUTSIDE BORING LOCATIONS IS EXPRESSED OR IMPLIED BY THIS DRAWING.

ELEVATIONS SHOWN ARE APPROXIMATED BY WATER LEVEL AND WATER TABLE MEASURED AT TIME AND DATE BORINGS WERE COMPLETED.

REFER TO FINAL REPORT FOR ADDITIONAL BORING INFORMATION.



- LEGEND**
- [Symbol] = Water Table @ end of drilling
 - [Symbol] = Casing used
 - [Symbol] = Shelby Tube
 - [Symbol] = Percent Loss of Circulation

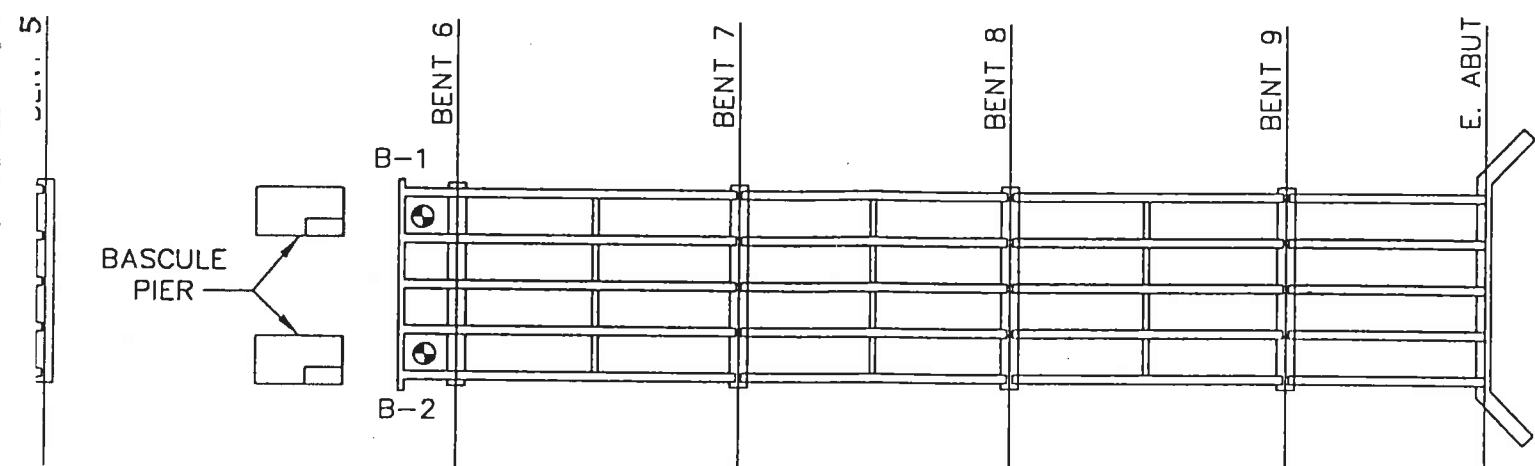
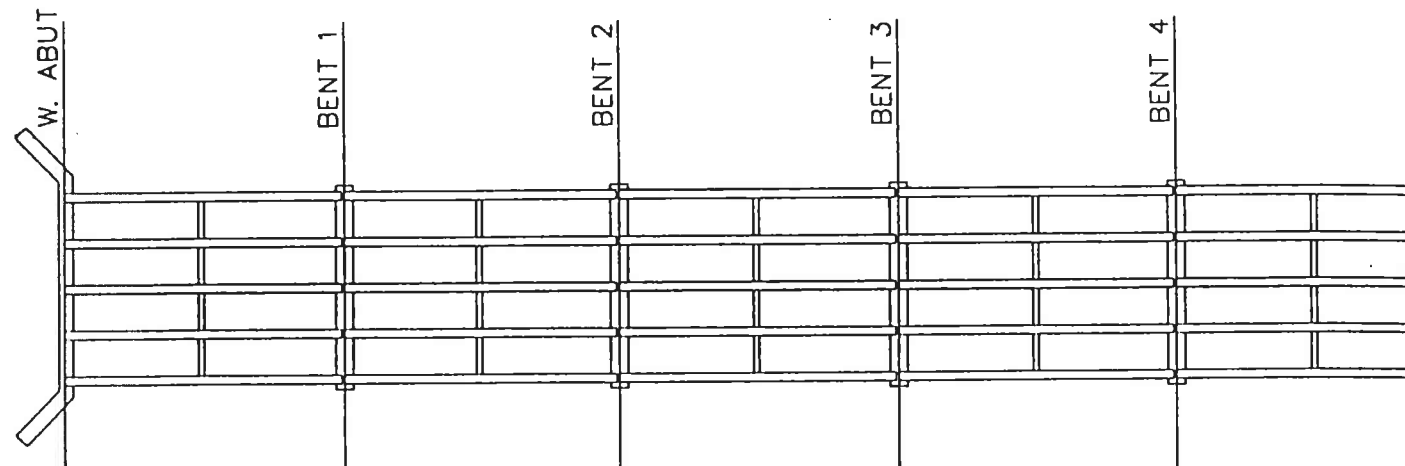
ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE: CORROSIVE (EXTREMELY AGGRESSIVE)
SUBSTRUCTURE: CORROSIVE (EXTREMELY AGGRESSIVE)

Granular Materials- Relative Density	SPT (Blows/Ft)
Very Loose	Less than 4
Loose	4 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	Greater than 50

Silts and Clays- Consistency	SPT (Blows/Ft)
Very Soft	Less than 2
Soft	2 - 4
Firm	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	Greater than 30

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BORING LOCATION PLAN


SCALE: N.T.S.

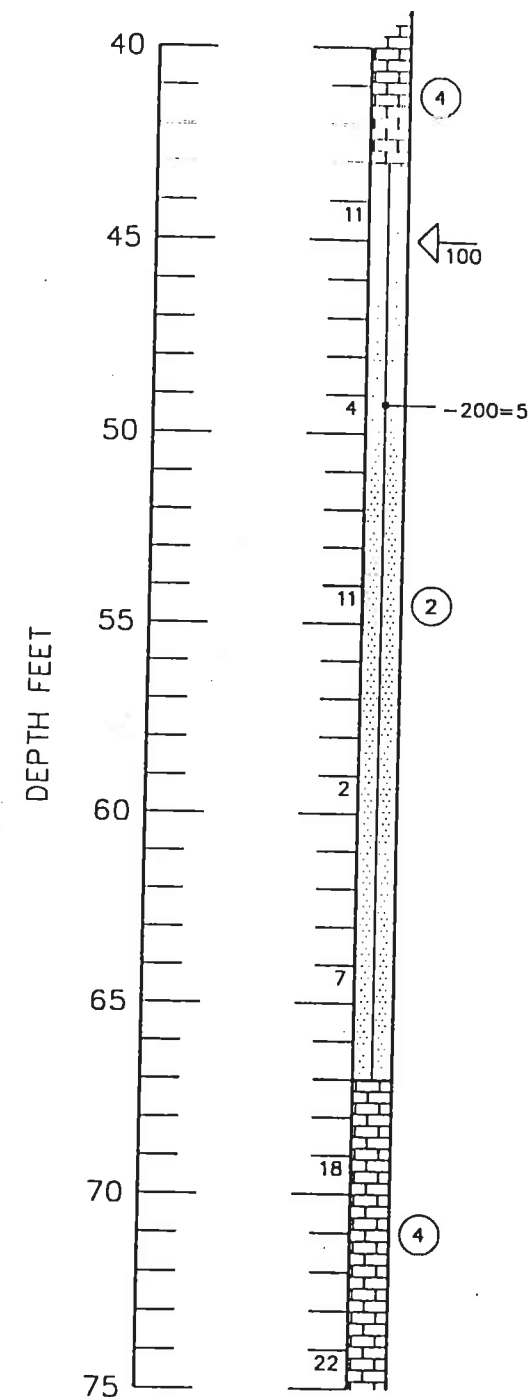
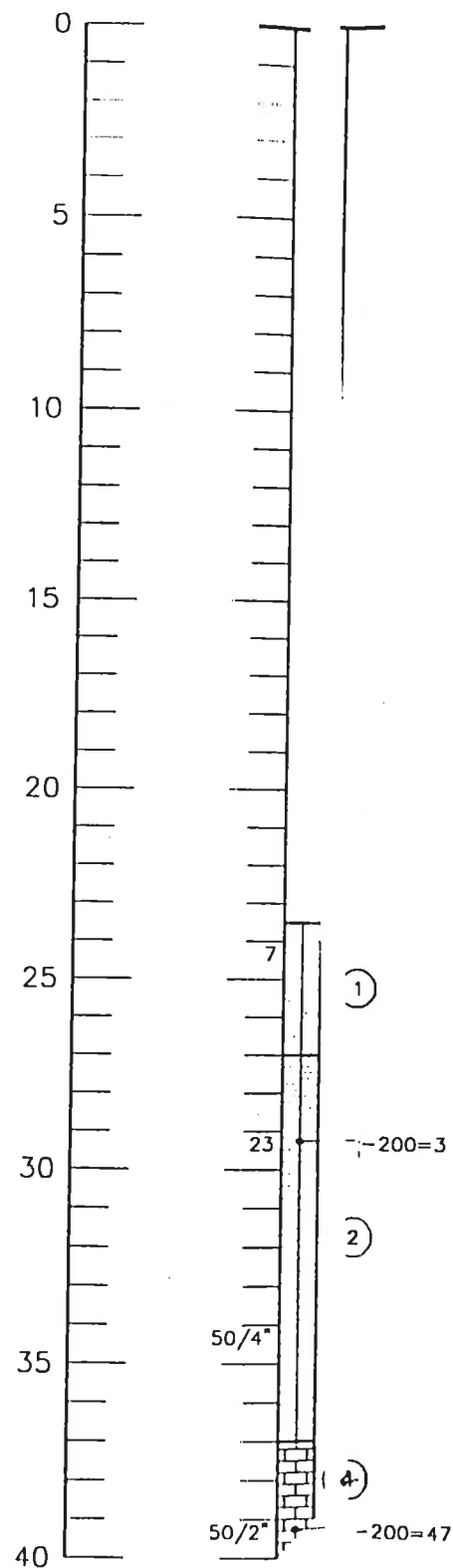
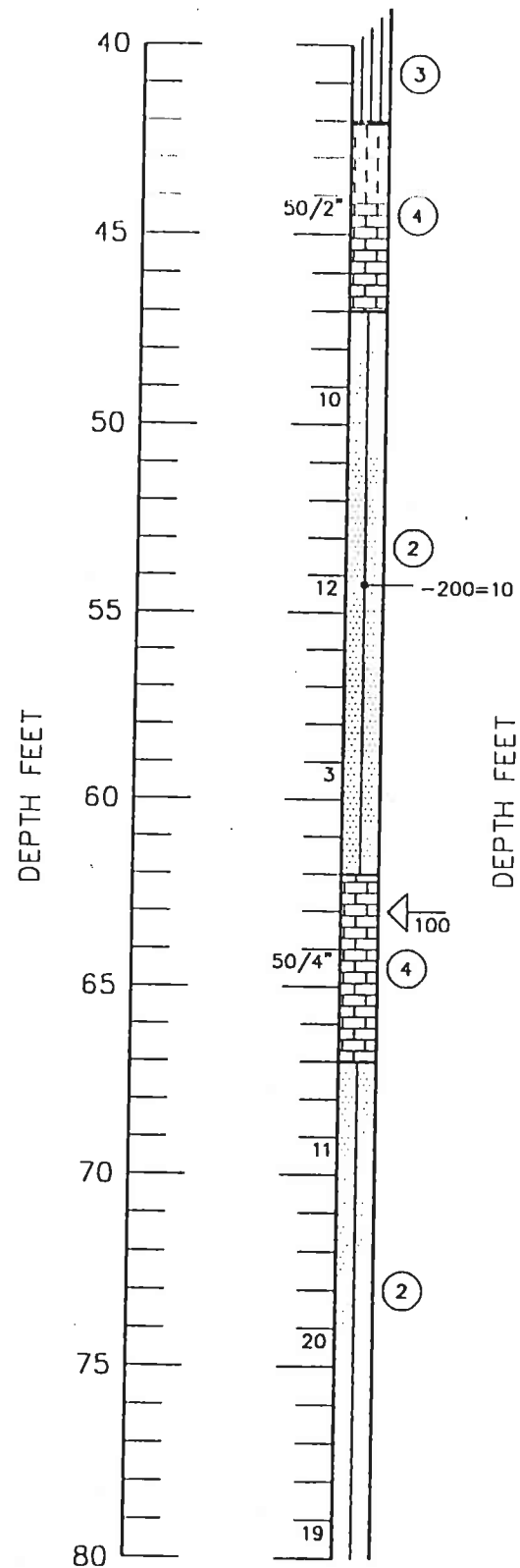
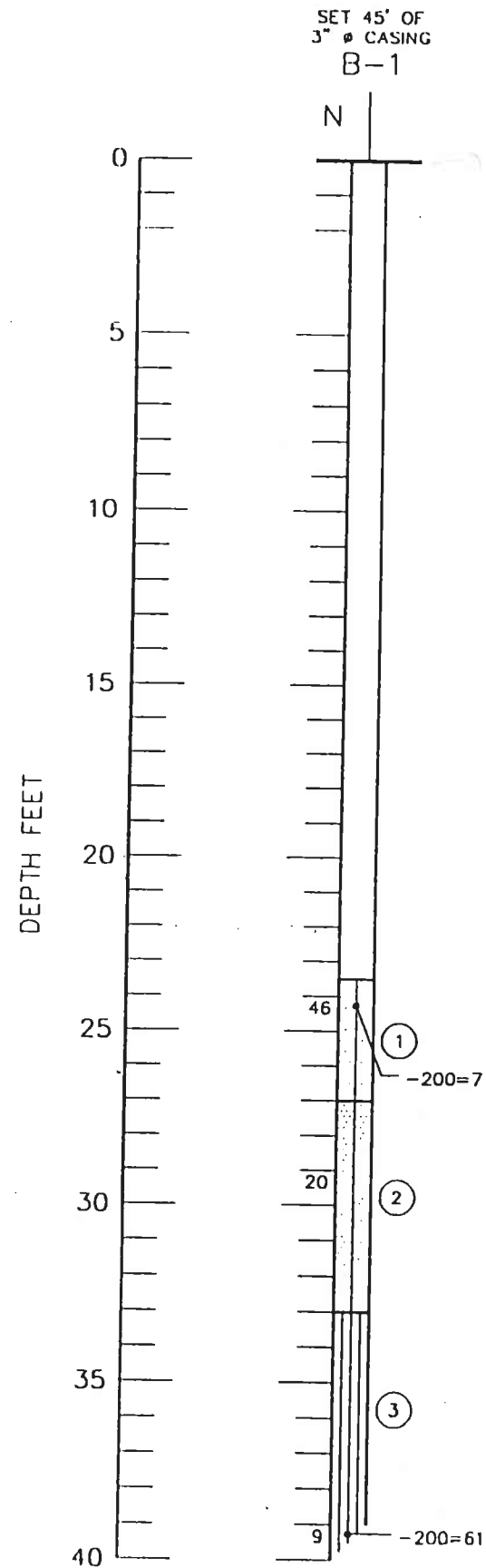


LEGEND

● Approximate SPT boring location

DRAWN	RAJ
CHECKED	DRS
APPROVED	HVJ
SCALE	NOTED

GEOTECHNICAL SERVICES BECKETT BASCULE BRIDGE REPLACEMENT PINELLAS COUNTY, FLORIDA		
 Jammal & Associates, Inc. A Division of Professional Service Industries, Inc.		
DATE	DEC 93	PROJ. NO. 775-35264
		SHEET 1



LEGEND

- ① Dark brown fine SAND with trace silt (SP-SM)
- ② Brown fine SAND with trace silt (SP-SM)
- ③ Dark gray sandy SILT (ML)
- ④ Calcareous silts and weathered LIMESTONE (rock)
- SP Unified Soil Classification group symbol as determined by visual review
- N SPT "N" value in blows/foot
- 50/3" Fifty blows for three inches
- ← Loss of circulation (%)
- 200 Fines passing No. 200 sieve (%)

SOIL PROFILES

VERTICAL SCALE: 1"=5'

DRAWN	RAJ
CHECKED	DRS
APPROVED	HVJ
SCALE	NOTED

GEOTECHNICAL SERVICES
BECKETT BASCULE
BRIDGE REPLACEMENT
PINELLAS COUNTY, FLORIDA



Jammal & Associates, Inc.
A Division of Professional Service Industries, Inc.

DATE	DEC 93	PROJ. NO.	775-35264	SHEET 2
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APPENDIX B



SUBSURFACE EVALUATIONS, INC.

Engineering Geology & Geophysics

13617 North Florida Avenue
Tampa, FL 33613 USA
Voice: (813) 353-9083
Fax (813) 353-9653
www.sei-tampa.com

April 28, 2009

Mr. Larry Spears, P.E., Geotechnical Engineer
Williams Earth Sciences, Inc. (Client)
10600 Endeavour Way
Largo, Florida 33777

Subject: Electrical Resistivity Imaging Geophysical Survey Report
Beckett Bridge Project
Riverside Drive at the Anclote River
Tarpon Springs, Florida

Dear Mr. Spears:

In accordance with your authorization, Subsurface Evaluations, Inc. (SEI) has conducted an Electrical Resistivity Imaging (ERI) survey at the above-referenced subject site. The ERI survey was performed on April 21st and 22nd, 2009. This report is subject to the limitations shown on Attachment A.

Background and Purpose

The subject site is the existing Beckett Bridge located along Riverside Drive crossing the entrance to Minetta and Whitcomb Bayous in Tarpon Springs, Florida. The bridge is a Bascule bridge reconstructed in 1956. Through our discussions it was indicated that the supports for the bridge have undergone apparent subsidence and lateral displacement resulting in the misalignment of the bridge. The bridge was reported to have been repaired for similar subsidence problems approximately 15 years ago at which time additional supports (H-piles) were installed at the bridge.

The general soil conditions present along the bridge based upon soil borings were indicated to consist of approximately seven (7) feet of sand underlain by hard limestone. However, during the installation of the H-piles, apparent solution features were encountered resulting in some driven piling depths of as much as 120 feet.

The purpose of the geophysical survey is to document the vertical extent and lateral continuity of soil layers and to identify possible karst hazards within the river along the sides of the bridge. The objective of the survey is to characterize the geology directly underlying the river to assist in evaluating ground stability to promote effective geotechnical engineering design and testing.

Electrical Resistivity Imaging (ERI) Survey

ERI Methods and Equipment

Andrew Glasbrenner, P.G., Senior Geologist and Scott Purcell, SEI Project Manager, performed the survey assisted by additional SEI staff. Mr. Glasbrenner and SEI staff prepared the figures and text of the report.

ERI is a geophysical method of obtaining a virtual cross-section of subsurface soil and rock layers. It consists of two separate steps: 1) measuring the apparent (weighted average) electrical resistivity of the ground over numerous stations and 2) computerized processing of apparent resistivity data to obtain a virtual cross-section of estimated true resistivity values.

In the field, an electric current is passed into the ground or water by a pair of electrodes and the potential is measured at a second pair of electrodes. Multiple electrodes and a computerized switching system are used to speed data acquisition. A SuperSting/Swift R8® Memory Earth Resistivity Meter, a 28 takeout passive marine cable set, and stainless steel electrodes were used to perform the survey. Advanced Geosciences, Inc., (AGI), of Austin, Texas, manufactured the equipment, which is designed for shallow geotechnical and geological applications and engineered to have a high signal to noise ratio.

For quality assurance/quality control, SEI performs resistivity surveys in compliance with the ASTM Standard Guide for Using the Direct Current Resistivity Method for Subsurface Investigation, designation D 6431-99.

Array Type

Resistivity data were collected using a dipole-dipole array configuration with the extended data coverage option. This array type maximizes lateral resolution and the total number of data points collected on each transect. A dipole-dipole array places two current (transmitting) electrodes together as a pair and two potential (sensing) electrodes together as a pair. For each successive measurement, the potential electrode pair is moved farther away from the current electrode pair by a distance that is a multiple of the distance between the electrodes.

ERI Transects

Resistivity measurements were made along five (5) transects at the site. All transects consisted of a 28 electrode array on a spacing of 20 feet. Transects T1 and T2 were oriented west to east along the south and north sides of the bridge, respectively. These were placed so that a portion of each end of the transects were located above the waterline on dry ground, and passing approximately ten feet north or south of the edges of the bridge deck where submerged.

Transects T3, T4, and T5 were oriented south to north, crossing beneath the middle three sections of the bridge. These transects were completely submerged, and were deployed from a pontoon boat.

The pontoon boat also held the instrumentation for the duration of data collection for each of these transects.

The approximate location of the ERI transects are shown on the attached Figure 1: Site Location Map. Transect locations were measured and placed using a Trimble™ Differential Global Positioning System (DGPS).

Modeling

After the survey was performed, ERI field data was transferred to a computer and converted into data files for modeling. Two-dimensional inverse resistivity modeling was performed using the RES2DINV version 3.57.37 software package. Special modeling routines included for processing of submarine and mixed data sets were utilized in the processing of this data. The modeling method consists of estimating the true resistivity of the subsurface at points arranged in a grid on a vertical plane. The estimated true resistivity values are used to calculate apparent resistivity values, which are compared to the actual measured resistivity values. Adjustments are made in the model to make the calculated resistivity values more closely match the measured values. The modeling progresses toward better estimates of the true resistivity by iteration using the least-squares method. Up to five iterations were performed.

The iteration process was carried out until the convergence between iterations approached 5%. RMS errors less than 10% are considered ideal, but this cannot be obtained in all cases and is dependent upon local soil conditions. Highly resistive surficial soils, or shallow subsurface lithified materials reduce signal propagation and signal strength at depth, contributing to higher RMS error calculations in the model. Significant deviations from a horizontally layered, laterally homogenous model will also significantly increase the apparent RMS error. SEI reduced the error in the model by trimming data points that have high RMS error values using an editing feature of the RES2DINV software. The estimated true resistivity values were contoured to produce a two-dimensional pseudosection for the plane beneath the survey line. A contour interval was chosen to show minor variations in the lower resistivity values while covering the range of typical material values. Topographic corrections were made with respect to observed sea level at the time of the survey, but are not adjusted to match any formal elevation model.

Resistivity values are not necessarily dependent only on the type of soil or rock present, but are strongly influenced by the presence, salinity and pH of pore fluids in the earth materials. Dry clays may have resistivities that are higher than typical and saturated sands may have resistivities that are lower than typical. In particular, saltwater and low pH (acidic) fresh groundwater will greatly reduce the resistivity of non-conductive materials such as sand and limestone. Different materials and conditions may also present similar electrical signatures, such as dense plastic clays and loose saturated granular soils or voids.

Please note that the resistivity-modeling program contours the modeled data points in a manner that may show gradational changes, when in fact, abrupt contacts are present between layers of earth materials. Also, please be aware that actual lithological contacts can be difficult to identify on the ERI pseudosections without test boring data. Interpretations are made in the Results section, by

assuming that certain contour intervals represent the contact between different types of materials, as described above.

Prints of the ERI pseudosections are provided on the attached Figure 2, and form the basis for this report. Other details about the survey and modeling are available in SEI's files should you need them in the future.

ERI Survey Results and Discussion

The results of the survey were apparently impacted by the presence of the steel H-piles, resulting in low resistivity anomalies coincident with the location of the submerged steel. However, despite this interference, the two transects that were oriented parallel to the bridge, T1 and T2, indicate low resistivity anomalies of greater extent than likely due to such interference. It is our interpretation that these larger anomalies may represent areas of increased porosity/lower density, or areas where higher resistivity shallow bedrock has been weathered or replaced. This anomaly is delineated on the Site Location Map (Figure 1) and labeled as Feature 1, and should be considered for additional direct investigation by soil boring or similar method.

Additionally, all five pseudosections indicate a transition in resistivities between 20 and 40 feet below sea level, from lower to higher resistivity. This may be indicative of a stratigraphic transition to bedrock, or perhaps from soil and weathered bedrock to competent bedrock.

Recommendations

SEI recommends that the center of the apparent anomaly documented in the ERI survey and identified as Feature 1 be considered for additional direct investigation. Advancing an SPT boring at the deepest part or center of each feature would serve to verify the inferred possible karst conditions. If the results of these test borings indicate anomalous conditions indicative of karst activity, SEI may be able to identify further appropriate locations for additional investigation after correlation of boring log data and ERI survey results. SEI would be pleased to assist you with further correlation and interpretation of this ERI survey and the findings from the drilling conducted as part of the initial soil boring investigation.

Closing Comments

We appreciate the opportunity of providing these geophysical services to you on this project. Should you have any questions or require additional information, please do not hesitate to contact our office at (813) 353.9083.

Sincerely,

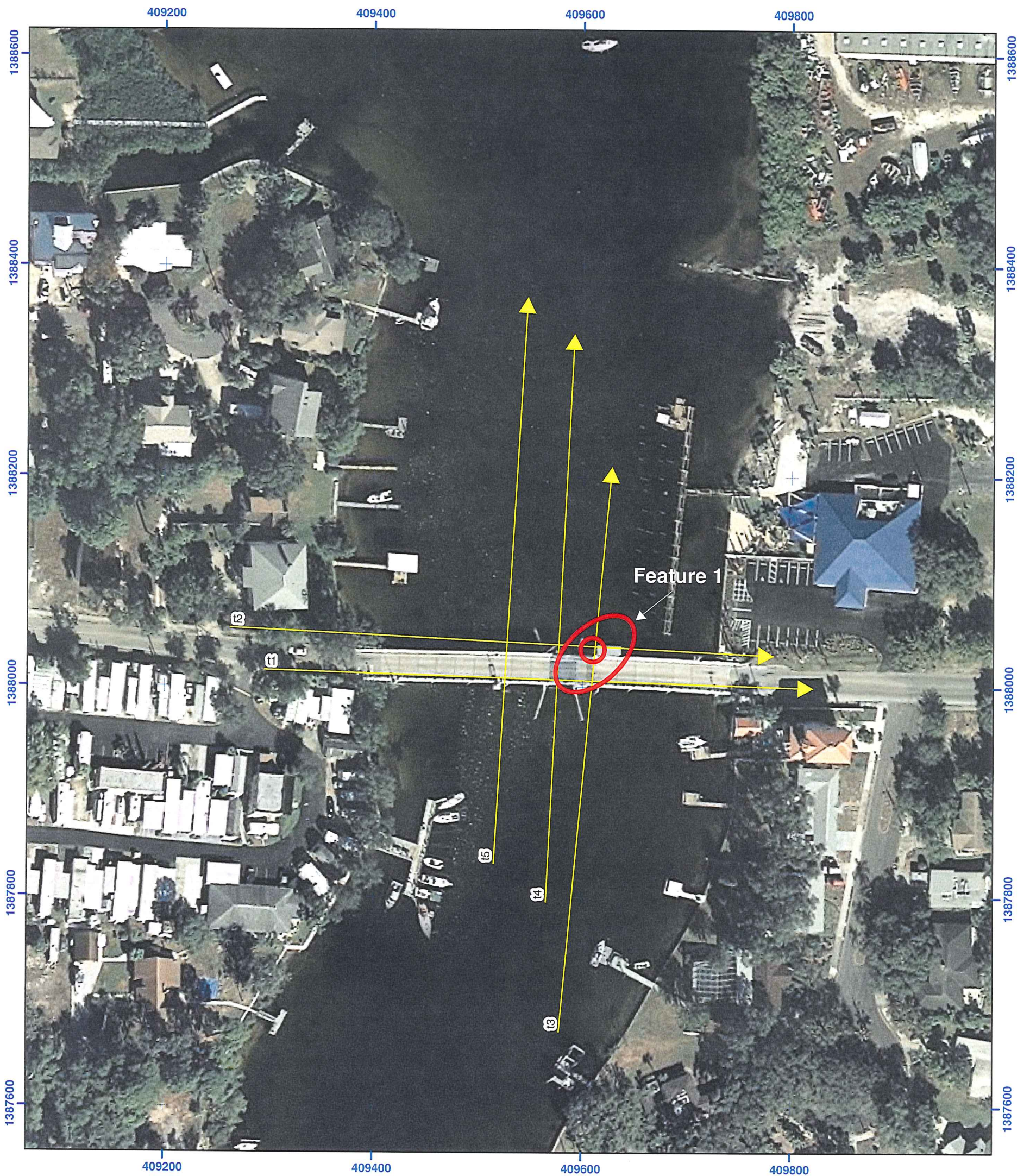
SUBSURFACE EVALUATIONS, INC.



Andrew Glasbrenner, P.G.
Licensed Professional Geologist, No. 2374 (Florida)
Senior Geologist
April 28th, 2009

Attachments: Attachment A – Limitations,
Figures 1 through 2

File: X:\2009\Williams Earth Sciences\Beckett Bridge\Beckett Bridge ERI Report.doc



Map is shown in State Plane Florida West 902 NAD 1983 Coordinate System (Feet)

Legend



0 100 200 Feet

Figure 1: Site Location Map

Project: Beckett Bridge
Riverside Drive
Tarpon Springs, Florida

Client: Williams Earth Sciences, Inc.

Date: April 21-22, 2009

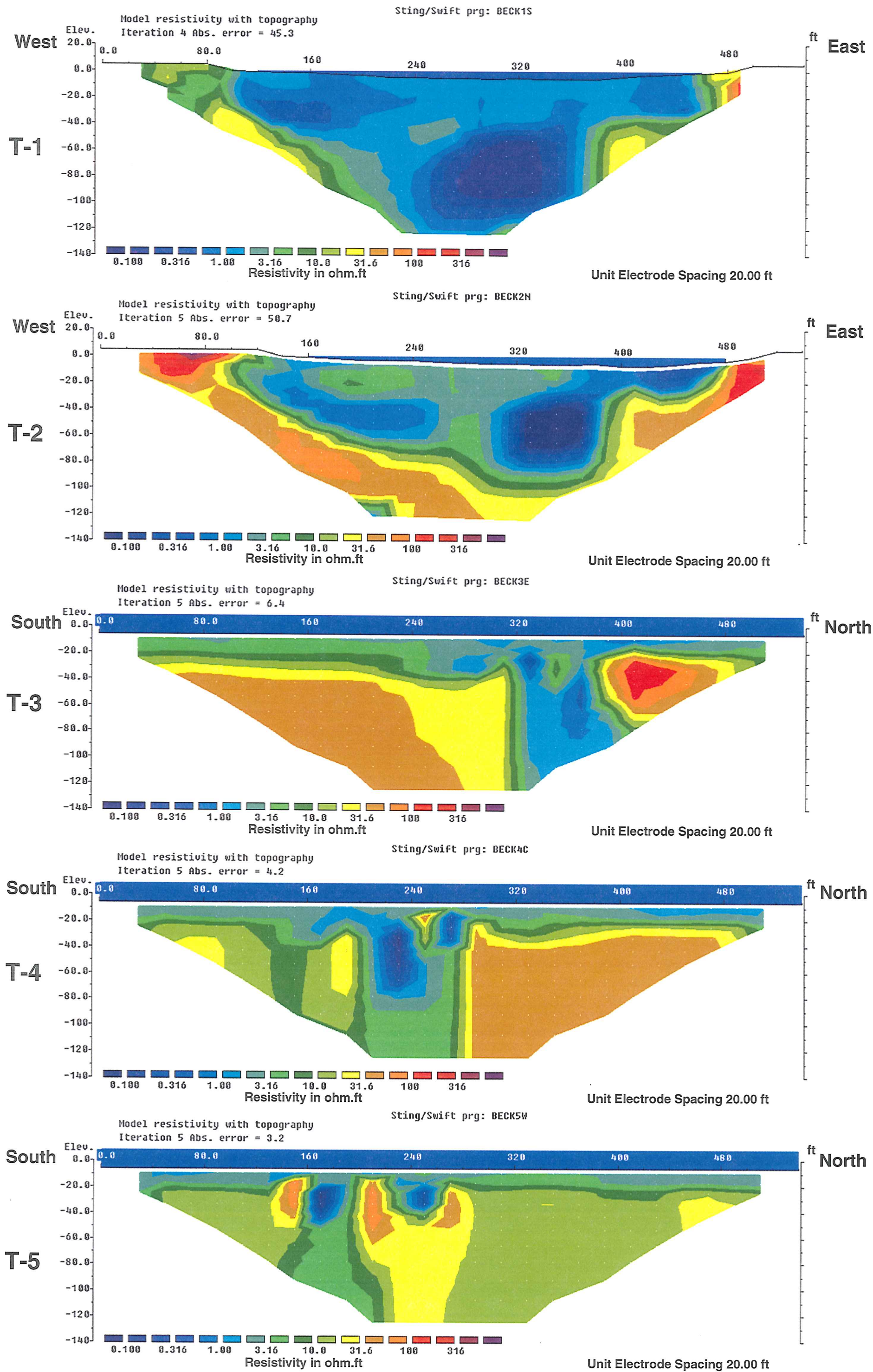
Created By: JRW



**SUBSURFACE
EVALUATIONS, INC.**

Engineering Geology & Geophysics
8010 Woodland Center Blvd., Suite 100 Tampa, FL 33614
800-508-2509 (813) 353-9083 Fax: (813) 353-9653
www.SubsurfaceEvaluations.com

Fig 2: Electrical Resistivity Imaging Pseudosections T1-T5
Beckett Bridge, Tarpon Springs, Florida





APPENDIX D

2011, 2012, and 2013 Bridge Inspection Reports

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 1 OF 37
INSPECTION DATE: 7/28/2011 IVSU

BY: Centurion
OWNER: 2 County Hwy Agency
MAINTAINED BY: 2 County Hwy Agency
STRUCTURE TYPE: 3 Steel - 16 Movable-Bascule
LOCATION: 0.4 MI W/O GRAND BLVD
SERVICE TYPE ON: 5 Highway-pedestrian
SERV TYPE UND: 5 Waterway

STRUCTURE NAME: BECKETT BRIDGE
YEAR BUILT: 1924
SECTION NO.: 15 000 000
MP: 0
ROUTE: 00000
FACILITY CARRIED: N SPRING BLVD
FEATURE INTERSECTED: MINETTA BRANCH

☒ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI with Movable

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 07/28/2011 UNDERWATER: 6/24/2011

SUFFICIENCY RATING: 44.9
HEALTH INDEX: 88.26

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 2 OF 37
INSPECTION DATE: 7/28/2011 IVSU

BY: Centurion
OWNER: 2 County Hwy Agency
MAINTAINED BY: 2 County Hwy Agency
STRUCTURE TYPE: 3 Steel - 16 Movable-Bascule
LOCATION: 0.4 MI W/O GRAND BLVD
SERVICE TYPE ON: 5 Highway-pedestrian
SERV TYPE UND: 5 Waterway

STRUCTURE NAME: BECKETT BRIDGE
YEAR BUILT: 1924
SECTION NO.: 15 000 000
MP: 0
ROUTE: 00000
FACILITY CARRIED: N SPRING BLVD
FEATURE INTERSECTED: MINETTA BRANCH

- ☒ THIS BRIDGE CONTAINS FRACTURE CRITICAL COMPONENTS
☐ THIS BRIDGE IS SCOUR CRITICAL
☐ THIS REPORT IDENTIFIES DEFICIENCIES WHICH REQUIRE PROMPT CORRECTIVE ACTION
☒ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI with Movable

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 07/28/2011 UNDERWATER: 6/24/2011

SMART FLAGS:

OVERALL NBI RATINGS:

360 Settlement SmFlag: Settlement stable

DECK: 7 Good
SUPERSTRUCTURE: 6 Satisfactory
SUBSTRUCTURE: 6 Satisfactory
PERF. RATING: Good

CHANNEL: 7 Minor Damage
CULVERT: N N/A (NBI)
SUFF. RATING: 44.9
HEALTH INDEX: 88.26

FIELD PERSONNEL / TITLE / NUMBER

INITIALS

Rhodes, Ritchie - Bridge Inspector (CBI #00209) (lead)
Menne, Karl - Assistant Bridge Inspector
Hampton, Marshall - Engineer Intern (CBI #00471)
Carlton, Mike - Mechanical Inspector
Lara, Marco - Electrical Inspector
Hoogland, Keith - Bridge Inspector/Lead Diver (CBI #00341)
Hays, Stephen - Bridge Inspector/Diver (CBI #00438)
Salazar, Pete Jr - Tender/Inspector

REVIEWING BRIDGE INSPECTION SUPERVISOR:

Hazen, Bruce - Professional Engineer (PE #47379)

CONFIRMING REGISTERED PROFESSIONAL ENGINEER:

Hazen, Bruce - Professional Engineer (PE #47379)
Centurion
1907 US Hwy 301 North
Suite 160C
Tampa, FL 33619

SIGNATURE: _____

DATE: _____

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 3 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 28/4 Steel Deck/Open Grid 500 sf. ELEM CATEGORY: Decks/Slabs

CONDITION STATE (5)	DESCRIPTION	QUANTITY
3	Surface corrosion has formed. The paint system is no longer fully effective. There is no loss of section. The connectors may be starting to show signs of distress - cracked welds or broken rivets.	500 sf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel grating of Span 6. The quantity has been field verified. The cantilevered sidewalk supports are incidental to this element.

CS3: There is an 18 in. piece of missing longitudinal deck bar adjacent to the right wheel path of Lane 2 between Transverse Deck Bars 5 and 6 over Rest Pier 6. At the time of this inspection, the rehabilitation crew were fabricating a repair for this area.

The open steel grating and cantilevered sidewalk supports exhibit widespread areas of peeling paint and moderate to heavy corrosion. Refer to Photos 1 and 2. REPAIR.

The transverse deck supports exhibit blistered paint and moderate to heavy corrosion at many of the deck connections. Refer to Photo 3. REPAIR.

The inside of the steel box curbs exhibits areas of blistered paint and moderate to heavy active corrosion. Refer to Photo 4. REPAIR.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 4 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 29/4 Steel Deck/Conc Grid 291 sf. ELEM CATEGORY: Decks/Slabs

CONDITION STATE (5)	DESCRIPTION	QUANTITY
3	Surface corrosion has formed. The paint system is no longer fully effective. There is no loss of section. The connectors may be starting to show signs of distress - cracked welds or broken rivets. The concrete filler may have broken out at scattered locations.	291 sf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the filled grid deck of Span 6.

CS3: There are several exposed grate bars with moderate to heavy surface corrosion within 2 ft. of the open grid. Refer to Photo 5. REPAIR

The underside of the steel grid deck exhibits areas of moderate active corrosion. Refer to Photo 6. REPAIR.

ELEMENT/ENV: 399/4 Other Xpansion Joint 52 lf. ELEM CATEGORY: Joints

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	The element shows minimal deterioration. Joint armor, if present, is secure. The adjacent deck and/or header is sound.	52 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the armored joint at Rest Pier 6 and the traffic plate joint at Bascule Pier 7. This element was moved from Unit 1. The quantity has been field verified.

CS1: The paint on both joints is moderately worn.

The armored angle over Rest Pier 6 is missing 1 ft. per side adjacent to the curbs due to two 1 ft. x 4 in. add-on sections to the open steel grid deck – NEW.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 5 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 334/4 Metal Rail Coated 82 lf. ELEM CATEGORY: Railing

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion. Protective coating is sound and functioning as intended to protect the element.	82 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the metal bridge rails along Span 6. This element was moved from Unit 1.

CS1: There are minor scuffs on Posts 6-5 and 6-6 due to contact during openings.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 6 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 107/4 Paint Stl Opn Girder 83 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	53 lf.
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	10 lf.
4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	20 lf.

ELEMENT INSPECTION NOTES:

NOTES: This element quantifies the main girders and trunnion girders of Span 6. The main girders are fracture critical; refer to Fracture Critical Data in Addendum.

There are welded repair plates in the vicinity of the rolling tracks and drilled holes where the span drive machinery had once been located.

CS1: The north edge of Main Girder 6-2 top flange exhibits painted over knife edging and small areas of painted over corrosion holes up to 1/4 in. in each side of Floor Beam 6-2.

CS2: The top flanges, lower portions of the webs and bottom flanges exhibit painted over pitting with corrosion holes up to 1/4 in. diameter near the curve tracks – INCREASE. Refer to Photo 7. REPAIR.

CS4: The main girders exhibit areas of active corrosion at the floor beams, vertical stiffeners and at the curve tracks. Refer to Photo 8. REPAIR.

ELEMENT/ENV: 113/4 Paint Stl Stringer 246 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	236 lf.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 7 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 113/4 Paint Stl Stringer 246 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	10 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the stringers of Span 6.

CS1: The bottom faces of the bottom flanges exhibit painted over pitting up to 3/16 in. deep.

CS2: The stringers at the east side of Floor Beam 6-3 exhibit corrosion staining at the lower webs and flanges.

ELEMENT/ENV: 152/4 Paint Stl Floor Beam 59 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	57 lf.
3	Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section.	1 lf.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 8 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 152/4 Paint Stl Floor Beam 59 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	1 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the fracture critical floor beams of Span 6. Refer to Fracture Critical Data in the Addendum.

CS1: The floor beams exhibit painted over pitting up to 3/16 in. deep in the bottom faces of the bottom flanges and in the top flanges at the stringer connections.

CS3: Floor Beam 6-2 exhibits a 1 ft. long area of moderate corrosion in the bottom flange at Main Girder 6-2. Refer to Photo 9. REPAIR.

CS4: Floor Beam 6-3 exhibits three small corrosion holes up to 3/4 in. in the lower portion of the web at the two southernmost vertical stiffeners and painted over pitting up to 1/4 in. deep throughout the remainder of the floor beam. Refer to Photo 10. REPAIR.

ELEMENT/ENV: 540/4 Open Gearing 8 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	Gears are properly aligned and lubricated, minimal wear or corrosion is present.	5 ea.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 9 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 540/4 Open Gearing

8 ea.

ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
2	Minor misalignment, gears may need lubrication, gear teeth wear or corrosion is measurable, but operation of drive system not impacted.	3 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the eight gear sets including rack sets. Refer to the Machinery Layout Diagram and Table A in the Addendum.

CS2: Both rack and pinion sets and gear sets P/G-3S and P/G-4S exhibit minor cross bearing wear.

The teeth of the north rack pinion gear sets exhibits erratic contact due to the bent pinion shaft (See Elm. 542 Shafts). Refer to Photo 11.

The racks and pinions are forming corrosion on unpainted surfaces. Refer to Photo 11. REPAIR.

CORRECTIVE ACTION TAKEN:

The cross bearing on P-3N and G-3N was not noticeable this inspection.
The fasteners on the interior side of the south rack have been replaced.

ELEMENT/ENV: 541/4 Speed Reducers

1 ea.

ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
2	Minor misalignment, gears may need lubrication, gear teeth wear or corrosion is measurable, but operation of drive system not impacted.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: Refer to the Machinery Layout Diagram and Table B in the Addendum.

CS2: The housing of the speed reducer exhibits peeling paint and light surface corrosion – NEW.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 10 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 542/4 Shafts		7 ea.	ELEM CATEGORY: Movable
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
2	Shafts are not properly aligned, bearings are not lubricated, shaft clearance at bearings is not uniform. Minor corrosion may be present. Seals and gaskets show evidence of minor leaking.	6 ea.	
3	Measurable section loss is present, minor cracks in shaft or bearing supports. Seals and gaskets not working.	1 ea.	

ELEMENT INSPECTION NOTES:

NOTE: Refer to the Machinery Layout Diagram and Table C in the Addendum.

CS2: All shafts exhibit peeling paint and light surface corrosion.

CS3: The north pinion shaft (S-5N) is noticeably bent causing erratic tooth contact throughout operation – NEW. Refer to Photo 11. REPAIR.

ELEMENT/ENV: 543/4 Shaft Brgs and Coupl		18 ea.	ELEM CATEGORY: Movable
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	Shafts are properly aligned, bearings are properly lubricated, shaft clearance at bearings is appropriate, no cracks or corrosion is present.	16 ea.	
2	Shafts are not properly aligned, bearings are not lubricated, shaft clearance at bearings is not uniform. Minor corrosion may be present. Seals and gaskets show evidence of minor leaking.	2 ea.	

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies fifteen bearings and three couplings. Refer to the Machinery Layout Diagram and Table D in the Addendum.

CS2: Couplings C-2, both east and west, exhibit peeling paint with minor surface corrosion.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 11 OF 37
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All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 544/4 Brakes		2 ea.	ELEM CATEGORY: Movable
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	Clearances are normal, shoes do not show abnormal wear, shoes are clean, no oil or grease is present on shoes, shoes do not have a glazed appearance. Brake wheel surface is clean and smooth. Brakes operate correctly. Moving parts are properly lubricated.	1 ea.	
3	Brake operation needs improvement, measurable corrosion may be present, moving parts may be sticking.	1 ea.	

ELEMENT INSPECTION NOTES:

NOTE: The brakes and span locks are hydraulically operated by a common hydraulic power unit (HPU). Refer to Elements 547, Hydraulic Power Unit and 548, Hydraulic Piping Sys, for additional comments on these components. Refer to the Machinery Layout Diagram and Table E in the Addendum.

CS3: The motor brake (brake 1) is not grabbing when set. The shaft that the brake is on can be moved within the backlash of the gear sets up to the machinery brake (brake 2). The motor brake was also not releasing, intermittently. Refer to Element 548 for additional comments regarding this deficiency. Refer to Photo 12. REPAIR.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

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BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 12 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 546/4 Span Drive Motors 2 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	Motor does not overheat, bearings properly lubricated, bearing seals tight, all components tight, no corrosion present, tests performed show normal readings.	2 ea.

ELEMENT INSPECTION NOTES:

NOTE: There is no backup system emergency drive at the bridge site. A truck mounted portable generator is available when needed. The generator switch and outlet are located on the power panel at the northeast corner of the bridge. Due to the ongoing bridge rehabilitation work, the bridge was not operated on the portable generator system during this inspection but will be tested during the post-rehab inspection. Refer to Tables F, G & H and the Machinery Layout Diagram in the Addendum.

ELEMENT/ENV: 547/4 Hydraulic Power Unit 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	All components are clean, no leakage is present. There is no build up of dirt and debris. Fluid level in the reservoir is within the prescribed limits. Fluid conductors are free of abrasion, flattening or kinking. Gauge readings are within prescribed limits. Filters are clean. Hydraulic Power Unit is operating properly.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: The brakes and span locks are operated by a common hydraulic power unit (HPU). This element quantifies the pump, electric motor, valves, filters, reservoir, manual pump and any accessories as one system. Refer to Table I the Addendum.

CORRECTIVE ACTION TAKEN:

The desiccant breather has been replaced.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

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BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 13 OF 37
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All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 548/4 Hydraulic Piping Sys 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	Minor deterioration or corrosion present. There may be minor leakage of hydraulic fluid present. Maintenance required.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: The hydraulic piping and flexible hoses that run from the HPU to the brakes and span locks were evaluated under this element. Refer to Table I in the Addendum.

CS2: The motor brake was not releasing intermittently, there was no pressure shown on the gauge when the brake was not releasing, indicating a problem with the valve since the emergency brake (brake 2) is on the same pressure line and was releasing. Refer to Photo 12. REPAIR.

ELEMENT/ENV: 549/4 Hydraulic Cylinders 2 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	Units are clean and no signs of excess leakage are present. Cylinder rods are not scored. Cylinder rod boots are connected and not damaged. Cylinder rods operate smoothly and freely. Bushings are not worn and are lubricated.	2 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the cylinders that drive the span locks. Refer to Table J in the Addendum.

CORRECTIVE ACTION TAKEN:

The cylinders and brackets for the span locks have been replaced and painted.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 14 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 560/4 Locks

2 ea.

ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	Locks are operating properly, there are no signs of deterioration, wear or distress. Clearances are within specifications.	2 ea.

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables K & L in the Addendum.

CORRECTIVE ACTION TAKEN:

The span locks have been replaced with a new span lock system, along with guides, receivers, hydraulic cylinders and limit switches.

The front portion of the span lock compartment has been replaced.

The grease system has been replaced.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 15 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 561/4 Live Load Shoes 2 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	The paint system, if present, may show moderate to heavy corrosion with some pitting but still functioning as intended. The strike plate may have moved enough to cause minor cracking in the supporting concrete. Alignment of the live load shoe and strike plate is still tolerable. There may be no contact with the live load shoe. Buffer may have lost some of its effectiveness. Shim plates may be loose.	2 ea.

ELEMENT INSPECTION NOTES:

NOTE: Refer to Table M in the Addendum.

CS2: Both live load shoe assemblies exhibit minor surface corrosion.

CORRECTIVE ACTION TAKEN:

The live load shoes have been shimmed.

ELEMENT/ENV: 562/4 Counterweight Support 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (5)	DESCRIPTION	QUANTITY
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress, but there is no exposure of metal.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel frame around the counterweight.

CS2: The lower east edge of the counterweight support exhibits moderate surface corrosion. Refer to Photo 13. REPAIR.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE ID: 154000
DISTRICT: 07 Tampa

PAGE: 16 OF 37
INSPECTION DATE: 7/28/2011 IVSU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 563/4 Acc Ladd & Plat 4 ea. ELEM CATEGORY: Movable

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion, and the paint system is sound and functioning as intended to protect the metal surface.	4 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the two ladders at Rest Pier 6, one set of stairs at Bascule Pier 7 and the platform on the north side of Bascule Pier 7. Lighting of the machinery area was inspected under this element.

CS1: Waterway flood light is improperly fastened with electrical wire. Refer to Photo 14. REPAIR.

Bolts anchoring horn exhibit heavy corrosion – NEW. Refer to Photo 15. REPAIR.

ELEMENT/ENV: 564/4 Counterweight 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration, There may be discoloration, efflorescence, and/or superficial cracking, but without effect on strength and/or serviceability.	1 ea.

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ELEMENT/ENV: 565/4 Trun/Str and Cur Trk 2 ea. ELEM CATEGORY: Movable

CONDITION STATE (4)	DESCRIPTION	QUANTITY
2	Minor misalignment, lubrication may be needed, teeth wear or corrosion is measurable, but operation is not affected.	2 ea.

ELEMENT INSPECTION NOTES:

CS2: The curved tracks on the span do not have a constant radius.

CORRECTIVE ACTION TAKEN:

The span has been rotated back into position and the lugs have been welded to prevent rotation of the leaf during operation.

ELEMENT/ENV: 570/4 Transformers 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	There are no signs of corrosion, oil leakage or any deleterious condition at the transformer. There are no blown fuses at the transformer.	1 ea.

ELEMENT/ENV: 571/4 Submarine Cable 2 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	The cable is firmly attached to the pier wall and protected. The cable is fully buried on the channel bottom. There is no chafing of the outer protective coating. Cable is properly grounded.	2 ea.

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ELEMENT/ENV: 572/4 Conduit & Junc. Box 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	There is some corrosion, supports may not be tight, junction box cover gaskets are not intact, wire connections and terminal strips are not tight. At least 2 % but less than 10 % of the conduit is not in good condition.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the electrical conduit and junction boxes as one system.

CS2: Conduit bodies and junction boxes exhibit minor corrosion. Refer to Photo 16. REPAIR.

Several conduit clamps throughout the bridge exhibit moderate to heavy corrosion. Refer to Photo 17. REPAIR.

The receptacle enclosure on the near side of the machinery level is not properly sealed. Refer to Photo 18. REPAIR.

The lightning protection conductors attached to the north side of the far approach span were cut. Refer to Photo 19. REPAIR.

The lower section of the access door of the west submarine cable enclosure exhibits moderate to heavy corrosion. Refer to Photo 20. REPAIR.

The access door of the submarine cable terminal box at Rest Pier 6 is obstructed by the fender access ladder.

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ELEMENT/ENV: 574/4 Control Console 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	There is some corrosion or paint failure, the console area is not clear of foreign objects, there are burned out pilot light lamps or missing or broken lamp lenses.	1 ea.

ELEMENT INSPECTION NOTES:

CS2: Control console is missing nameplates to switches and indicator lights. Refer to Photo 21. REPAIR.

The high voltage warning labels were not provided for the control console and MCC.

The control console has a selector switch which selects drive #1 or drive #2. If this switch is placed in the "drive #2" position, then the drive #1 "fault indicator" light will illuminate. The control circuit appears to be connected such that the non-selected drive is indicated as a "fault condition".

ELEMENT/ENV: 580/4 Navigational Lights 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	There is some evidence of corrosion, lights may be burned out, lens may be broken.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the six fender mounted lights, two draw span lights and two flood lights for the clearance gauges as one system.

CS2: South navigation swing light chain is missing. Refer to Photo 22. REPAIR.

The bottom of the south navigation swing light is cracked. Refer to Photo 22. REPAIR.

The southwest fender light base is broken. Refer to Photo 23. Repair

The backup battery, charger/inverter system for the navigational lights has been removed from the bridge. Refer to Photo 24. REPAIR.

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UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 581/4 Operator Facilities 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	There is only minor deficiencies in the Bridge Tender's Facility.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: Refer to Table N in the Addendum for a list of Safety and Miscellaneous Items for the tender house.

ELEMENT/ENV: 590/4 Resistance Barriers 1 ea. ELEM CATEGORY: Movable

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	There is some or no need for maintenance. Warning gate is operating properly.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables O, P & Q in the Addendum.

CS1: There is light to moderate corrosion in the steel support cable fittings of the barrier gate arm.

The control arm of the resistance barrier exhibits spotty corrosion within the housing and spotty corrosion in the exterior of the housing. Refer to Photo 25. Repair

The SOW cable to barrier gate housing is beginning to crack – NEW. Refer to Photo 26. REPAIR.

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ELEMENT/ENV: 591/4 Warning Gates		2 ea.	ELEM CATEGORY: Movable
CONDITION STATE (3)	DESCRIPTION	QUANTITY	
2	There is need for repair.	2 ea.	

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables R, S, & T in the Addendum.

CS2: There is light to moderate corrosion in the steel support cable fittings of both traffic gate arms.

Paint is chipping off the red stripes on both on-coming gates. Refer to Photo 27. REPAIR.

The gate arm light on tip of the Far On-Coming gate is improperly secured. Refer to Photo 27. REPAIR.

There is spotty corrosion on the exterior of the gate housings. Refer to Photo 28. REPAIR.

Several fasteners to the traffic gate warning lights exhibit heavy corrosion – NEW. Refer to Photo 29. REPAIR.

ELEMENT/ENV: 592/4 Traffic Signals		4 ea.	ELEM CATEGORY: Movable
CONDITION STATE (3)	DESCRIPTION	QUANTITY	
2	There is need for repair.	4 ea.	

ELEMENT INSPECTION NOTES:

CS2: The paint is peeling off the signal heads of the traffic signals at both ends of the structure – INCREASE. Refer to Photo 30. REPAIR.

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UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 205/4 R/Conc Column		2 ea.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
3	Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	2 ea.	

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the columns under each end of the west half of Bascule Pier 7 and has been moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS3: Northeast edge of Column 7-1 at the top of the marine growth exhibits a 5 ft. 3 in. H x 18 in. W x 4 in. D spall/void (combination of several voids). The spall extends behind the mounting bracket for the helper piling. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

There is a construction joint in Column 7-2 along the west face up to 1-1/4 in. deep located 10 in. below the top of the marine growth. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

ELEMENT/ENV: 220/4 R/C Sub Pile Cap/Ftg		1 ea.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	1 ea.	

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the west portion of Bascule Pier 7 which supports the bascule leaf and has been moved from Unit 1.

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UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 298/4 Pile Jacket Bare 12 ea. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	There is little or no deterioration. Surface defects only are in evidence.	12 ea.

ELEMENT INSPECTION NOTES:

The 06/24/2011 UW inspection revealed the following:

NOTE: The piling under the webwall on Bascule Pier 7 are H-piling (per 1997 report) and are jacketed with cylindrical jackets (two total). These jackets are in good condition with no washouts or exposed base pile. Jackets on the steel HP-14 (10 total) extend to the groundline on the four helper piling attached to the columns. The other six H-pile jackets (crutch piling and Tender House) end above the groundline a maximum of 18 in. The area below these jackets are covered with epoxy. A portion of this element has been moved from Unit 1.

ELEMENT/ENV: 389/4 Timber Fender/Dolphi 177 lf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
2	Decay, insect/marine borer infestation, abrasion, splitting, cracking, checking or crushing may exist but none is sufficiently advanced to affect strength or serviceability of the element.	177 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element was moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS2: Several Piles have marine borer activity with up to 20% section loss – NEW

The lower wales have marine borer activity with up to 10% section loss – NEW.

Corrective Action Taken:

The second pile from the north end of the east fender has been repaired.

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UNIT: 0 CHANNEL

ELEMENT/ENV: 290/4 Channel		1 ea.	ELEM CATEGORY: Channel
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	The channel is in good condition, channel banks are protected or well vegetated, river control devices and embankment protection are not required or are in good condition.	1 ea.	

ELEMENT INSPECTION NOTES:

NOTE: This element was moved from Unit 1.

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UNIT: 1 DECKS

ELEMENT/ENV: 12/4 Bare Concrete Deck 9253 sf. ELEM CATEGORY: Decks/Slabs

CONDITION STATE (5)	DESCRIPTION	QUANTITY
2	Repaired areas and/or spalls/delaminations and/or cracks exist in the deck surface or underside. The combined distressed area is more than 2% but less than 10% of the deck area.	9253 sf.

ELEMENT INSPECTION NOTES:

NOTE: The west half of Span 1 and the east half of Span 10 are overlaid with asphalt 1/4 in. thick.

CS2: The deck top exhibits minor abrasive wear and multi-directional cracks up to 10 ft. x 1/32 in. throughout.

Both curbs exhibit minor delaminations/ lack of cover spalls. All exposed steel was painted with cold galvanizing.

There are lateral misalignments of the approach spans up to 1-1/4 in. Refer to Table 1 in the Addendum for Deck Misalignment Measurements. Refer to Photo 31.

The right deck soffit exhibits an 8 in. x 1 ft. x 1-1/2 in. delamination/spall with exposed, corroded reinforcing steel in Span 2 at Bent 2 – NEW. Refer to Photo 32. REPAIR.

The 3/4 point in the middle of Lane 2 of Span 2 exhibits (3) delaminations/spalls with exposed steel up to 5 in. x 3 in. x 1/2 in. Refer to Photo 33. REPAIR.

The top of the right curb adjacent to the joint at Abutment 11 exhibits a 30 in. x full width delaminated repair – NEW. Refer to Photo 34. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated area at the tender house entrance was repaired.
The right sidewalk soffit delamination of Span 3 near Bent 4 was repaired.

ELEMENT/ENV: 301/4 Pourable Joint Seal 253 lf. ELEM CATEGORY: Joints

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	The element shows minimal deterioration. Adhesion is sound with no signs of leakage. There are no cohesion cracks. The adjacent deck and/or header is sound.	211 lf.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

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UNIT: 1 DECKS

ELEMENT/ENV: 301/4 Pourable Joint Seal 253 lf. ELEM CATEGORY: Joints

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	Minor adhesion and/or cohesion failures may be present. Signs of seepage along the joint may be present. Joint may be slightly impacted with debris. Minor spalls in the deck and/or headers may be present adjacent to the joint.	35 lf.
3	Major adhesion and/or cohesion failures may be present. Signs or observance of leakage along the joint may be present. Joint may be heavily impacted with debris and/or stones. Major spalls may be present in the deck and/or header adjacent to the joint.	7 lf.

ELEMENT INSPECTION NOTES:

CS2: There is minor cracking of the asphalt and pourable joint seal above both abutments – INCREASE.

CS3: There are two potholes up to 4 ft. x 4 in. that exhibit exposed joint sealant with major adhesion failure at Abutment 11 – NEW. Refer to Photo 35. REPAIR.

ELEMENT/ENV: 331/4 Conc Bridge Railing 640 lf. ELEM CATEGORY: Railing

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without effect on strength and/or serviceability.	640 lf.

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UNIT: 1 SUPERSTRUCTURE

ELEMENT/ENV: 109/4 P/S Conc Open Girder 1594 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	1589 lf.
3	Some delaminations and/or spalls may be present. There may be minor exposure but no deterioration of the prestress system. Corrosion of non-prestressed reinforcement may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	5 lf.

ELEMENT INSPECTION NOTES:

CS1: The north face of Beam 7-1 at Bent 7 poured end exhibits a 24 in. x 1/32 in. vertical crack.

The beam end of Beam 4-5 at Bent 4 exhibits a 3 in. x 10 in. x 2 in spall with exposed, corroded reinforcing steel – NEW. Refer to Photo 36. REPAIR.

CS3: Beams 3-5 and 4-5, south faces, exhibit delaminated repairs up to 4 in. x 8 in. over Bent 4 – NEW. Refer to Photo 37. REPAIR.

Beam 4-1, north face, exhibits a 30 in. x 8 in. x 2 in spall with two exposed, corroded pre-stressing strands at Bent 5. Refer to Photo 38. REPAIR.

Beam 7-5, previously reported as 7-1, south face, exhibits a 12 in. x 8 in. delaminated repair at Bent 8. Refer to Photo 39. REPAIR.

Beam 9-5, south face, exhibits a 6 in. x 8 in delaminated repair at Bent 9 – NEW. Refer to Photo 40. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated spall in Beam 1-3 was repaired.

The delamination with corrosion staining in Beam 1-4 was repaired.

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UNIT: 1 SUPERSTRUCTURE

ELEMENT/ENV: 310/4 Elastomeric Bearing 10 ea. ELEM CATEGORY: Bearings

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. Shear deformations are correct for existing temperatures.	10 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the neoprene pads placed on top of stacked steel plates at Bent 7 and the adjacent crutch bent cap. The Bent 7 bearings exhibit partial bearing loads due to the crutch bent.

CS1: Crutch Bearing 7-4 is bulging slightly but is not deteriorated.

ELEMENT/ENV: 313/4 Fixed Bearing 10 ea. ELEM CATEGORY: Bearings

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. The paint system, if present, is sound and functioning as intended to protect the metal. Vertical and horizontal alignment are within limits. Bearing support member is sound.	10 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the five steel bearing assemblies bolted to Bent Cap 8 and the five sets of stacked steel plates at the steel crutch bent cap in Span 5. The assemblies bolted to Bent Cap 8 were installed in the past to achieve a larger bearing area.

CS1: The bearing anchor plates on the west face of Bent Cap 8 exhibit minor surface corrosion.

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UNIT: 1 SUBSTRUCTURE

ELEMENT/ENV: 202/4 Paint Stl Column 12 ea. ELEM CATEGORY: Substructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	12 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies steel crutch and helper piling and the H-pile in Bent 7. The tender house is supported by two jacketed HP-14.

The 06/24/2011 UW inspection revealed the following:

CS1: The steel H-pilings are HP-14 and are jacketed. Below the jacket the H-piling are coated with epoxy. These piling are in good condition. See Element 298 Pile Jacket Bare for additional information.

ELEMENT/ENV: 204/4 P/S Conc Column 45 ea. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	41 ea.

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ELEMENT/ENV: 204/4 P/S Conc Column		45 ea.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
3	Moderate cracks, spalls, scaling and some delaminations may be present. There may be minor exposure but no deterioration of the prestress system. Corrosion of non-prestressed reinforcement may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	4 ea.	

ELEMENT INSPECTION NOTES:

CS1: Several piles exhibit corner scrapes up to 6 in. H x 4 in. W x 1/2 in. D – NEW.

CS3: There is a 20 in. x 6 in. delamination in the NE edge above the jacket of Pile 8-5 - INCREASE. Refer to Photo 41. REPAIR.

The west face of Pile 10-3 from the cap down exhibits a delamination with corrosion staining, 26 in. H x 14 in. W – INCREASE. Refer to Photo 42. REPAIR.

The upper 24 in. of Pile 10-5 is built-up with cracks and delaminations on all four faces up to 1/16 in. wide with corrosion staining. There are minor spalls in the bottom of the build-up. The epoxy patches on the pile are beginning to crack. Refer to Photo 43. REPAIR.

The 06/24/2011 UW inspection revealed the following:

Pile 8-4 exhibits minor spalls around the splice between the pile and the build-up, 3 ft. 3 in. below the top of the marine growth. This spall is located on the southwest edge and measures 4 in. H x 4 in. W x 3 in. D with 100% deteriorated exposed steel. Refer to Photo 44. REPAIR.

Pile 8-5: There are cracks up to 1/16 in. wide on the north and east faces full height from the jacket with corrosion bleedout – INCREASE.

CORRECTIVE ACTION TAKEN:

The vertical crack and delamination in Pile 7-5 has been repaired.

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UNIT: 1 SUBSTRUCTURE

ELEMENT/ENV: 215/4 R/Conc Abutment 59 lf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	59 lf.

ELEMENT/ENV: 231/4 Paint Stl Cap 72 lf. ELEM CATEGORY: Substructure

CONDITION STATE (5)	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	62 lf.
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	10 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel crutch bent caps (WP beams) in Spans 5 and 7.

CS2: There is light to moderate surface corrosion on both steel crutch beams over the bearing area.

ELEMENT/ENV: 234/4 R/Conc Cap 236 lf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	231 lf.

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UNIT: 1 SUBSTRUCTURE

ELEMENT/ENV: 234/4 R/Conc Cap		236 lf.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
3	Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	5 lf.	

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the bent caps including Rest Pier Cap 6.

CS3: There are up to 3.5 ft. x 5 ft. delaminations in the bottom west edge of Bent Cap 10 between Piles 10-2 and 10-3 and Piles 10-4 and 10-5. Refer to Photo 45. REPAIR.

Bent Cap 10 exhibits a 4 in. x 7 in. delamination in the SE edge – NEW. Refer to Photo 46. REPAIR.

Bent Cap 10 exhibits a 4 in. x 10 in. delamination in the NW edge – NEW. Refer to Photo 47. REPAIR.

CORRECTIVE ACTION TAKEN:

The delamination in the SW edge of Bent Cap 10 has been repaired.

ELEMENT/ENV: 298/4 Pile Jacket Bare		1 ea.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
2	There may be minor deterioration, cracking and weathering. Mortar in joints may show minor deterioration.	1 ea.	

ELEMENT INSPECTION NOTES:

The 06/24/2011 UW inspection revealed the following:

CS2: Pile 8-5 exhibits a 25 in. square grout jacket, which starts approximately 28 in. below the cap and extends down 3 ft. 7in. There are vertical cracks on all four sides up to full height x 1/16 in. wide.

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UNIT: 1 SUBSTRUCTURE

ELEMENT/ENV: 394/4 R/Conc Abut Slope Pr 400 sf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.	400 sf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the concrete slope pavement at the NE and SE corners of the structure.

ELEMENT/ENV: 396/4 Other Abut Slope Pro 172 sf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
2	There may be minor deterioration, random open joints, cracking and weathering. Mortar in joints may show minor deterioration.	172 sf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the sand cement rip rap at both abutments.

CS2: The sand cement rip rap at the abutments is weathered and slightly deteriorated.

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UNIT: 1 SMART FLAG

ELEMENT/ENV: 360/4 Settlement SmFlag 1 ea. ELEM CATEGORY: Smart Flags

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	Some of the bridge supporting elements are showing signs of visible settlement or rotation but due to earlier repairs as indicated by other signs, the settlement appears to have stabilized.	1 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the settlement of Spans 5 through 7.

CS1: Countermeasures have been taken.

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All Elements

UNIT: 1 MISCELLANEOUS

ELEMENT/ENV: 321/4 R/Conc Approach Slab 2 ea.

ELEM CATEGORY: Other Elements

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The slab has not settled and shows no sign of deterioration other than superficial surface cracks.	2 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the east and west approach slabs which are covered with an asphalt overlay.

ELEMENT/ENV: 474/4 Walls Uncoated 13 lf.

ELEM CATEGORY: Other Elements

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	There is little or no corrosion of the unpainted steel. The weathering steel is coated uniformly and remains in excellent condition. Oxide film is tightly adhered.	12 lf.
2	Surface corrosion, surface pitting, has formed or is forming on the unpainted steel. The weathering steel has not corroded beyond design limits. Weathering steel color is yellow orange to light brown. Oxide film has a dusty to granular texture.	1 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the painted steel sheet pile wingwall at the SE corner of the bridge.

CS2: The wall exhibits moderate corrosion where it enters the R/Conc Slope Pavement.

There is a 1 ft. x 6 in. x 3 in. spall with no exposed steel in the NW edge of the SE wing wall cap. Refer to Photo 48.

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All Elements

UNIT: 1 MISCELLANEOUS

ELEMENT/ENV: 475/4 R/Conc Walls

16 lf.

ELEM CATEGORY: Other Elements

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.	16 lf.

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the concrete wingwalls at the NW and SW corners of the bridge.

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Smart Flag Summary

UNIT: 1 SMART FLAG

ELEMENT/ENV: 360/4 Settlement SmFlag 1 ea. ELEM CATEGORY: Smart Flags

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	Some of the bridge supporting elements are showing signs of visible settlement or rotation but due to earlier repairs as indicated by other signs, the settlement appears to have stabilized.	1

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the settlement of Spans 5 through 7.

CS1: Countermeasures have been taken.

Structure Notes

OWNER: PINELLAS COUNTY

TRAFFIC RESTRICTIONS: This structure is posted at both approaches as follows: Single Unit Trucks - 12 tons and Combination Trucks - 15 tons and Truck and Trailer - 15 tons.
According to the load rating dated 01/16/1987, the structure should be posted at or below the following: Single Unit Truck -12 tons and Combination Trucks - 20 tons. Refer to the Posting Photos.

Structure inventoried west to east.

This structure is on a 12 month inspection frequency for Movable and Fracture Critical components and for SIA Item 70 - Posting being rated 4 or less.

Elements 107 - Paint Stl Opn Girder and 152 - Paint Stl Floor Beam are fracture critical.

The structure is not manned. To obtain an opening, a two (2) hour advance notice is required. The telephone number to obtain opening is (727)464-8900. Telephone number for the control house is (727)943-4917.

The asphalt overlay on the west half of Span 1 is 1/4 in. thick.

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INSPECTION NOTES: IVSU 7/28/2011

Sufficiency Rating Calculation Accepted by knicamh-P at 2011-09-19 18:00:02

LOAD CAPACITY EVALUATION:

The load rating dated 01/16/1987 applies to the current condition of this bridge.

There is a rehabilitation project in progress while this inspection was conducted. Ultrasonic thickness measurements will be collected for the main span gusset plates during the 2012 inspection.

The lift barge was utilized for this inspection.

There is a heavily corroded conduit under Span 1 – NEW. Refer to Photo 49. REPAIR.

The bridge is posted. Refer to Photos 50 and 51 for the west and east posting signs respectively.

Unit 0 - Quantities will include those bridge elements which are within the limits of the bascule pier and the main span. (i.e., steel bridge rails, bascule pier, mechanical & electrical related operational equipment, tender's facilities, et cetera). Inspections will include the fracture critical elements along with those aforementioned bridge elements which are within the limits of the bascule pier. Traffic control elements related to the movable span (i.e., traffic gate assemblies, traffic signaling assemblies, over-roadway traffic assemblies, et cetera) which are mounted to and/or located on the approach spans will be quantified and inspected when the movable span is scheduled for inspection.

Unit 1 - Quantities will include those bridge elements which are within the limits of the approach spans. (i.e., concrete bridge rails, related expansion joints, elastomeric bearing assemblies, et cetera)

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MOVABLE BRIDGE DATA

Table 1
Element 12/4: Bare Concrete Deck

Deck Misalignment Measurements

BENT	BASELINE 07/2003		PREVIOUS 07/2009		CURRENT 07/2011		DIRECTION OF MISALIGNMENT
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
1	0	0	3/32 in.	1/8 in.	3/32 in.	1/8 in.	Span 1 to N
2	9/16 in.	5/8 in.	5/16 in.	5/8 in.	5/16 in.	5/8 in.	Span 2 to N
3	5/8 in.	9/16 in.	5/8 in.	3/32 in.	5/8 in.	3/32 in.	Span 3 to N
4	0	0	3/32 in.	1/8 in.	3/32 in.	1/8 in.	Span 3 to N
5	5/16 in.	5/16 in.	3/8 in.	7/16 in.	3/8 in.	7/16 in.	Span 5 to S
6	0	0	0	0	0	0	NA
7	0	0	0	0	0	0	NA
8	0	0	3/32 in.	1/8 in.	3/32 in.	1/8 in.	Span 7 to S
9	0	0	1/8 in.	1/8 in.	1/8 in.	1/8 in.	Span 8 to N
10	1-1/8 in.	1-1/8 in.	1-1/4 in.	1-1/4 in.	1-1/4 in.	1-1/4 in.	Span 10 to N

Measurements taken at each bent, on the sidewalk face near tops of curbs.

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MOVABLE BRIDGE DATA

UNIT: 0

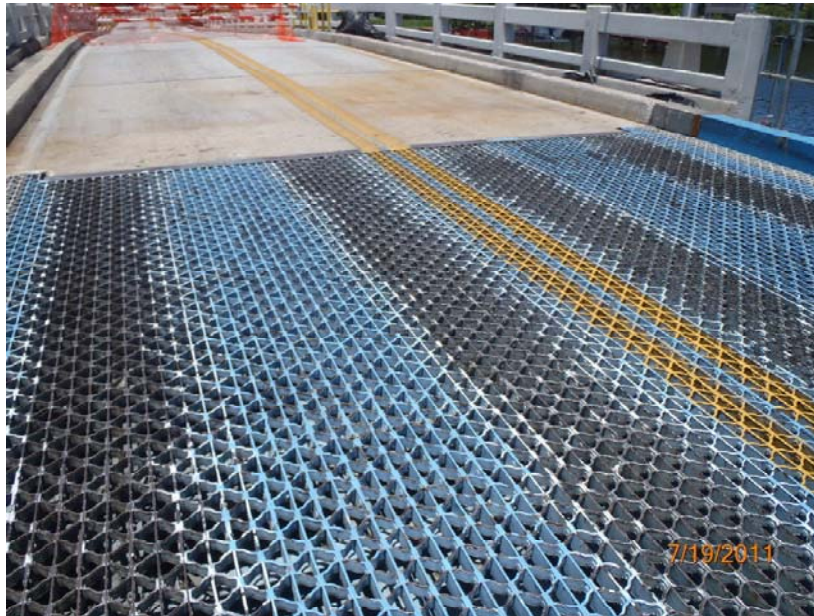


PHOTO 1: 28/4 Steel Deck/Open Grid

The open steel grating and cantilevered sidewalk supports exhibit widespread areas of peeling paint and moderate to heavy corrosion.

REPAIR RECOMMENDATION:

Clean and paint all open steel grating and cantilevered sidewalk supports of Span 6.

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PHOTO 2: 28/4 Steel Deck/Open Grid

The open steel grating and cantilevered sidewalk supports exhibit widespread areas of peeling paint and moderate to heavy corrosion.

REPAIR RECOMMENDATION:

Refer to the recommendation of Photo 1.

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PHOTO 3: 28/4 Steel Deck/Open Grid

The transverse deck supports exhibit blistered paint and moderate to heavy corrosion at many of the deck connections.

REPAIR RECOMMENDATION:

Clean and paint the transverse deck supports of Span 6.

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PHOTO 4: 28/4 Steel Deck/Open Grid

The inside of the steel box curbs exhibits areas of blistered paint and moderate to heavy active corrosion.

REPAIR RECOMMENDATION:

Clean and paint the steel box curbs of Span 6.

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PHOTO 5: 29/4 Steel Deck/Conc Grid

There are several exposed grate bars with moderate to heavy surface corrosion within 2 ft. of the open grid.

REPAIR RECOMMENDATION:

Clean and paint the exposed grate bars within 2 ft. of the open grid of Span 6.

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PHOTO 6: 29/4 Steel Deck/Conc Grid

The underside of the concrete filled steel grid deck exhibits areas of moderate active corrosion.

REPAIR RECOMMENDATION:

Clean and paint the underside of the concrete filled steel grid deck of Span 6.

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PHOTO 7: 107/4 Paint Stl Opn Girder

The top flanges, lower portions of the webs and bottom flanges exhibit painted over pitting with corrosion holes up to 1/4 in. diameter near the curve tracks.

REPAIR RECOMMENDATION:

Restore section in the main girders of Span 6.

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PHOTO 8: 107/4 Paint Stl Opn Girder

Both main girders exhibit areas of active corrosion at the floor beams, vertical stiffeners and at the curve tracks.

REPAIR RECOMMENDATION:

Clean and paint the main girders of Span 6.

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PHOTO 9: 152/4 Paint Stl Floor Beam

Floor Beam 6-2 exhibits a 1 ft. long area of moderate corrosion in the bottom flange at Main Girder 6-2.

REPAIR RECOMMENDATION:

Clean and paint the bottom flange of Floor Beam 6-2 at the Main Girder 6-2 junction.

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PHOTO 10: 152/4 Paint Stl Floor Beam

Floor Beam 6-3 exhibits three small corrosion holes up to $\frac{3}{4}$ in. in the lower portion of the web at the two southernmost vertical stiffeners and painted over pitting up to $\frac{1}{4}$ in. deep throughout the remainder of the floor beam.

REPAIR RECOMMENDATION:

Restore section and clean and paint the bottom flange of Floor Beam 6-3.

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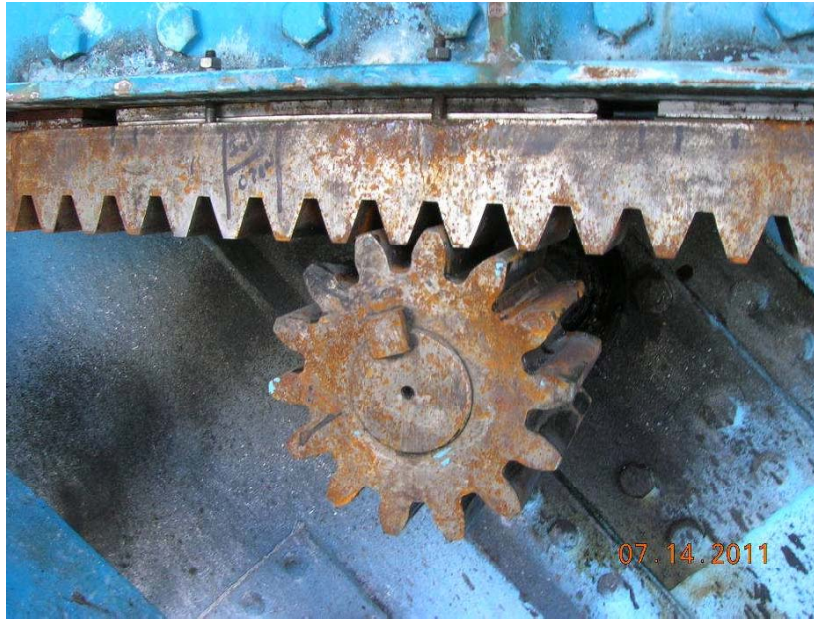


PHOTO 11: 540/4 Open Gearing & 542/4 Shafts

Poor engagement of north pinion (P-5N) with rack due to bent shaft.
Corrosion forming on all unpainted areas for all rack and pinion assemblies.

REPAIR RECOMMENDATION:

Clean and paint all rack and pinion assemblies.

Replace the bent north pinion shaft (S-5N).

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PHOTO 12: 544/4 Brakes & 548/4 Hydraulic Piping Sys

Motor brake (brake 1) does not hold and does not release, intermittently.

REPAIR RECOMMENDATION:

Repair the motor brake to apply torque.

Repair the valve so that the motor brake freely releases.

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PHOTO 13: 562/4 Counterweight Support

The lower east edge of the counterweight support exhibits, moderate surface corrosion.

REPAIR RECOMMENDATION:

Clean and paint the lower east edge of the counterweight support.

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PHOTO 14: 563/4 Acc Ladd & Plat

Waterway floodlight held in place with electrical wire.

REPAIR RECOMMENDATION:
Properly fasten the waterway floodlight.

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PHOTO 15: 563/4 Acc Ladd & Plat

Anchor bolts to horn exhibit heavy corrosion.

REPAIR RECOMMENDATION:
Clean and paint anchor bolts to horn.

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PHOTO 16: 572/4 Conduit & Junc. Box

Typical view of corrosion in conduit bodies and junction boxes.

REPAIR RECOMMENDATION:

Clean and paint corroded conduit bodies and junction boxes.

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PHOTO 17: 572/4 Conduit & Junc. Box

Typical view of heavy corrosion in several conduit cable clamps throughout bridge.

REPAIR RECOMMENDATION:
Replace all corroded conduit clamps.

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PHOTO 18: 572/4 Conduit & Junc. Box

Receptacle enclosure improperly sealed on near side of machinery level.

REPAIR RECOMMENDATION:

Replace seal for receptacle enclosure on droop cable junction box on near side of machinery level.

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PHOTO 19: 572/4 Conduit & Junc. Box

The lightning protection conductors were missing in several locations on the far approach spans.

REPAIR RECOMMENDATION:

Replace missing lightning protection conductors on the far approach spans.

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PHOTO 20: 572/4 Conduit & Junc. Box

West submarine termination cabinet exhibits moderate to heavy corrosion.

REPAIR RECOMMENDATION:

Clean and paint corroded areas of west submarine cable termination cabinet.

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PHOTO 21: 574/4 Control Console

There are missing nameplates for indicator lights and switches on the control console.

REPAIR RECOMMENDATION:

Replace missing nameplates for all indicator lights and switches on control console.

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PHOTO 22: 580/4 Navigational Lights

South side tip swing light with cracked bottom and chain is missing.

REPAIR RECOMMENDATION:

Replace fixture bottom and missing chain on south side tip swing light.

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PHOTO 23: 580/4 Navigational Lights

Broken base on southwest fender light.

REPAIR RECOMMENDATION:

Replace base on southwest fender light.

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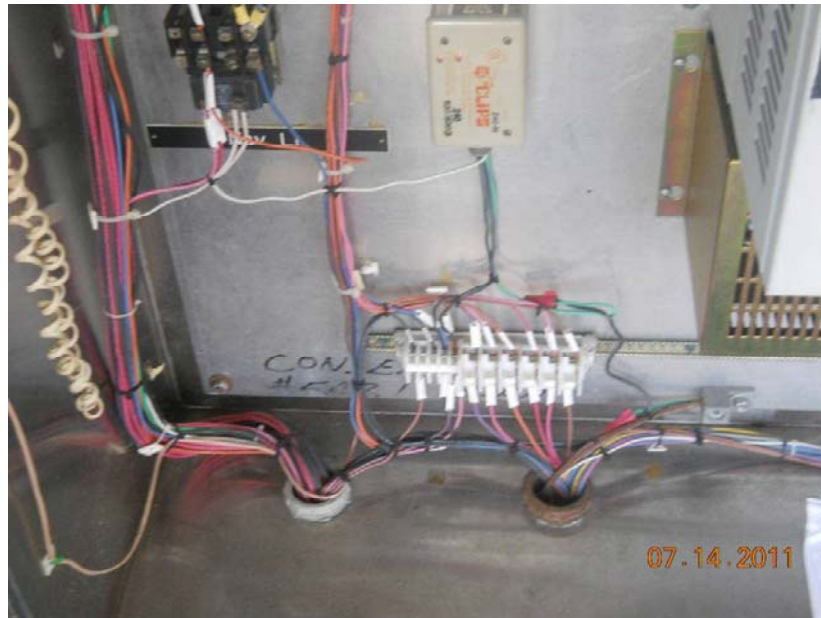


PHOTO 24: 580/4 Navigational Lights

Navigational Light UPS is missing.

REPAIR RECOMMENDATION:
Replace the navigational light UPS.

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PHOTO 25: 590/4 Resistance Barriers

The control arm of the resistance barrier exhibits spotty corrosion within the housing and spotty corrosion in the exterior of the housing.

REPAIR RECOMMENDATION:

Clean and paint control arm of the resistance barrier.

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PHOTO 26: 590/4 Resistance Barriers

The SOW cable to barrier gate housing is beginning to crack.

REPAIR RECOMMENDATION:

Repair SOW cable to barrier gate housing.

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PHOTO 27: 591/4 Warning Gates

The gate arm light on Far On-Coming gate is not secured properly.
Chipping paint is typical for all gates.

REPAIR RECOMMENDATION:

Replace screws on far oncoming gate arm light and restripe all gates.

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PHOTO 28: 591/4 Warning Gates

Typical recurring corrosion in the gate housing.

REPAIR RECOMMENDATION:

Clean and paint corrosion on the gate housings.

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PHOTO 29: 591/4 Warning Gates

Several fasteners to all of the traffic gate warning lights exhibit heavy corrosion.

REPAIR RECOMMENDATION:

Replace corroded fasteners to all traffic gate warning lights.

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PHOTO 30: 592/4 Traffic Signals

Paint is peeling off the signal heads of the traffic signals at both ends of the structure.

REPAIR RECOMMENDATION:

Clean and paint traffic signal heads at both ends of the structure.

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PHOTO 31: 12/4 Bare Concrete Deck

There are lateral misalignments of the approach spans up to 1-1/4 in.

REPAIR RECOMMENDATION:
None

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PHOTO 32: 12/4 Bare Concrete Deck

The right deck soffit exhibits an 8 in. x 1 ft. x 1-1/2 in. delamination/spall with exposed, corroded reinforcing steel in Span 2 at Bent 2.

REPAIR RECOMMENDATION:

Repair the delaminations/spall in the right deck soffit in Span 2 at Bent 2.

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PHOTO 33: 12/4 Bare Concrete Deck

The 3/4 point in the middle of Lane 2 of Span 2 exhibits (3) delaminations/spalls with exposed steel up to 5 in. x 3 in. x 1/2 in.

REPAIR RECOMMENDATION:

Repair the delaminations/spalls at the 3/4 point in the middle of Lane 2 of Span 2.

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PHOTO 34: 12/4 Bare Concrete Deck

The top of the right curb adjacent to the joint at Abutment 11 exhibits a 30 in. x full width delaminated repair.

REPAIR RECOMMENDATION:

Repair the delaminated repair in the top of the right curb adjacent to the joint at Abutment 11.

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PHOTO 35: 301/4 Pourable Joint Seal

There are two potholes up to 4 ft. x 4 in. that have exposed joint sealant with major adhesion failure at Abutment 11.

REPAIR RECOMMENDATION:

Repair the potholes and exposed joint sealant at Abutment 11.

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PHOTO 36: 109/4 P/S Conc Open Girder

The beam end of Beam 4-5 at Bent 4 exhibits a 3 in. x 10 in. x 2 in spall with exposed, corroded reinforcing steel.

REPAIR RECOMMENDATION:

Repair the beam end spall in Beam 4-5 at Bent 4.

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PHOTO 37: 109/4 P/S Conc Open Girder

Beams 3-5 and 4-5, south faces, exhibit delaminated repairs up to 4 in. x 8 in. over Bent 4.

REPAIR RECOMMENDATION:

Repair the delaminated repairs in Beams 3-5 and 4-5 at Bent 4.

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PHOTO 38: 109/4 P/S Conc Open Girder

Beam 4-1, north face, exhibits a 30 in. x 8 in. x 2 in spall with two exposed, corroded pre-stressing strands at Bent 5.

REPAIR RECOMMENDATION:

Repair the spall with exposed strands in Beam 4-1 at Bent 5.

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PHOTO 39: 109/4 P/S Conc Open Girder

Beam 7-5, previously reported as 7-1, exhibits a 12 in. x 8 in. delaminated repair at Bent 8.

REPAIR RECOMMENDATION:

Repair the delaminated repair in Beam 7-5 over Bent 8.

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PHOTO 40: 109/4 P/S Conc Open Girder

Beam 9-5, south face, exhibits a 6 in. x 8 in delaminated repair at Bent 9.

REPAIR RECOMMENDATION:

Repair the delaminated repair in Beam 9-5 over Bent 9.

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PHOTO 41: 204/4 P/S Conc Column

There is a 20 in. x 6 in. delamination in the NE edge above the jacket of Pile 8-5.

REPAIR RECOMMENDATION:

Repair the delamination in the NE edge of Pile 8-5.

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PHOTO 42: 204/4 P/S Conc Column

The west face of Pile 10-3 from the cap down exhibits a delamination with corrosion staining, 26 in. H x 14 in. W.

REPAIR RECOMMENDATION:

Repair the delamination in the west face of Pile 10-3.

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PHOTO 43: 204/4 P/S Conc Column

The upper 24 in. of Pile 10-5 is built-up with cracks and delaminations in all four faces up to 1/16in. wide with corrosion staining. There are minor spalls in the bottom of the build-up. The epoxy patches on the pile are beginning to crack.

REPAIR RECOMMENDATION:

Repair cracks and delaminations in Pile 10-5.

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PHOTO 44: 204/4 P/S Conc Column

Pile 8-4 exhibits minor spalls around the splice between the pile and the build-up, 3 ft. 3 in. below the top of the marine growth. This spall is located in the southwest edge and measures 4 in. H x 4 in. W x 3 in. D with 100% deteriorated exposed steel.

REPAIR RECOMMENDATION:

Repair the spall with 100% deteriorated exposed steel in Pile 8-4.

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PHOTO 45: 234/4 R/Conc Cap

There are up to 3.5 ft. x 5 ft. delaminations in the bottom west edge of Bent Cap 10 between Piles 10-2 and 10-3 and Piles 10-4 and 10-5; delamination between Piles 10-2 and 10-3 shown.

REPAIR RECOMMENDATION:

Repair the delamination in Bent Cap 10 between Piles 10-2 and 10-3 and Piles 10-4 and 10-5.

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PHOTO 46: 234/4 R/Conc Cap

Bent Cap 10 exhibits a 4 in. x 7 in. delamination in the SE edge.

REPAIR RECOMMENDATION:

Repair the delamination in the SE edge of Bent Cap 10.

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PHOTO 47: 234/4 R/Conc Cap

Bent Cap 10 exhibits a 4 in. x 10 in. delamination in the NW edge.

REPAIR RECOMMENDATION:

Repair the delamination in the NW edge of Bent Cap 10.

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PHOTO 48: 474/4 Wall Uncoated

There is a 1 ft. x 6 in. x 3 in. spall with no exposed steel in the NW edge of the SE wing wall cap.

REPAIR RECOMMENDATION:
None

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PHOTO 49: Inspection Notes

There is a heavily corroded conduit under Span 1.

REPAIR RECOMMENDATION:

Replace or clean and paint corroded conduit under Span 1.

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PHOTO 50: West Posting Sign

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PHOTO 51: East Posting Sign

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TABLE A
ELEMENT 540/4: OPEN GEARING

GEAR SET	LUBE	GENERAL CONDITION
P-1 G-1	GOOD	GOOD
P-2 G-2	GOOD	GOOD
P-3N G-3N	GOOD	GOOD
P-4N G-4N	GOOD	GOOD
P-5N RACK-N	GOOD	FAIR – Poor engagement due to bent shaft wear; minor cross bearing wear with surface corrosion.
P-3S G-3S	GOOD	GOOD – Minor cross bearing wear
P-4S G-4S	GOOD	GOOD – Minor cross bearing wear
P-5S RACK-S	GOOD	FAIR – Minor cross bearing wear with surface corrosion.

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TABLE B
ELEMENT 541/4: SPEED REDUCER

ITEM	GENERAL CONDITION
SUPPORTS	GOOD
BOLTS	GOOD
HOUSING	FAIR – Peeling paint and light surface corrosion
BEARINGS	CAPPED
GEARS	CAPPED
LUBRICATION	GOOD
OPERATION	GOOD

TABLE C
ELEMENT 542/4: SHAFTS

SHAFT NO.	GENERAL CONDITION
S-1	GOOD - Light surface corrosion
S-2	GOOD - Light surface corrosion
S-3	GOOD - Light surface corrosion
S-4N	GOOD - Light surface corrosion
S-5N	POOR - Light surface corrosion and shaft is bent
S-4S	GOOD - Light surface corrosion
S-5S	GOOD - Light surface corrosion

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TABLE D
ELEMENT 543/4: SHAFT BEARINGS AND COUPLINGS

BEARING NO.	LUBE	PILLOW BLOCK	ANCHOR BOLTS	CAP BOLTS	GENERAL CONDITION
B-1	GOOD	GOOD	GOOD	GOOD	GOOD
B-2	GOOD	GOOD	GOOD	GOOD	GOOD
B-3	GOOD	GOOD	GOOD	GOOD	GOOD
B-4	GOOD	GOOD	GOOD	GOOD	GOOD
B-5	GOOD	GOOD	GOOD	GOOD	GOOD
B-6N	GOOD	GOOD	GOOD	GOOD	GOOD
B-7N	GOOD	GOOD	GOOD	GOOD	GOOD
B-8N	GOOD	GOOD	GOOD	GOOD	GOOD
B-9N	GOOD	GOOD	GOOD	GOOD	GOOD
B-10N	GOOD	GOOD	GOOD	NOT APPLICABLE	GOOD
B-6S	GOOD	GOOD	GOOD	GOOD	GOOD
B-7S	GOOD	GOOD	GOOD	GOOD	GOOD
B-8S	GOOD	GOOD	GOOD	GOOD	GOOD
B-9S	GOOD	GOOD	GOOD	GOOD	GOOD
B-10S	GOOD	GOOD	GOOD	NOT APPLICABLE	GOOD

COUPLING NO.	TYPE	LUBE	WEAR	GENERAL CONDITION
C-1	FALK	SEALED UNIT	GOOD	GOOD
C-2 WEST	FALK	SEALED UNIT	GOOD	FAIR – Peeling paint with minor surface corrosion
C-2 EAST	FALK	SEALED UNIT	GOOD	FAIR – Peeling paint with minor surface corrosion

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TABLE E
 ELEMENT 544/4: BRAKES

ITEM	BRAKE 1	BRAKE 2
OPERATION	POOR – Brake does not resist turning shaft by hand. Does not release intermittently.	GOOD
HOUSINGS	GOOD – Moderate surface corrosion	GOOD – moderate corrosion
ROTORS	INTERNAL	INTERNAL
CALIPERS	INTERNAL	INTERNAL
SUPPORTS	GOOD	GOOD

TABLE F
 ELEMENT 546/4: SPAN DRIVE MOTORS

	Phase A to B/ Phase A to Gnd. (Volts)	Phase B to C/ Phase B to Gnd. (Volts)	Phase A to C/ Phase C to Gnd. (Volts)	Frequency (Hz)
Normal Power At Rest	237/118	243/118	244/114	60
Normal Power Bridge Running	235	239	242	60

240VAC Service Voltages and Frequency

NOTE: Data was collected as a part of the 2011 report.

TABLE G
 ELEMENT 546/4: SPAN DRIVE MOTORS

ITEM	GENERAL CONDITION
WEST MOTOR	GOOD
EAST MOTOR	GOOD
EMERGENCY DRIVE	There is no back up drive system. Bridge can be operated by a portable generator.

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TABLE H
ELEMENT 546/4: SPAN DRIVE MOTORS

Motor Currents	Raise (Amps)	Lower (Amps)
Near Main Span Motor	7-9	7-8
Far Main Span Motor	8-9	6-8

Main Motor Currents
Horsepower: 7.5 Horsepower
Motor Voltage Ratings: 230/460 Volts
Motor Current Ratings: 22/11 Amps

NOTE: Data was collected as a part of the 2011 report.

TABLE I
547/4: HYDRAULIC POWER UNIT
548/4: HYDRAULIC PIPING

ITEM	GENERAL CONDITION
OPERATION	GOOD
H.P.U. MAXIMUM OPERATING PRESSURE	GOOD - 1200PSI
BRAKE 1	GOOD - 250 PSI, opening and closing
BRAKE 2	GOOD - 350 PSI opening and closing. Light corrosion on outside.
RESERVOIR	GOOD
FILTER	GOOD
PUMP	GOOD
MOTOR	GOOD
VALVES	FAIR - The valve at the motor brake (brake 1) is causing the brake to not release intermittently.
DISCONNECT & MANUAL PUMP	GOOD
PIPING (BRAKES)	GOOD
PIPING (LOCKS)	GOOD

NOTE: Data was collected as a part of the 2011 report.

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TABLE J
ELEMENT 549/4: HYDRAULIC CYLINDERS

ITEM	NORTH LOCK CYLINDER	SOUTH LOCK CYLINDER
HOUSING	GOOD	GOOD
PISTON	GOOD	GOOD
MOUNTS	GOOD	GOOD
OPERATION	GOOD	GOOD

TABLE K
ELEMENT 560/4: LOCKS

ITEM	NORTH LOCK	SOUTH LOCK
OPERATION	GOOD	GOOD
LOCK BAR	GOOD	GOOD
GUIDES	GOOD	GOOD
RECEIVERS	GOOD	GOOD
BOLTS & SUPPORTS	GOOD	GOOD

TABLE L
ELEMENT 560/4: LOCKS

	Phase A (Amps)
Span Lock Motor Pull	5.2
Span Lock Motor Drive	4.1

Span Lock Motor Currents
Horsepower: 2 Hp
Motor Voltage Rating: 208-230/460 Volts
Motor Current Rating: 6.5-6.2/3.1 Amps

NOTE: Data was collected as a part of the 2011 report.

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TABLE M
ELEMENT 561/4: LIVE LOAD SHOES

ITEM	NORTH ASSEMBLY	SOUTH ASSEMBLY
CONTACT	GOOD	GOOD
LOAD SHOE	FAIR – Light surface corrosion.	FAIR – Light surface corrosion.
STRIKE PLATE	FAIR – Light surface corrosion.	FAIR – Light surface corrosion.
BOLTS	GOOD	GOOD

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TABLE N
581/4: OPERATOR FACILITIES

SAFETY AND MISCELLANEOUS EQUIPMENT

ITEM	NO. SUGGESTED	AVAILABLE	CONDITION	REMARKS
LIFE JACKETS	2	1	GOOD	NEED 1
LIFE RING AND LINE	2	2		NO LINE
BINOCULARS	1	0		NEED 1
TRAFFIC FLAGS	4	5		NEED 1
TRAFFIC CONES	6	5	GOOD	NEED 1
SAFETY VESTS	2	1	FAIR	NEED 1
TRAFFIC FLARES	4	2		NEED 2
BATTERY OPERATED LIGHTS	4	0		NEED 4
EMERGENCY LIGHT SYSTEM	--	NO		NONE
FLASHLIGHTS	2	0		NEED 2
EXTRA LIGHT BULBS	4	6	GOOD	
COASTGUARD REGULATIONS	--	NO		NEED REGULATIONS
FIRE EXTINGUISHERS	2	1	GOOD	CHARGED 02/11 NEED 1
FIRST AID KIT	1	0		NEED 1
RUBBER MAT AT CONSOLE	1	1	GOOD	
LIGHTS (GATE)	--	YES	GOOD	
TRAFFIC SIGNALS	--	YES	GOOD	
FENDER LIGHTS	--	YES	GOOD	
DRAW SPAN LIGHTS	--	YES	GOOD	

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TABLE O
ELEMENT 590/4: RESISTANCE BARRIER

Item	Barrier
Anchor Bolts	Fair – Bolts exhibit light corrosion.
Housing	Fair – Exhibits spotty corrosion
Motor	Good
Reducer	Fair – Light corrosion
Supports	Good
Stay Wires	Good
Gong	Good
General	Fair – Barrier gate exhibits light corrosion on door handle. Thimbles exhibit light corrosion. SOW cable chafing and beginning to crack.

Key:

Good – No reportable deficiencies, no corrective action recommended.

Fair – Minor deficiencies which may require corrective action. Operation is not affected.

Poor – Major deficiencies that affect operation or reliability. Repair or replacement is recommended.

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TABLE P
ELEMENT 590/4: RESISTANCE BARRIER

Gate Motor Currents	Lower Amps	Raise Amps
Barrier Gate	2.1	2.5

Barrier Gate Nameplate Data

Horsepower: 1.0 Hp
Motor Voltage Rating: 208/230 Volts
Motor Current Rating: 3.2 Amps

NOTE: Data was collected as a part of the 2011 report.

TABLE Q
ELEMENT 590/4: RESISTANCE BARRIER

Gate	Height
RESISTANCE BARRIER	29 in.

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TABLE R
ELEMENT 591/4: WARNING GATES

Item	Far On-Coming
Anchor Bolts	Good
Housing	Fair – Spotty corrosion in exterior
Motor	Good
Reducer	Good
Supports	Good
Stay Wires	Good
Gong	Good
General	Fair – Several missing and corroded fasteners to warning gate lights, faded reflective striping.
Item	Near On-Coming
Anchor Bolts	Good
Housing	Fair – Spotty corrosion in exterior
Motor	Good
Reducer	Good
Supports	Good
Stay Wires	Good
Gong	Good
General	Fair – Light corrosion, SO cable connector exhibits moderate corrosion. Warning gate light fasteners exhibit moderate corrosion.

Key:

Good – No reportable deficiencies, no corrective action recommended.

Fair – Minor deficiencies which may require corrective action. Operation is not affected.

Poor – Major deficiencies that affect operation or reliability. Repair or replacement is recommended.

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TABLE S
ELEMENT 591/4: WARNING GATES

Gate Motor Currents	Lower Amps	Raise Amps
Near Oncoming Traffic Gate	1.7	1.8
Far On-Coming Traffic Gate	2.0	1.6

Traffic Gate Nameplate Data

Horsepower: 0.5 Hp
Motor Voltage Rating: 208/230 Volts
Motor Current Rating: 2.0 Amps

NOTE: Data was collected as a part of the 2011 report.

TABLE T
ELEMENT 591/4: WARNING GATES

Gate	Height
Near On-coming Traffic Gate	42 in.
Far On-coming Traffic Gate	52 in.

FDOT Standard Index 17890 requires gate heights to be 42 in. to 54 in. at the centerline of the gate arm in the down position.

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MOVABLE BRIDGE DATA
FRACTURE CRITICAL DATA

I. DEFINITION

The AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members states that Fracture Critical Members or member components (FCMs) are steel tension members or tension components of members whose failure would be expected to result in collapse of the bridge.

II. DESCRIPTION

The bascule span (Span 6) is a single leaf. The leaf frame consists of two main girders, three floor beams, twenty-one stringers, counterweight framing, and lateral bracing. The main girders and Floor Beam 6-3 are built-up "I" sections. Floor Beams 6-1 and 6-2 are rolled members. Refer to Fracture Critical Photo A. The photo from the 2010 report was used in place of this year due to the on-going rehabilitation project.

Since the leaf only consists of two main load carrying members, the main girders, the leaf was considered fracture critical. Both flanges and the web plate were considered to be in tension since the main girders experience stress reversal depending on their position. For the purpose of this inspection, the bascule leaf floor beams were also considered to be fracture critical members. This approach was taken, because if one floor beam were to fail, adequate redistribution of the deck loads to adjacent floor beams may not occur.

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PHOTO A: BASCULE SPAN DECK FRAMING



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III. INSPECTION PROCEDURES:

A. The first step to the inspection of this structure was to have the plans and previous inspection reports examined by a structural engineer. Note that a complete set of plans with member details are not available. The engineer noted fracture critical/fatigue sensitive details, had sketches created showing their location and then briefed the inspectors about such details.

B. Proper inspection of the built-up members (Main Girders, and Floor Beam 6-3) generally includes the following steps

1. Check all rivets (and any bolts) to determine that they are tight and that the individual components are functioning as one member.
2. Check for corroded, cracked, or missing rivets (or any bolts).
3. Check the main girders around the floor beams and lateral bracing connections for deformation or cracking due to out of plane bending.
4. Check the floor beam around the stringer and lateral bracing connections.
5. Check the entire member length, particularly in the tension zones for buckling. Also, check for cracking which may have originated from fatigue, corrosion, nicks, or gouges. Thoroughly inspect any area with impact damage.
6. Check entire member length for temporary erection welds, tack welds, plug welds, weld repairs, or welded connections.
7. Carefully check members at any deck or handrail attachments.

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III. INSPECTION PROCEDURES (cont.):

C. Proper inspection procedures for the rolled shapes (Floor Beams 6-1 and 6-2) generally included the following steps:

1. Check the areas around the stringer connections.
2. Check the bascule span floor beams around the lateral bracing connections.
3. Check for missing or cracked rivets or rivet heads (and any bolts) at all connections.
4. Check the entire length of the tension flange and web for cracking which may have originated from fatigue, corrosion, nicks, or gouges. Also thoroughly inspect any areas with impact damage.
5. Check entire member length for temporary erection welds, tack welds, plug welds, weld repairs, or welded connections not shown on the plans.

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IV. CATEGORIES

A. Fatigue Categories:

Category A: This fatigue category generally refers to plain members or components of plain members that are base metal and are away from any connection details. The components are generally rolled, but may be flame cut with ANSI smoothness of 1,000 or less.

Category B: This fatigue category generally refers to connections using continuous full penetration welds or high strength bolts. The base metal and weld metal are subject to this fatigue category.

Category C: This fatigue category generally refers to base and weld metal used in very short connections.

Category D: This fatigue category generally refers to base and weld metal used in longer fillet welded connections than for Category C. This category also refers to short groove welded connections with fairly sharp transitions, as well as riveted connections.

Category E and E': This fatigue category generally refers to base and weld metal of welded connections not mentioned in Categories C and D, namely longer fillet and groove welds with sharp transitions.

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FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: **MAIN GIRDERS (2 each)**
 CONSTRUCTION: **BUILT-UP PLATE GIRDERS**

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Main Girder (A1)	B	N/A	Fillet	Refers to base metal away from member connections. Both main girders have holes in web plates at the locks and rack pinion shafts. Web plates have welds and welded repair plates located in the vicinity of the curved track.
Top flange to web connection (A2)	D	Riveted	N/A	
Bottom flange to web connection (A3)	B/D	Bolted/Riveted	N/A	Connections are riveted where bottom flange changes in section adjacent to live load shoes and from curved track to a point between Floor Beam 6-2 and 6-3.
Curved track connections (A4)	E	Welded	Fillet	A various number of welds, welded repairs and welded attachments are present.
Web splices (A5)	D	Riveted	N/A	Located at floor beams.
Vertical web stiffener connections (A6)	D/B/C	Riveted/ Bolted/ Welded	Tack	Stiffeners were originally riveted. Angles where sidewalk supports are present are riveted and bolted. Some stiffeners have had plates welded to girder bottom flange.
Lateral Bracing connections (A7)	B/D	Bolted/Riveted	N/A	Connection angle at Main Girder 6-1 LT to Floor Beam 6-3 is riveted.
Floor beam connections (A8)	B/D	Bolted/Riveted	N/A	
Primary transverse deck grating supports (A9)	B	Welded	Fillet	
Live load shoe assemblies (A10)	B	Bolted	N/A	
Transverse machinery support to web connection (A11)	B	Welded	Fillet	

(#) = See sketch for detail location

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MOVABLE BRIDGE DATA

FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: FLOOR BEAMS 6-1 and 6-2
(2 each)

CONSTRUCTION: ROLLED (UNKNOWN SIZE)

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Floor beam (B1)	A	N/A	N/A	Refers to base metal away from member connections.
Stringer to floor beam connections (B2)	D/E	Riveted/Welded	Fillet	Bottom flange of stringers are riveted to top flange of floor beams. Fillet welds are also present. Stringers over Floor Beam 6-2 are continuous.
Floor beam to main girder connection (B3)	B/D	Bolted/Riveted	N/A	Connections are riveted and bolted.
Lateral bracing connection at midpoint of top flange (B4)	B	Bolted	N/A	Only applies to Floor Beam 6-2.
Lateral bracing connection at ends of top flange (B5)	B	Bolted	N/A	Only applies to Floor Beam 6-1
Bottom flange to main girder gusset plate connections (B6)	B	Bolted	N/A	Only applies to Floor Beam 6-1
Original span lock bracing (B7)	C	Welded	Fillet	Welded to web at each end of Floor Beam 6-1.
Bottom Flange (B8)	A	N/A	N/A	Floor Beams 6-1 and 6-2
Lower portion of web (B9)	A	N/A	N/A	Floor Beams 6-1 and 6-2

(#) = See sketch for detail location.

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MOVABLE BRIDGE DATA

FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: FLOOR BEAM 6-3 (1 each)
CONSTRUCTION: BUILT-UP PLATE GIRDER

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Floor beam (C1)	A	N/A	N/A	Refers to the base metal away from member connections.
Stringer to floor beam connections (C2)	B/D	Bolted/Riveted	N/A	Stringers are connected to top flange of floor beam. Stringers on west side of top flange are riveted; stringers on the east side are bolted.
Floor beam to main girder connections (C3)	B/D	Bolted/Riveted	N/A	Connections have both rivets and bolts.
Lateral bracing connections (C4)	B	Bolted	N/A	
Vertical web stiffeners (C5)	D	Riveted	N/A	
Bottom flange to web connection (C6)	D/B	Riveted/Bolted	N/A	Bolts present where rivets were replaced.
Top flange to web connection (C7)	D	Riveted	N/A	
Machinery Supports (C8)	B	Bolted	N/A	Connections are bolted to web plate.

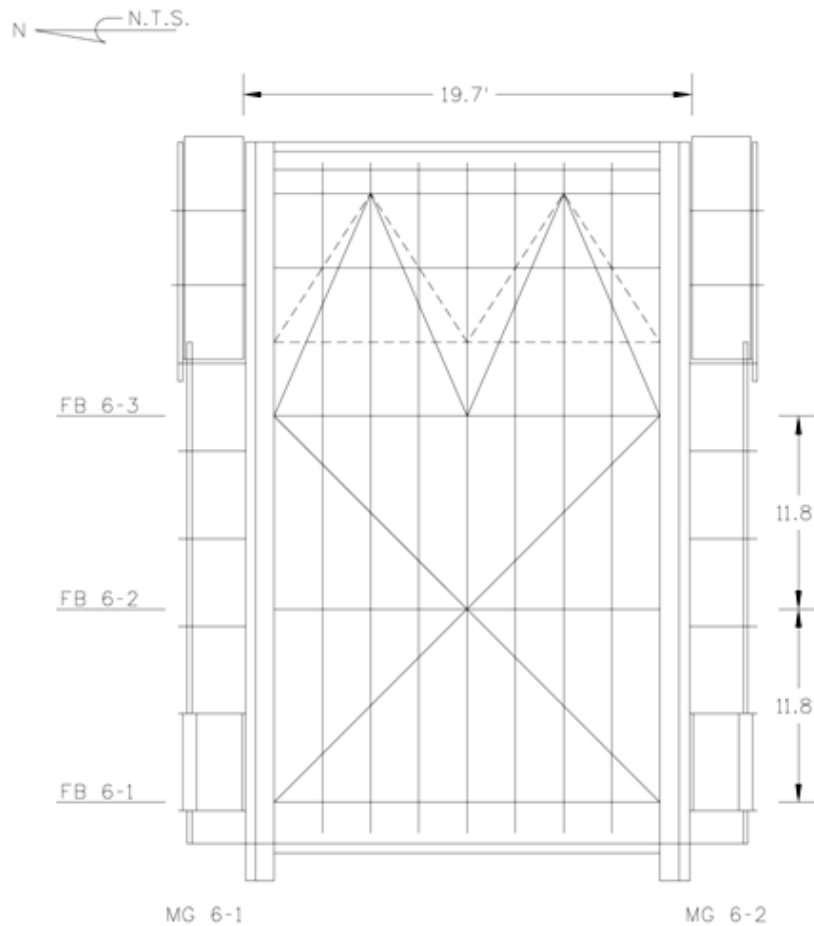
(#) = See sketch for detail location

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MOVABLE BRIDGE DATA
FRACTURE CRITICAL DATA



LEGEND:
MG = MAIN GIRDER
FB = FLOORBEAM
N.T.S. = NOT TO SCALE

PLAN VIEW
BASCULE SPAN 6
N.T.S.

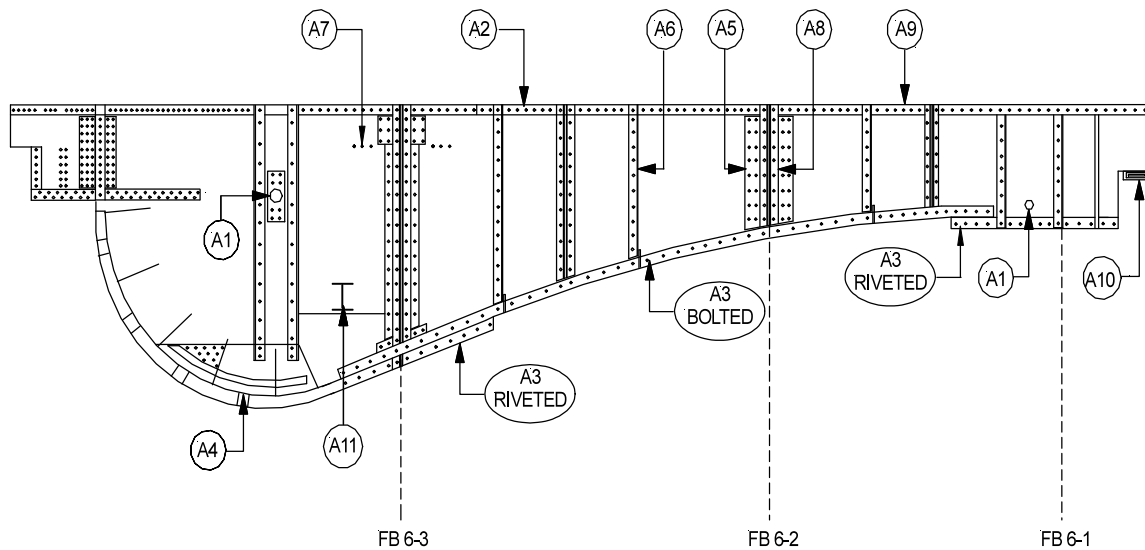
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MOVABLE BRIDGE DATA
FRACTURE CRITICAL DATA

(A1) REFERS TO THE BASE METAL AWAY FROM CONNECTION DETAILS



MAIN GIRDER ELEVATION
N.T.S.

LEGEND:

(A1) = TYPICAL FATIGUE SENSITIVE DETAIL

N.T.S. = NOT TO SCALE

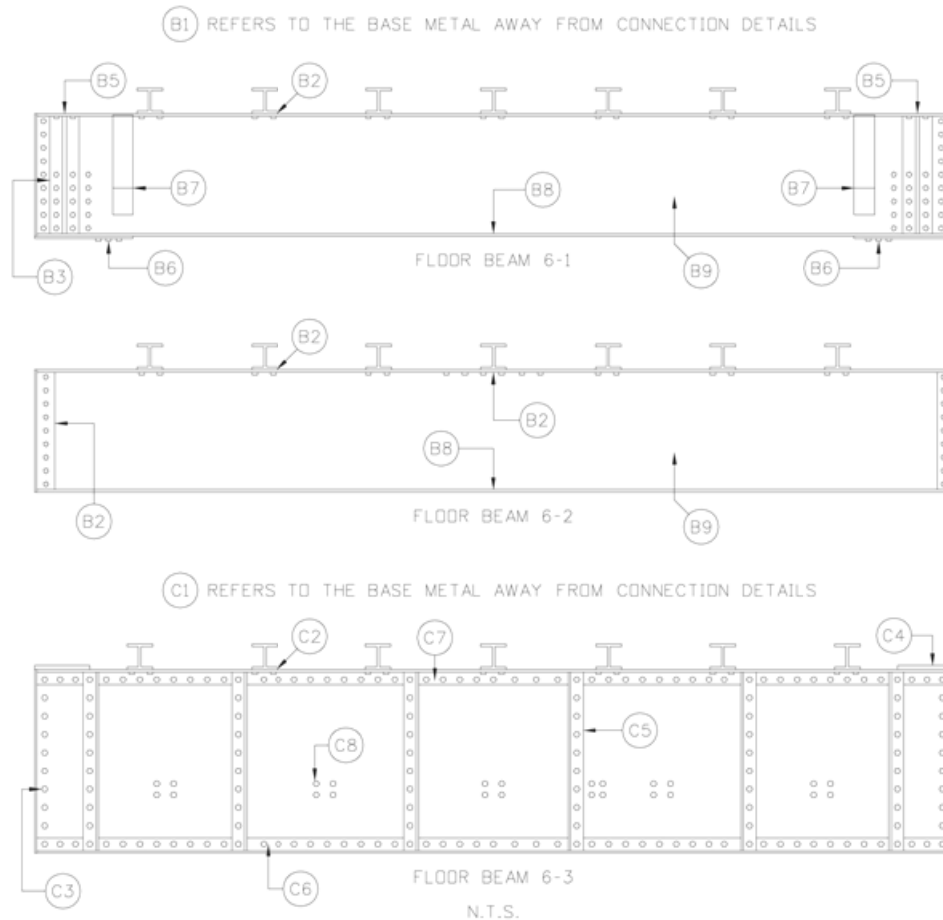
This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

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MOVABLE BRIDGE DATA
FRACTURE CRITICAL DATA



LEGEND:

(B1) TYPICAL FATIGUE SENSITIVE DETAIL FOR FLOOR BEAM 6-1 & 6-2

(C1) TYPICAL FATIGUE SENSITIVE DETAIL FOR FLOOR BEAM 6-3

N.T.S. - NOT TO SCALE

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

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INSPECTION DATE: 7/31/2012 LQIG

BY: ICA Engineering
OWNER: 2 County Hwy Agency
MAINTAINED BY: 2 County Hwy Agency
STRUCTURE TYPE: 3 Steel - 16 Movable-Bascule
LOCATION: 0.4 MI W/O GRAND BLVD
SERVICE TYPE ON: 5 Highway-pedestrian
SERV TYPE UND: 5 Waterway

STRUCTURE NAME: BECKETT BRIDGE
YEAR BUILT: 1924
SECTION NO.: 15 000 000
MP: 0
ROUTE: 00000
FACILITY CARRIED: N SPRING BLVD
FEATURE INTERSECTED: MINETTA BRANCH

☒ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Special - Movable

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 07/31/2012 UNDERWATER: 6/24/2011

SUFFICIENCY RATING: 44.9
HEALTH INDEX: 88.40

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INSPECTION DATE: 7/31/2012 LQIG

BY: ICA Engineering
OWNER: 2 County Hwy Agency
MAINTAINED BY: 2 County Hwy Agency
STRUCTURE TYPE: 3 Steel - 16 Movable-Bascule
LOCATION: 0.4 MI W/O GRAND BLVD
SERVICE TYPE ON: 5 Highway-pedestrian
SERV TYPE UND: 5 Waterway

STRUCTURE NAME: BECKETT BRIDGE
YEAR BUILT: 1924
SECTION NO.: 15 000 000
MP: 0
ROUTE: 00000
FACILITY CARRIED: N SPRING BLVD
FEATURE INTERSECTED: MINETTA BRANCH

- ☒ THIS BRIDGE CONTAINS FRACTURE CRITICAL COMPONENTS
☐ THIS BRIDGE IS SCOUR CRITICAL
☐ THIS REPORT IDENTIFIES DEFICIENCIES WHICH REQUIRE PROMPT CORRECTIVE ACTION
☒ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Special - Movable

DATE FIELD INSPECTION WAS PERFORMED:

ABOVE WATER: 07/31/2012

UNDERWATER: 6/24/2011

SMART FLAGS:

OVERALL NBI RATINGS:

DECK: 7 Good
SUPERSTRUCTURE: 6 Satisfactory
SUBSTRUCTURE: 6 Satisfactory
PERF RATING: Good

CHANNEL: 7 Minor Damage
CULVERT: N N/A (NBI)
SUFF. RATING: 44.9
HEALTH INDEX: 88.40

FIELD PERSONNEL/ TITLE/ NUMBER

INITIALS

Hampton, Marshall - Professional Engineer (PE#75587) (lead)

Collins, Kevin - Assistant Bridge Inspector

Rhodes, Ritchie - Mechanical/Electrical Inspector (CBI #00209)

REVIEWING BRIDGE INSPECTION SUPERVISOR:

Antona, Nico - Bridge Inspector (CBI # 00383)

CONFIRMING REGISTERED PROFESSIONAL ENGINEER:

Hazen, Bruce - Professional Engineer (PE #47379)
Centurion
1907 US Hwy 301 North
Suite 160C
Tampa, FL 33619

SIGNATURE: _____

Date: _____

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BRIDGE MANAGEMENT SYSTEM**

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All Elements

DECKS

ELEMENT CATEGORY: Decks/Slabs

ELEMENT/ ENV: 12/4 Bare Concrete Deck

9253 sf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The surface and underside of the deck have few repaired areas, there are few spalls/delaminations in the deck surface or underside and the only cracking is superficial or surface map cracking. The combined distressed area is 2% or less of the deck area.	0
2	Repaired areas and/or spalls/delaminations and/or cracks exist in the deck surface or underside. The combined distressed area is more than 2% but less than 10% of the deck area.	9253
3	Repaired areas and/or spalls/delaminations and/or cracks exist in the deck surface or underside. The combined area of distress is more than 10% but less than 25% of the total deck area.	0
4	Repaired areas and/or spalls/delaminations and/or cracks exist in the deck surface or underside. The combined area of distress is more than 25% but less than 50% of the total deck area.	0
5	Repaired areas and/or spalls/delaminations and/or cracks exist in the deck surface or underside. The combined area of distress is more than 50% of the total deck area.	0

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ELEMENT INSPECTION NOTES:

NOTE: The west half of Span 1 and the east half of Span 10 are overlaid with asphalt 1/4 in. thick.

CS2: The deck top exhibits minor abrasive wear and multi-directional cracks up to 10 ft. x 1/32 in. throughout.

Both curbs exhibit minor delaminations/ lack of cover spalls. All exposed steel was painted with cold galvanizing.

There are lateral misalignments of the approach spans up to 1-1/4 in. Refer to Table 1 in the Addendum for Deck Misalignment Measurements. Refer to Photo 31.

The right deck soffit exhibits an 8 in. x 1 ft. x 1-1/2 in. delamination/spall with exposed, corroded reinforcing steel in Span 2 at Bent 2 – NEW. Refer to Photo 32. REPAIR.

The 3/4 point in the middle of Lane 2 of Span 2 exhibits (3) delaminations/spalls with exposed steel up to 5 in. x 3 in. x 1/2 in. Refer to Photo 33. REPAIR.

The top of the right curb adjacent to the joint at Abutment 11 exhibits a 30 in. x full width delaminated repair – NEW. Refer to Photo 34. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated area at the tender house entrance was repaired.

The right sidewalk soffit delamination of Span 3 near Bent 4 was repaired.

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All Elements

DECKS

ELEMENT CATEGORY: Decks/Slabs

ELEMENT/ ENV: 28/4 Steel Deck/Open Grid 500 sf.

CONDITION STATE	DESCRIPTION	QUANTITY
--------------------	-------------	----------

1	There is no corrosion. The paint system, if any, is sound. The connectors (welds rivets, etc.) are sound.	0
---	---	---

2	There is little or no corrosion. The paint system, if any, may be showing early signs of distress. The connectors are still sound.	500
---	--	-----

3	Surface corrosion has formed. The paint system is no longer fully effective. There is no loss of section. The connectors may be starting to show signs of distress - cracked welds or broken rivets.	0
---	--	---

4	Corrosion is moderate. Surface pitting may be present but any section loss is incidental. Numerous connectors are failing at scattered locations. The strength or serviceability of the section is not yet affected.	0
---	--	---

5	Corrosion is advanced. Numerous connectors have failed. Section loss and/or connectivity is sufficient to warrant review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge.	0
---	--	---

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel grid deck grating of Span 6. The cantilevered sidewalk supports are incidental to this element.

CS2: The deck grating exhibits isolated areas of peeling paint throughout - NEW.

The cantilevered sidewalk supports (CSWS) exhibit minor corrosion at the sidewalk curb junctions - NEW.

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All Elements

DECKS

ELEMENT CATEGORY: Decks/Slabs

ELEMENT/ ENV: 29/4 Steel Deck/Conc Grid 291 sf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no corrosion. The paint system, if any, is sound. The connectors (welds, rivets, etc.) are sound. The concrete filler is sound.	291
2	There is little or no corrosion. The paint system, if any, may be showing early signs of distress. The connectors are still sound. The concrete filler is sound.	0
3	Surface corrosion has formed. The paint system is no longer fully effective. There is no loss of section. The connectors may be starting to show signs of distress - cracked welds or broken rivets. The concrete filler may have broken out at scattered locations.	0
4	Surface corrosion has formed. The paint system is no longer fully effective. There is no loss of section. Numerous connectors are failing at scattered locations. Small areas of concrete are missing.	0
5	Corrosion is advanced. Numerous connectors have failed. Section loss and/or connectivity is sufficient to warrant review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge. Much of the concrete filler is missing.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the concrete-filled grid deck of Span 6.

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All Elements

DECKS

ELEMENT CATEGORY: Joints

ELEMENT/ ENV: 301/4 Pourable Joint Seal

253 lf.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows minimal deterioration. Adhesion is sound with no signs of leakage. There are no cohesion cracks. The adjacent deck and/or header is sound.

211

2 Minor adhesion and/or cohesion failures may be present. Signs of seepage along the joint may be present. Joint may be slightly impacted with debris. Minor spalls in the deck and/or headers may be present adjacent to the joint.

35

3 Major adhesion and/or cohesion failures may be present. Signs or observance of leakage along the joint may be present. Joint may be heavily impacted with debris and/or stones. Major spalls may be present in the deck and/or header adjacent to the joint.

7

ELEMENT INSPECTION NOTES:

CS2: There is minor cracking of the asphalt and pourable joint seal above both abutments – INCREASE.

CS3: There are two potholes up to 4 ft. x 4 in. that exhibit exposed joint sealant with major adhesion failure at Abutment 11 – NEW. Refer to Photo 35. REPAIR.

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All Elements

DECKS

ELEMENT CATEGORY: Joints

ELEMENT/ ENV: 399/4 Other Xpansion Joint 52 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The element shows minimal deterioration. Joint armor, if present, is secure. The adjacent deck and/or header is sound.	52
2	There may be deck cracking indicating anchor loosening. Minor spalls in the deck and/or header may be present adjacent to the joint. There may be corrosion.	0
3	There may be advanced corrosion. Major spalls may be present in the deck and/or header adjacent to the joint. Anchors have failed.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the armored joint at Rest Pier 6 and the traffic plate joint at Bascule Pier 7.

CS1: The paint on both joints is moderately worn.

The armored angle over Rest Pier 6 is missing 1 ft. per side adjacent to the curbs due to two 1 ft. x 4 in. add-on sections to the open steel grid deck.

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All Elements

DECKS

ELEMENT CATEGORY: Railing

ELEMENT/ ENV: 331/4 Conc Bridge Railing 640 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without effect on strength and/or serviceability.	640
2	Minor cracks, surface scaling or spalls may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.	0
3	Some delaminations and/or spalls may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	0
4	Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.	0

ELEMENT INSPECTION NOTES:

< none >

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All Elements

DECKS

ELEMENT CATEGORY: Railing

ELEMENT/ ENV: 334/4 Metal Rail Coated 82 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion. Protective coating is sound and functioning as intended to protect the element.	82
2	There is little or no active corrosion. Surface corrosion has formed or is forming. Protective coating may have minor areas of deterioration.	0
3	Surface corrosion is prevalent. Protective coating is no longer effective. There may be exposed metal but there is no active corrosion causing loss of section.	0
4	Corrosion is present, but any section loss due to active corrosion is measurable and does not affect the strength or serviceability of the element.	0
5	Corrosion is advanced. Section loss is sufficient to warrant review to ascertain the impact on the ultimate strength and/or serviceability of the element.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the metal bridge rails along Span 6.

CS1: There are minor scuffs on Posts 6-5 and 6-6 due to contact during openings.

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Superstructure

ELEMENT/ ENV: 107/4 Paint Stl Opn Girder 83 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
--------------------	-------------	----------

1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	71
---	--	----

2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	12
---	--	----

3	Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section.	0
---	---	---

4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	0
---	---	---

5	Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge.	0
---	--	---

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the main girders and trunnion girders of Span 6, which are fracture critical. Refer to the Fracture Critical section in the Addendum.

There are welded repair plates in the vicinity of the rolling tracks and drilled holes where the span drive machinery had once been located.

CS2: The north edge of Main Girder 6-2 top flange exhibits painted over knife edging and small areas of painted corrosion holes to 1/4 in. in each side of Floor Beam 6-2.

The top flanges, lower portions of the webs and bottom flanges exhibit painted over pitting with corrosion holes to 1/4 in. diameter near the curve tracks.

The bottom flanges of the main girders exhibit reoccurring active corrosion at Floor Beam 6-2 junctions - NEW.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

REPORT ID: INSP005 (detailed)

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Superstructure

ELEMENT/ ENV: 109/4 P/S Conc Open Girder 1594 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	1589
2	Minor cracks and spalls may be present and there may be exposed reinforcing with no evidence of corrosion. There is no exposure of the prestress system.	0
3	Some delaminations and/or spalls may be present. There may be minor exposure but no deterioration of the prestress system. Corrosion of non-prestressed reinforcement may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	5
4	Delaminations, spalls and corrosion of non prestressed reinforcement are prevalent. There may also be exposure and deterioration of the prestress system (manifested by loss of bond, broken strands or wire, failed anchorages, etc). There is sufficient concern to warrant a review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.	0

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ELEMENT INSPECTION NOTES:

CS1: The north face of Beam 7-1 at Bent 7 poured end exhibits a 24 in. x 1/32 in. vertical crack.

The beam end of Beam 4-5 at Bent 4 exhibits a 3 in. x 10 in. x 2 in spall with exposed, corroded reinforcing steel – NEW. Refer to Photo 36. REPAIR.

CS3: Beams 3-5 and 4-5, south faces, exhibit delaminated repairs up to 4 in. x 8 in. over Bent 4 – NEW. Refer to Photo 37. REPAIR.

Beam 4-1, north face, exhibits a 30 in. x 8 in. x 2 in spall with two exposed, corroded pre-stressing strands at Bent 5. Refer to Photo 38. REPAIR.

Beam 7-5, previously reported as 7-1, south face, exhibits a 12 in. x 8 in. delaminated repair at Bent 8. Refer to Photo 39. REPAIR

Beam 9-5, south face, exhibits a 6 in. x 8 in delaminated repair at Bent 9 – NEW. Refer to Photo 40. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated spall in Beam 1-3 was repaired.

The delamination with corrosion staining in Beam 1-4 was repaired.

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Superstructure

ELEMENT/ ENV: 113/4 Paint Stl Stringer

246 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	246
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	0
3	Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section.	0
4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	0
5	Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the stringers of Span 6.

CS1: The bottom faces of the bottom flanges exhibit painted over pitting up to 3/16 in. deep.

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Superstructure

ELEMENT/ ENV: 152/4 Paint Stl Floor Beam 59 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	58
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	1
3	Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section.	0
4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	0
5	Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the floor beams of Span 6, which are fracture critical. Refer to the Fracture Critical section in the Addendum. Lateral bracing gusset plate thicknesses were taken during this inspection. Refer to Table 1 in the Fracture Critical section of the Addendum. Refer to the framing plan sketch in the Fracture Critical section of the Addendum for gusset plate locations.

CS1: The floor beams exhibit painted over pitting to 1/4 in. deep in the bottom faces of the bottom flanges and in the top flanges at the stringer connections.

CS2: Floor Beam 6-3 exhibits three small painted corrosion holes to 3/4 in. in the lower portion of the web at the two southernmost vertical stiffeners.

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Bearings

ELEMENT/ ENV: 310/4 Elastomeric Bearing 10 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. Shear deformations are correct for existing temperatures.	10
2	Minor cracking, splitting or other deterioration may be present. Shear deformation may be slightly excessive. Strength and/or serviceability are not affected.	0
3	Deterioration is advanced. Shear deformations may be excessive. Top and bottom surfaces may no longer be parallel. Loss of bearing may be imminent.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the neoprene pads placed on top of stacked steel plates at Bent 7 and the adjacent crutch bent cap. The Bent 7 bearings exhibit partial bearing loads due to the crutch bent.

CS1: Crutch Bearing 7-4 is bulging slightly but is not deteriorated.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Bearings

ELEMENT/ ENV: 313/4 Fixed Bearing 10 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. The paint system, if present, is sound and functioning as intended to protect the metal. Vertical and horizontal alignment are within limits. Bearing support member is sound.	10
2	The paint system, if present, may show moderate to heavy corrosion with pitting but still functioning as intended. The assemblies may have moved enough to cause minor cracking in the supporting concrete.	0
3	There is advanced corrosion with section loss. There may be loss of section of the supporting member sufficient to warrant supplemental supports or load restrictions. Shear keys may have failed.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the five steel bearing assemblies bolted to Bent Cap 8 and the five sets of stacked steel plates at the steel crutch bent cap in Span 5. The assemblies bolted to Bent Cap 8 were installed in the past to achieve a larger bearing area.

CS1: The bearing anchor plates on the west face of Bent Cap 8 exhibit minor surface corrosion.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 540/4 Open Gearing

8 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 Gears are properly aligned and lubricated, minimal wear or corrosion is present.

0

2 Minor misalignment, gears may need lubrication, gear teeth wear or corrosion is measurable, but operation of drive system not impacted.

8

3 Major misalignment, gear teeth wear or corrosion extensive, operation of drive system may be affected. There may be minor cracking in the casting requiring structural review.

0

4 Major misalignment, gear teeth fractures may be present, operation of drive system threatened.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the eight gear sets including rack sets. Refer to the Machinery Layout Diagram and Table A in the Addendum.

CS2: Both rack and pinion sets and gear sets P/G-3S and P/G-4S exhibit minor cross bearing wear.

The outboard pinions exhibit excessive wear due to end loading.

All gear sets exhibit peeling paint and light surface corrosion - INCREASE. Refer to Photo 1. REPAIR

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 541/4 Speed Reducers 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Gears are properly aligned and lubricated, minimal wear or corrosion is present.	0
2	Minor misalignment, gears may need lubrication, gear teeth wear or corrosion is measurable, but operation of drive system not impacted.	1
3	Major misalignment, gear teeth wear or corrosion extensive, operation of drive system may be affected. There may be minor cracking in the casting requiring structural review.	0
4	Major misalignment, gear teeth fractures may be present, operation of drive system threatened.	0

ELEMENT INSPECTION NOTES:

NOTE: Refer to the Machinery Layout Diagram and Table B in the Addendum.

CS2: The housing of the speed reducer exhibits peeling paint and light surface corrosion.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 542/4 Shafts 7 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Shafts are properly aligned, bearings are properly lubricated, shaft clearance at bearings is appropriate, no cracks or corrosion is present.	0
2	Shafts are not properly aligned, bearings are not lubricated, shaft clearance at bearings is not uniform. Minor corrosion may be present. Seals and gaskets show evidence of minor leaking.	7
3	Measurable section loss is present, minor cracks in shaft or bearing supports. Seals and gaskets not working.	0
4	Significant section loss, or major cracking threaten operation of bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: Refer to the Machinery Layout Diagram and Table C in the Addendum. The quantity has been field verified.

CS2: All shafts exhibit peeling paint and light surface corrosion. Refer to Photo 2. REPAIR

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 543/4 Shaft Brgs and Coupl 18 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Shafts are properly aligned, bearings are properly lubricated, shaft clearance at bearings is appropriate, no cracks or corrosion is present.	16
2	Shafts are not properly aligned, bearings are not lubricated, shaft clearance at bearings is not uniform. Minor corrosion may be present. Seals and gaskets show evidence of minor leaking.	2
3	Measurable section loss is present, minor cracks in shaft or bearing supports. Seals and gaskets not working.	0
4	Significant section loss, or major cracking threaten operation of bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies fifteen bearings and three couplings. Refer to the Machinery Layout Diagram and Table D in the Addendum.

CS2: Couplings C-2, both east and west, exhibit peeling paint with minor surface corrosion.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 544/4 Brakes 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Clearances are normal, shoes do not show abnormal wear, shoes are clean, no oil or grease is present on shoes, shoes do not have a glazed appearance. Brake wheel surface is clean and smooth. Brakes operate correctly. Moving parts are properly lubricated.	2
2	Brakes operating properly, moving parts may need lubricating, oil may need changed, minor corrosion may be present.	0
3	Brake operation needs improvement, measurable corrosion may be present, moving parts may be sticking.	0
4	Brakes not functioning and require replacement.	0

ELEMENT INSPECTION NOTES:

NOTE: The brakes and span locks are hydraulically operated by a common hydraulic power unit (HPU). Refer to Elements 547, Hydraulic Power Unit and 548, Hydraulic Piping Sys, for additional comments on these components. Refer to the Machinery Layout Diagram and Table E in the Addendum.

CS1: Both brakes exhibit light surface corrosion on the outside - NEW.

CORRECTIVE ACTION TAKEN:

Brake 1 has been repaired.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 546/4 Span Drive Motors 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
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1	Motor does not overheat, bearings properly lubricated, bearing seals tight, all components tight, no corrosion present, tests performed show normal readings.	2
---	---	---

2	Motor requires maintenance.	0
---	-----------------------------	---

3	Motor requires repairs.	0
---	-------------------------	---

4	Motor requires replacement.	0
---	-----------------------------	---

ELEMENT INSPECTION NOTES:

NOTE: There is no backup system emergency drive at the bridge site. A truck mounted portable generator is available when needed. The generator switch and outlet are located on the power panel at the northeast corner of the bridge. Refer to Tables F and G and the Machinery Layout Diagram in the Addendum.

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ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 547/4 Hydraulic Power Unit 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	All components are clean, no leakage is present. There is no build up of dirt and debris. Fluid level in the reservoir is within the prescribed limits. Fluid conductors are free of abrasion, flattening or kinking. Gauge readings are within prescribed limits. Filters are clean. Hydraulic Power Unit is operating properly.	1
2	Hydraulic Power Unit is operating properly, but there is need for maintenance or servicing. There may be minor leakage of hydraulic fluid.	0
3	Hydraulic Power Unit is not operating properly, there is evidence that repairs may be needed. There may be moderate leakage of hydraulic fluid.	0
4	Hydraulic Power Unit is not operating or poorly operating. Replacement of all or part of the Hydraulic Power Unit may be required.	0

ELEMENT INSPECTION NOTES:

NOTE: The brakes and span locks are operated by a common hydraulic power unit (HPU). This element quantifies the pump, electric motor, valves, filters, reservoir, manual pump and any accessories as one system. Refer to Table H the Addendum.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 548/4 Hydraulic Piping Sys 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Piping system is clean and shows no sign of leakage. Flexible hose is properly installed and aligned. Pipe, tubing and hoses are free of damage, corrosion and abrasion.	0
2	Minor deterioration or corrosion present. There may be minor leakage of hydraulic fluid present. Maintenance required.	1
3	There is significant leakage present. Repair or Replacement required.	0

ELEMENT INSPECTION NOTES:

NOTE: The hydraulic piping and flexible hoses that run from the HPU to the brakes and span locks were inspected under this element. Refer to Table H in the Addendum.

CS2: The compression fittings are loose for the hydraulic piping for the north span lock assembly which enables the hydraulic fluid to leak out. Refer to Photo 3. REPAIR

The pressure gauge, at Brake 1, is leaking oil - NEW. Refer to Photo 4. REPAIR

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ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 549/4 Hydraulic Cylinders 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Units are clean and no signs of excess leakage are present. Cylinder rods are not scored. Cylinder rod boots are connected and not damaged. Cylinder rods operate smoothly and freely. Bushings are not worn and are lubricated.	2
2	Units are operating properly, but there is need for maintenance or servicing. There may be minor leakage of hydraulic fluid.	0
3	Units are not operating properly, there is evidence that repairs may be needed. There may be moderate leakage of hydraulic fluid.	0
4	Units are not operating or are operating poorly. Replacement may be required.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the cylinders that drive the span locks. Refer to Table I in the Addendum.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV:	560/4 Locks	2 ea.
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CONDITION STATE	DESCRIPTION	QUANTITY
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1	Locks are operating properly, there are no signs of deterioration, wear or distress. Clearances are within specifications.	0
---	--	---

2	Locks are operating properly, there are signs of limited deterioration or wear, clearances may not be within specifications. Lubrication may be needed. Maintenance may be required.	2
---	--	---

3	Locks are not operating properly, there are signs of significant deterioration or wear, clearances may not be within specifications. Repair may be required.	0
---	--	---

4	Locks are not operating or are operating poorly. There is excessive deterioration or wear. Replacement may be required.	0
---	---	---

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables J and K in the Addendum.

CS2: The lockbars and couplings exhibit areas of light surface corrosion - NEW.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 561/4 Live Load Shoes 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	This element shows little or no deterioration. If a paint system is present, it is sound and functioning as intended to protect the metal. There is minimal debris and corrosion. Vertical and horizontal alignment are within limits. Buffer is operating effectively.	0
2	The paint system, if present, may show moderate to heavy corrosion with some pitting but still functioning as intended. The strike plate may have moved enough to cause minor cracking in the supporting concrete. Alignment of the live load shoe and strike plate is still tolerable. There may be no contact with the live load shoe. Buffer may have lost some of its effectiveness. Shim plates may be loose.	2
3	Advanced corrosion with section loss. There may be loss of section of the supporting member sufficient to warrant supplemental supports or load restrictions. Alignment may be beyond tolerable limits. Buffer may not be effective.	0

ELEMENT INSPECTION NOTES:

NOTE: Refer to Table L in the Addendum.

CS2: Both live load shoe assemblies exhibit minor to moderate surface corrosion - INCREASE.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 562/4 Counterweight Support 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion, and the paint system is sound and functioning as intended to protect the metal surface.	1
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress, but there is no exposure of metal.	0
3	Surface corrosion is prevalent. There may be exposed metal, but there is no active corrosion which is causing loss of section.	0
4	Corrosion may be present, but any section loss due to active corrosion does not yet warrant structural review.	0
5	Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of the element.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel frame around the counterweight.

CORRECTIVE ACTION TAKEN:

The counterweight support has been painted.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 563/4 Acc Ladd & Plat

4 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is no evidence of active corrosion, and the paint system is sound and functioning as intended to protect the metal surface.

4

2 There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress, but there is no exposure of metal.

0

3 Surface corrosion is prevalent. There may be exposed metal, but there is no active corrosion which is causing loss of section.

0

4 Corrosion may be present, but any section loss due to active corrosion does not yet warrant structural review. Anchors may be loose.

0

5 Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the effect on the ultimate strength and/or serviceability of the element.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the two ladders at Rest Pier 6, one set of stairs at Bascule Pier 7 and the platform on the north side of Bascule Pier 7. Lighting of the machinery area was inspected under this element.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 564/4 Counterweight

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows little or no deterioration, There may be discoloration, efflorescence, and/or superficial cracking, but without effect on strength and/or serviceability.

1

2 Minor cracks and spalls may be present, but there is no exposed reinforcing or surface evidence or rebar corrosion.

0

3 Some delaminations and/or spalls may be present and some reinforcing may be exposed. Corrosion of rebar may be present, but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.

0

4 Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the effect on the strength and/or serviceability of either the element or the bridge.

0

ELEMENT INSPECTION NOTES:

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 565/4 Trun/Str and Cur Trk 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Minimal wear or corrosion is present, alignment and lubrication is good.	0
2	Minor misalignment, lubrication may be needed, teeth wear or corrosion is measurable, but operation is not affected.	2
3	Major misalignment, wear or corrosion is extensive, operation of drive system may be affected.	0
4	Major misalignment, teeth fractures may be present, operation of drive system threatened.	0

ELEMENT INSPECTION NOTES:

CS2: The curved segmental girders do not have a constant radius in relation to their flat tracks.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV:	570/4 Transformers	1 ea.
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**CONDITION
STATE**

DESCRIPTION

QUANTITY

1	There are no signs of corrosion, oil leakage or any deleterious condition at the transformer. There are no blown fuses at the transformer.	1
---	--	---

2	There are minor signs of corrosion.	0
---	-------------------------------------	---

3	There are major signs of corrosion or oil leakage. A fuse at the transformer may be blown.	0
---	--	---

ELEMENT INSPECTION NOTES:

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV:	571/4 Submarine Cable	2 ea.
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**CONDITION
STATE**

DESCRIPTION

QUANTITY

1	The cable is firmly attached to the pier wall and protected. The cable is fully buried on the channel bottom. There is no chafing of the outer protective coating. Cable is properly grounded.	2
---	--	---

2	The cable is not firmly attached to the pier wall, there is chafing of the outer protective coating or the cable is not fully buried on the channel bottom. Cable is not properly grounded.	0
---	---	---

3	There is significant deterioration to the outer protective coating, or the cable is not functioning properly.	0
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ELEMENT INSPECTION NOTES:

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 572/4 Conduit & Junc. Box 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of corrosion, supports are tight and firmly anchored into concrete or attached to structural steel. Junction box cover gaskets are intact and provide a good seal. Wire connections and terminal strips are tight. Less than 2 % of the conduit is not in good condition.	0
2	There is some corrosion, supports may not be tight, junction box cover gaskets are not intact, wire connections and terminal strips are not tight. At least 2 % but less than 10 % of the conduit is not in good condition.	1
3	There is major corrosion, supports are broken or missing, junction box badly deteriorated, conduit may be broken. 10 % or more of the conduit is not in good condition.	0

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ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the electrical conduit and junction boxes as one system.

The access door of the submarine cable termination cabinet at Rest Pier 6 is partially obstructed by the fender access ladder but is still accessible for inspection/maintenance.

CS2: Several conduit bodies, clamps and junction boxes, throughout the bridge, exhibit minor to moderate corrosion. Refer to Photo 5. REPAIR

The grounding cables for all warning gates, traffic signals and the resistance barrier have been cut/stolen - INCREASE. Refer to Photo 6. REPAIR

The lower section of the submarine cable termination cabinet at Rest Pier 6 exhibits moderate to heavy corrosion. Refer to Photo 7. REPAIR

CORRECTIVE ACTION TAKEN:

The receptacle enclosure on the near side of the machinery level has been repaired.

The SO cable for the near fender navigational light has been repaired.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 574/4 Control Console

1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no corrosion or paint failure, the console area is clear of foreign objects, all switches operate properly, all bypass switches are locked or sealed to prevent inadvertent operation, there are no burned out pilot light lamps or missing or broken lamp lenses.	0
2	There is some corrosion or paint failure, the console area is not clear of foreign objects, there are burned out pilot light lamps or missing or broken lamp lenses.	1
3	The switches do not operate properly, the bypass switches are not locked or sealed.	0

ELEMENT INSPECTION NOTES:

CS2: The control console is missing several nameplates for switches and indicator lights. Refer to Photo 8. REPAIR

The high voltage warning labels were not provided for the control console and MCC.

The control console has a selector switch which selects drive #1 or drive #2. If this switch is placed in the "drive #2" position, then the drive #1 "fault indicator" light will illuminate. The control circuit appears to be connected such that the non-selected drive is indicated as a "fault condition".

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 580/4 Navigational Lights 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Lights are operational, lenses are clean and not broken, there is no evidence of corrosion.	0
2	There is some evidence of corrosion, lights may be burned out, lens may be broken.	1
3	Lights are not operational.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the six fender mounted lights, two draw span tip swing lights and two flood lights for the clearance gauges as one system.

CS2: The bottom of the south tip swing light is cracked in several places. Refer to Photo 9. REPAIR

The southwest fender light base is broken. Refer to Photo 10. REPAIR

The northwest clearance gauge flood light bulb is burnt-out - NEW. Refer to Photo 11. REPAIR

The UPS backup battery system for the navigational lights has been removed from the bridge. Refer to Photo 12. REPAIR

CORRECTIVE ACTION TAKEN:

The south swing light chain has been replaced.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 581/4 Operator Facilities

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is only minor deficiencies in the Bridge Tender's Facility.

1

2 There are major deficiencies in the Bridge Tender's Facility requiring repair.

0

3 There are major deficiencies in the Bridge Tender's Facility requiring replacement or rehabilitation.

0

ELEMENT INSPECTION NOTES:

NOTE: Refer to Table M in the Addendum.

CS1: There is equipment and materials blocking access to the storage cabinets (previously noted as UPS cabinets). Repair is not warranted.

The bulb for the floodlight attached to the west side of the tender house is burnt-out - NEW. Refer to Photo 13. REPAIR

The fasteners for the signal horn exhibit heavy corrosion (previously noted under Element 563). Refer to Photo 13. REPAIR

CORRECTIVE ACTION TAKEN:

The floodlight has been properly secured (previously noted under Element 563).

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 590/4 Resistance Barriers

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is some or no need for maintenance. Warning gate is operating properly.

1

2 There is need for repair.

0

3 There is need for replacement or rehabilitation.

0

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables N and O in the Addendum.

CS1: Several components of the resistance barrier exhibit light to moderate surface corrosion - INCREASE. Refer to Photo 14.
REPAIR

The SO cable is cracked at the compression fitting. Refer to Photo 15. **REPAIR**

CORRECTIVE ACTION TAKEN:

The resistance barrier lights have been repaired.

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All Elements

SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 591/4 Warning Gates

2 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is some or no need for maintenance. Warning gate is operating properly.

0

2 There is need for repair.

2

3 There is need for replacement or rehabilitation.

0

ELEMENT INSPECTION NOTES:

NOTE: Refer to Tables P and Q in the Addendum.

CS2: Both warning gate arms exhibit chipped and faded paint/stripes. Refer to Photo 16. REPAIR

Several components of both warning gates exhibit areas of light to moderate surface corrosion. Refer to Photo 17. REPAIR

Several fasteners of the warning gate lights exhibit heavy corrosion. Refer to Photo 18. REPAIR

The SO cable for the near oncoming gate has split, exposing the wires - NEW. Refer to Photo 19. REPAIR.

CORRECTIVE ACTION TAKEN:

The light at the tip of the far oncoming gate has been properly secured.

All warning gate light are operating correctly.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

REPORT ID: INSP005 (detailed)

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SUPERSTRUCTURE

ELEMENT CATEGORY: Movable

ELEMENT/ ENV: 592/4 Traffic Signals

4 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is some or no need for maintenance.

4

2 There is need for repair.

0

3 There is need for replacement or rehabilitation.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the four (4) traffic signals; one at each corner of the structure.

CS1: All traffic signal light housings exhibit peeling paint. Refer to Photo 20. REPAIR

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 202/4 Paint Stl Column

12 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

- | | | |
|---|--|----|
| 1 | There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface. | 12 |
| 2 | There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal. | 0 |
| 3 | Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section. | 0 |
| 4 | Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge. | 0 |
| 5 | Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge. | 0 |

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies steel crutch and helper piling and the H-pile in Bent 7. The tender house is supported by two jacketed HP-14.

The 06/24/2011 UW inspection revealed the following:

CS1: The steel H-pilings are HP-14 and are jacketed. Below the jacket the H-piling are coated with epoxy. These piling are in good condition. See Element 298 Pile Jacket Bare for additional information.

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SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 204/4 P/S Conc Column

45 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

- | | | |
|---|--|----|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 41 |
| 2 | Minor cracks, spalls and scaling may be present and there may be exposed reinforcing with no evidence of corrosion. There is no exposure of the prestress system. | 0 |
| 3 | Moderate cracks, spalls, scaling and some delaminations may be present. There may be minor exposure but no deterioration of the prestress system. Corrosion of non-prestressed reinforcement may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge. | 4 |
| 4 | Severe cracks, spalls, scaling, delaminations, and corrosion of non-prestressed reinforcement are prevalent. There may also be exposure and deterioration of the prestress system (manifested by loss of bond, broken strands or wire, failed anchorages, etc). There is sufficient concern to warrant a review to ascertain the impact on the strength and/or serviceability of either the element or the bridge. | 0 |

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ELEMENT INSPECTION NOTES:

CS1: Several piles exhibit corner scrapes up to 6 in. H x 4 in. W x 1/2 in. D – NEW.

CS3: There is a 20 in. x 6 in. delamination in the NE edge above the jacket of Pile 8-5 - INCREASE. Refer to Photo 41. REPAIR.

The west face of Pile 10-3 from the cap down exhibits a delamination with corrosion staining, 26 in. H x 14 in. W – INCREASE. Refer to Photo 42. REPAIR.

The upper 24 in. of Pile 10-5 is built-up with cracks and delaminations on all four faces up to 1/16 in. wide with corrosion staining. There are minor spalls in the bottom of the build-up. The epoxy patches on the pile are beginning to crack. Refer to Photo 43. REPAIR.

The 06/24/2011 UW inspection revealed the following:

Pile 8-4 exhibits minor spalls around the splice between the pile and the build-up, 3 ft. 3 in. below the top of the marine growth. This spall is located on the southwest edge and measures 4 in. H x 4 in. W x 3 in. D with 100% deteriorated exposed steel. Refer to Photo 44. REPAIR.

Pile 8-5: There are cracks up to 1/16 in. wide on the north and east faces full height from the jacket with corrosion bleedout – INCREASE.

CORRECTIVE ACTION TAKEN:

The vertical crack and delamination in Pile 7-5 has been repaired.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 205/4 R/Conc Column

2 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.

0

2 Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.

0

3 Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.

2

4 Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the columns under each end of the west half of Bascule Pier 7 and has been moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS3: Northeast edge of Column 7-1 at the top of the marine growth exhibits a 5 ft. 3 in. H x 18 in. W x 4 in. D spall/void (combination of several voids). The spall extends behind the mounting bracket for the helper piling. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

There is a construction joint in Column 7-2 along the west face up to 1-1/4 in. deep located 10 in. below the top of the marine growth. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

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SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 215/4 R/Conc Abutment

59 lf.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.

59

2 Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.

0

3 Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.

0

4 Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.

0

ELEMENT INSPECTION NOTES:

< none >

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SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 220/4 R/C Sub Pile Cap/Ftg

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.

1

2 Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.

0

3 Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.

0

4 Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the west portion of Bascule Pier 7 which supports the bascule leaf and has been moved from Unit 1.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 231/4 Paint Stl Cap 72 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface.	62
2	There is little or no active corrosion. Surface corrosion has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal.	10
3	Surface corrosion is prevalent. There may be exposed metal but there is no active corrosion which is causing loss of section.	0
4	Corrosion may be present but any section loss due to active corrosion does not yet warrant structural review of either the element or the bridge.	0
5	Corrosion has caused section loss and is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the steel crutch bent caps (WP beams) in Spans 5 and 7.

CS2: There is light to moderate surface corrosion on both steel crutch beams over the bearing area.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 234/4 R/Conc Cap

236 lf.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

- | | | |
|---|--|-----|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 231 |
| 2 | Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion. | 0 |
| 3 | Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge. | 5 |
| 4 | Deterioration is advanced. Corrosion of reinforcement and/or loss of concrete section is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge. | 0 |

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the bent caps including Rest Pier Cap 6.

CS3: There are up to 3.5 ft. x 5 ft. delaminations in the bottom west edge of Bent Cap 10 between Piles 10-2 and 10-3 and Piles 10-4 and 10-5. Refer to Photo 45. REPAIR.

Bent Cap 10 exhibits a 4 in. x 7 in. delamination in the SE edge – NEW. Refer to Photo 46. REPAIR.

Bent Cap 10 exhibits a 4 in. x 10 in. delamination in the NW edge – NEW. Refer to Photo 47. REPAIR.

CORRECTIVE ACTION TAKEN:

The delamination in the SW edge of Bent Cap 10 has been repaired.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 298/4 Pile Jacket Bare

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is little or no deterioration. Surface defects only are in evidence.

0

2 There may be minor deterioration, cracking and weathering. Mortar in joints may show minor deterioration.

1

3 Moderate to major deterioration and cracking. Major deterioration of joints.

0

4 Major deterioration, splitting, or cracking of materials may be affecting the structural capacity of the element.

0

ELEMENT INSPECTION NOTES:

The 06/24/2011 UW inspection revealed the following:

CS2: Pile 8-5 exhibits a 25 in. square grout jacket, which starts approximately 28 in. below the cap and extends down 3 ft. 7in. There are vertical cracks on all four sides up to full height x 1/16 in. wide.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 298/4 Pile Jacket Bare

12 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 There is little or no deterioration. Surface defects only are in evidence.

12

2 There may be minor deterioration, cracking and weathering. Mortar in joints may show minor deterioration.

0

3 Moderate to major deterioration and cracking. Major deterioration of joints.

0

4 Major deterioration, splitting, or cracking of materials may be affecting the structural capacity of the element.

0

ELEMENT INSPECTION NOTES:

The 06/24/2011 UW inspection revealed the following:

NOTE: The piling under the webwall on Bascule Pier 7 are H-piling (per 1997 report) and are jacketed with cylindrical jackets (two total). These jackets are in good condition with no washouts or exposed base pile. Jackets on the steel HP-14 (10 total) extend to the groundline on the four helper piling attached to the columns. The other six H-pile jackets (crutch piling and Tender House) end above the groundline a maximum of 18 in. The area below these jackets are covered with epoxy. A portion of this element has been moved from Unit 1.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 389/4 Timber Fender/Dolphi 177 lf.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Investigation indicates no decay. There may be superficial cracks, splits and checks having no affect on strength or serviceability.	0
2	Decay, insect/marine borer infestation, abrasion, splitting, cracking, checking or crushing may exist but none is sufficiently advanced to affect strength or serviceability of the element.	177
3	Decay, insect/marine borer infestation, abrasion, splitting, cracking or crushing has produced loss of strength or deflection of the element but not of a sufficient magnitude to affect the serviceability of the bridge.	0
4	Advanced deterioration. Decay, insect/marine borer infestation, abrasion, splits, cracks or crushing has produced loss of strength or deflection that affects the serviceability of the bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element was moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS2: Several Piles have marine borer activity with up to 20% section loss – NEW

The lower wales have marine borer activity with up to 10% section loss – NEW.

Corrective Action Taken:

The second pile from the north end of the east fender has been repaired.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 394/4 R/Conc Abut Slope Pr 400 sf.

CONDITION STATE	DESCRIPTION	QUANTITY
--------------------	-------------	----------

1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.	400
---	--	-----

2	Minor cracks and spalls may be present but there is no exposed reinforcing or surface evidence of rebar corrosion. Open joints may be prevalent.	0
---	--	---

3	Some delaminations and/or spalls and/or minor settlement may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	0
---	--	---

4	Advanced deterioration. Corrosion of reinforcement and/or loss of concrete section and/or settlement is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.	0
---	---	---

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the concrete slope pavement at the NE and SE corners of the structure.

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All Elements

SUBSTRUCTURE

ELEMENT CATEGORY: Substructure

ELEMENT/ ENV: 396/4 Other Abut Slope Pro 172 sf.

CONDITION STATE	DESCRIPTION	QUANTITY
--------------------	-------------	----------

1	There is little or no deterioration. Surface defects only are in evidence. Random open joints may exist.	0
---	--	---

2	There may be minor deterioration, random open joints, cracking and weathering. Mortar in joints may show minor deterioration.	172
---	---	-----

3	Moderate to major deterioration and cracking. Major deterioration of joints. Minor settlement may be present.	0
---	---	---

4	Major deterioration, splitting, cracking or settlement of materials may be affecting the structural capacity of the element.	0
---	--	---

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the sand cement rip rap at both abutments.

CS2: The sand cement rip rap at the abutments is weathered and slightly deteriorated.

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All Elements

CHANNEL

ELEMENT CATEGORY: Channel

ELEMENT/ ENV: 290/4 Channel

1 ea.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

- | | | |
|---|---|---|
| 1 | The channel is in good condition, channel banks are protected or well vegetated, river control devices and embankment protection are not required or are in good condition. | 1 |
| 2 | Bank protection is in need of minor repairs, bank may be beginning to slump, minor stream bed movement may be evident or debris may be present. | 0 |
| 3 | Bank protection may be being eroded, bank protection may be undermined, river control devices may have severe damage or trees, brush or debris may be restricting the channel. | 0 |
| 4 | Bank protection has failed. River control devices have been destroyed. Stream bed aggradation, degradation or lateral movement has changed the channel to now threaten the bridge and/ or approach roadway. | 0 |

ELEMENT INSPECTION NOTES:

CS1: The leaf does not clear the near fender in the full open position - NEW. Refer to Photo 10.

Due to the design configuration, when the span is fully open, as seen in Photo 10, the Span 6 counterweight is contacting the rear of the bascule pier.

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All Elements

SMART FLAG

ELEMENT CATEGORY: Smart Flags

ELEMENT/ ENV: 360/4 Settlement SmFlag 1 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	Some of the bridge supporting elements are showing signs of visible settlement or rotation but due to earlier repairs as indicated by other signs, the settlement appears to have stabilized.	1
2	Settlement or rotation of the bridge supporting elements, which poses a definite threat to the structure, shows signs of continuing and, if left unarrested, could cause adverse impacts to the bridge.	0
3	Settlement or rotation of the bridge supporting elements is significant enough to warrant analysis of the bridge. This settlement poses a definite threat to the structural integrity of the bridge.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the settlement of Spans 5 through 7.

CS1: Countermeasures have been taken.

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All Elements

MISCELLANEOUS

ELEMENT CATEGORY: Other Elements

ELEMENT/ ENV: 321/4 R/Conc Approach Slab 2 ea.

CONDITION STATE	DESCRIPTION	QUANTITY
1	The slab has not settled and shows no sign of deterioration other than superficial surface cracks.	2
2	Minor cracking, spalls may be present but they do not affect the ability of the slab to carry traffic. Settlement may be occurring which increases the traffic impact on the bridge.	0
3	Cracks may extend completely through the slab cross-section, but the slab does not act as if it is broken. Spalls may be heavy but they do not affect the structural integrity of the slab. Minor undermining may be present. Settlement may be occurring which increases the traffic impact on the bridge.	0
4	The slab is broken or rocks under traffic loads. Significant undermining may be present. Settlement is excessive and cannot be corrected without increasing the size of the slab.	0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the east and west approach slabs which are covered with an asphalt overlay.

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All Elements

MISCELLANEOUS

ELEMENT CATEGORY: Other Elements

ELEMENT/ ENV: 474/4 Walls Uncoated

13 lf.

CONDITION
STATE

DESCRIPTION

QUANTITY

- | | | |
|---|--|----|
| 1 | There is little or no corrosion of the unpainted steel. The weathering steel is coated uniformly and remains in excellent condition. Oxide film is tightly adhered. | 12 |
| 2 | Surface corrosion, surface pitting, has formed or is forming on the unpainted steel. The weathering steel has not corroded beyond design limits. Weathering steel color is yellow orange to light brown. Oxide film has a dusty to granular texture. | 1 |
| 3 | Steel has measurable section loss due to corrosion but does not warrant structural review. Weathering steel is dark brown or black. Oxide film is flaking. | 0 |
| 4 | Corrosion is advanced. Oxide film has a laminar texture with thin sheets of corrosion. Section loss is sufficient to warrant structural review to ascertain the impact on the ultimate strength and/or serviceability of either the element or the bridge. | 0 |

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the painted steel sheet pile wingwall at the SE corner of the bridge.

CS2: The wall exhibits moderate corrosion where it enters the R/Conc Slope Pavement.

There is a 1 ft. x 6 in. x 3 in. spall with no exposed steel in the NW edge of the SE wing wall cap. Refer to Photo 48.

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All Elements

MISCELLANEOUS

ELEMENT CATEGORY: Other Elements

ELEMENT/ ENV: 475/4 R/Conc Walls

16 lf.

**CONDITION
STATE**

DESCRIPTION

QUANTITY

1 The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.

16

2 Minor cracks and spalls may be present but there is no exposed reinforcing or surface evidence of rebar corrosion. Open joints may be prevalent.

0

3 Some delaminations and/or spalls and/or minor settlement may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.

0

4 Advanced deterioration. Corrosion of reinforcement and/or loss of concrete section and/or settlement is sufficient to warrant review to ascertain the impact on the strength and/or serviceability of either the element or the bridge.

0

ELEMENT INSPECTION NOTES:

NOTE: This element quantifies the concrete wingwalls at the NW and SW corners of the bridge.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection Report with PDF attachment(s)

BRIDGE NUMBER: 154000

DISTRICT: 07 Tampa

PAGE: 61 OF 61

INSPECTION DATE: 7/31/2012 LQIG

STRUCTURE NOTES:

OWNER: PINELLAS COUNTY

TRAFFIC RESTRICTIONS: This structure is posted at both approaches as follows: Single Unit Trucks - 12 tons and Combination Trucks - 15 tons and Truck and Trailer - 15 tons.

According to the load rating dated 01/16/1987, the structure should be posted at or below the following: Single Unit Truck -12 tons and Combination Trucks - 20 tons. Refer to the Posting Photos.

Structure inventoried west to east.

This structure is on a 12 month inspection frequency for Movable and Fracture Critical components and for SIA Item 70 - Posting being rated 4 or less.

Elements 107 - Paint Stl Opn Girder and 152 - Paint Stl Floor Beam are fracture critical.

The structure is not manned. To obtain an opening, a two (2) hour advance notice is required. The telephone number to obtain opening is (727)464-8900. Telephone number for the control house is (727)943-4917.

The asphalt overlay on the west half of Span 1 is 1/4 in. thick.

INSPECTION NOTES: LQIG 7/31/2012

Sufficiency Rating Calculation Accepted by KNICAKC-P at 2012-09-07 12:30:21

LOAD CAPACITY EVALUATION:

The load rating dated 01/16/1987 applies to the current condition of this bridge.

This is a Special-Movable/Fracture Critical/Posting Inspection.

The lift barge was utilized for this inspection.

Unit 0 - Quantities will include those bridge elements which are within the limits of the bascule pier and the main span. (i.e., steel bridge rails, bascule pier, mechanical & electrical related operational equipment, tender's facilities, et cetera). Inspections will include the fracture critical elements along with those aforementioned bridge elements which are within the limits of the bascule pier. Traffic control elements related to the movable span (i.e., traffic gate assemblies, traffic signaling assemblies, over-roadway traffic assemblies, et cetera) which are mounted to and/or located on the approach spans will be quantified and inspected when the movable span is scheduled for inspection.

Unit 1 - Quantities will include those bridge elements which are within the limits of the approach spans. (i.e., concrete bridge rails, related expansion joints, elastomeric bearing assemblies, et cetera)

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PHOTO 1: 540/4 – Open Gearing

Typical corrosion on gear sets (P/G-4N shown).

REPAIR RECOMMENDATION:
Clean and paint all gear sets.

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PHOTO 2: 542/4 - Shafts

Typical corrosion in shafts (S-5N shown).

REPAIR RECOMMENDATION:
Clean and paint all shafts.

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PHOTO 3: 548/4 – Hydraulic Piping Sys

Loose compression fittings for north span lock hydraulic piping.

REPAIR RECOMMENDATION:

Replace the compression fittings for the north span lock hydraulic piping.

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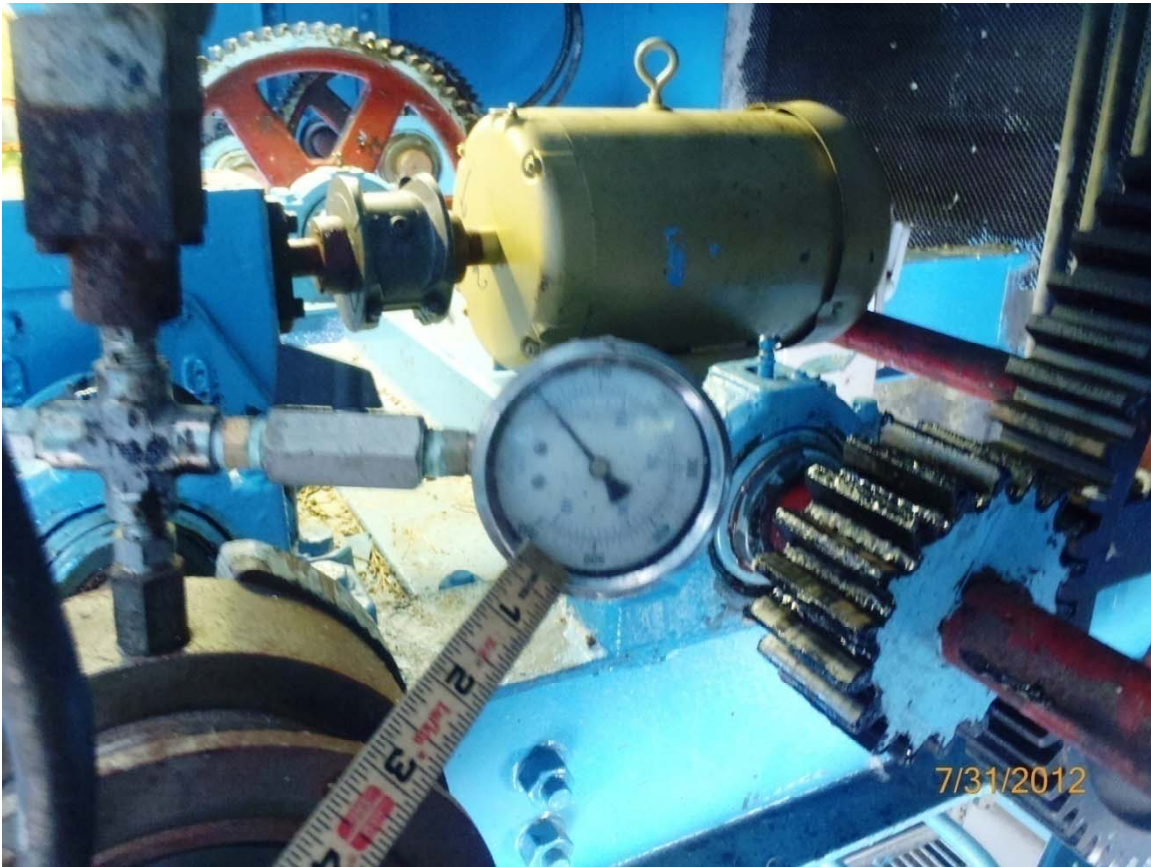


PHOTO 4: 548/4 – Hydraulic Piping Sys

Pressure gauge for Brake 1 (leaking oil).

REPAIR RECOMMENDATION:

Replace the pressure gauge at Brake 1.

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PHOTO 5: 572/4 – Conduit & Junc. Box

Typical corrosion in conduit bodies and junction boxes (at Rest Pier 6 shown).

REPAIR RECOMMENDATION:

Clean and paint corroded conduit bodies, clamps and junction boxes.

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PHOTO 6: 572/4 – Conduit & Junc. Box

Typical missing grounding cable (at southwest traffic signal shown).

REPAIR RECOMMENDATION:
Replace all missing grounding cables.

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PHOTO 7: 572/4 – Conduit & Junc. Box

View of corrosion in submarine cable termination cabinet at Rest Pier 6.

REPAIR RECOMMENDATION:

Clean and paint corroded areas of the submarine cable termination cabinet at Rest Pier 6.

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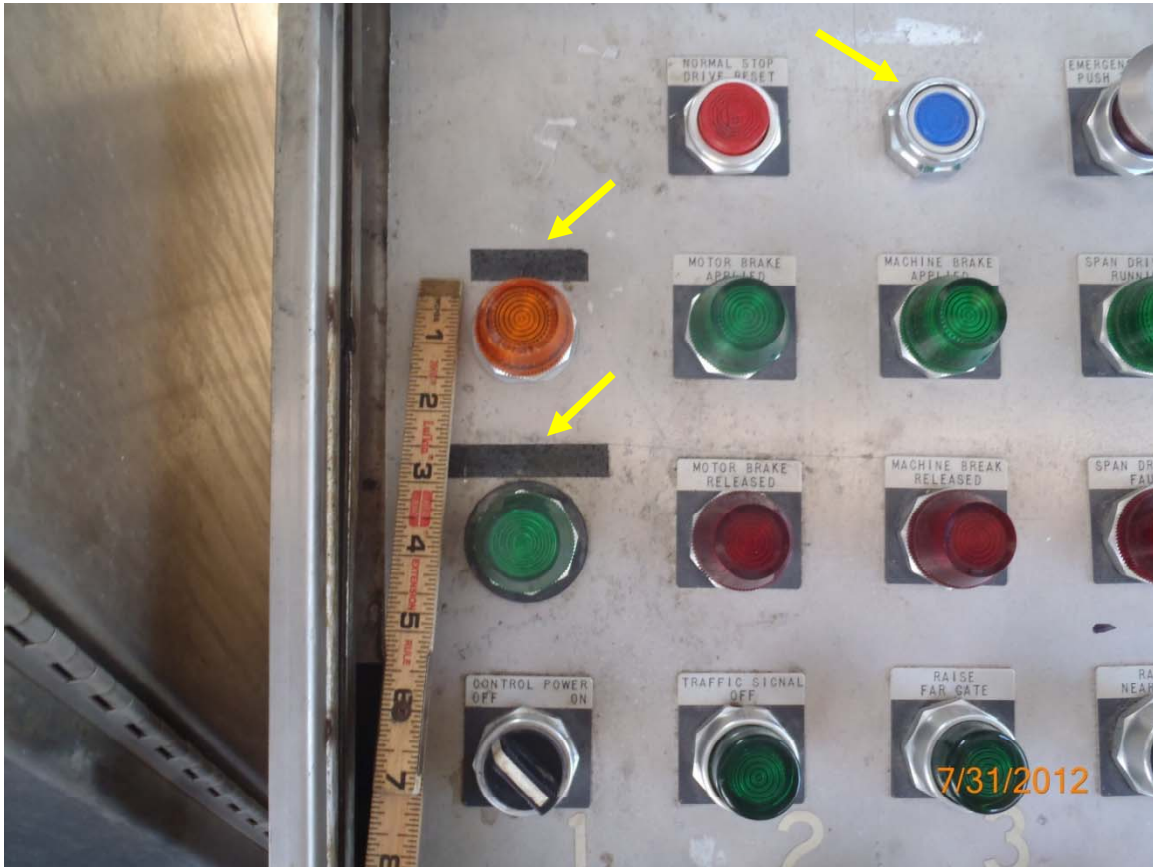


PHOTO 8: 574/4 – Control Console

View of missing nameplates for switches and indicator lights in control console.

REPAIR RECOMMENDATION:

Replace all missing nameplates on control console.

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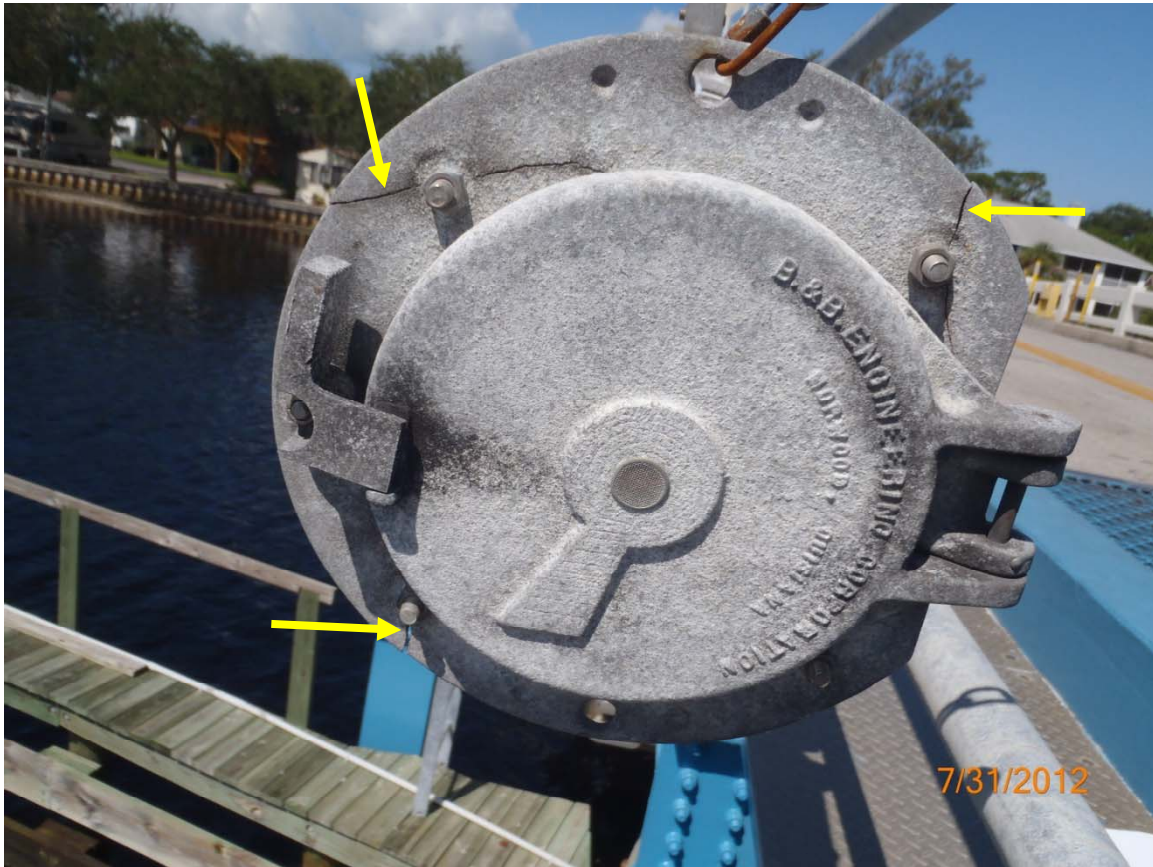


PHOTO 9: 580/4 - Navigational Lights

View of cracked bottom of south tip swing light.

REPAIR RECOMMENDATION:

Replace the bottom of the south tip swing light.

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PHOTO 10: 580/4 - Navigational Lights

View of broken base of southwest fender light.

REPAIR RECOMMENDATION:

Repair/replace the base of the southwest fender light.

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PHOTO 11: 580/4 – Navigational Lights

View of northwest clearance gauge light (bulb is burnt-out).

REPAIR RECOMMENDATION:

Replace the light bulb in the northwest clearance light.

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PHOTO 12: 580/4 – Navigational Lights

View of no UPS backup battery system for navigational lights.

REPAIR RECOMMENDATION:

Replace the navigational lights UPS backup battery system.

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PHOTO 13: 581/4 – Operator Facilities

View of floodlight (bulb burnt-out) and signal horn (fasteners corroded) on west side of tender house.

REPAIR RECOMMENDATION:

Replace the light bulb in the floodlight and clean and paint signal horn fasteners at west side of tender house.

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PHOTO 14: 590/4 - Resistance Barriers

Typical view of corrosion in resistance barrier.

REPAIR RECOMMENDATION:

Clean and spot paint the resistance barrier.

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PHOTO 15: 590/4 – Resistance Barriers

Cracked SO cable at resistance barrier.

REPAIR RECOMMENDATION:

Repair/replace the SO cable at the resistance barrier.

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PHOTO 16: 591/4 - Warning Gates

Typical chipped and faded paint/stripes on warning gate arms (near oncoming shown).

REPAIR RECOMMENDATION:

Clean and paint/restripe both warning gate arms.

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PHOTO 17: 591/4 - Warning Gates

Typical corrosion in warning gates (far oncoming shown).

REPAIR RECOMMENDATION:

Clean and spot paint both warning gates.

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PHOTO 18: 591/4 - Warning Gates

Typical corroded fasteners in warning gate lights (far oncoming shown).

REPAIR RECOMMENDATION:

Replace all corroded warning gate light fasteners.

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PHOTO 19: 591/4 - Warning Gates

Split SO cable at near oncoming warning gate.

REPAIR RECOMMENDATION:

Repair/replace the SO cable at the near oncoming warning gate.

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PHOTO 20: 592/4 – Traffic Signals

Typical peeling paint on traffic signal light housings (southwest signal shown).

REPAIR RECOMMENDATION:

Clean and paint all traffic signal light housings.

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West Posting Sign

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East Posting Sign

KEY FOR RATINGS IN THE FOLLOWING TABLES:

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MOVABLE BRIDGE DATA

TABLE A
Element 540/4: Open Gearing

Item	Lubrication	Condition	Comments
P-1	GOOD	FAIR	Light surface corrosion
G-1	GOOD	FAIR	Light surface corrosion
P-2	GOOD	FAIR	Light surface corrosion
G-2	GOOD	FAIR	Light surface corrosion
P-3N	GOOD	FAIR	Light surface corrosion
G-3N	GOOD	FAIR	Light surface corrosion
P-4N	GOOD	FAIR	Light surface corrosion
G-4N	GOOD	FAIR	Light surface corrosion
P-5N	GOOD	FAIR	Light surface corrosion; minor cross bearing wear with end loading
RACK-N	GOOD	FAIR	Light surface corrosion; minor cross bearing wear; backlash = 0.095 in.
P-3S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear
G-3S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear
P-4S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear
G-4S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear
P-5S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear with end loading
RACK-S	GOOD	FAIR	Light surface corrosion; minor cross bearing wear; backlash = 0.089

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TABLE B
Element 541/4: Speed Reducers

Speed Reducer:

Item	General Conditions and Comments
Fasteners	GOOD
Housing	FAIR: Peeling paint and light surface corrosion
Shaft Seals	GOOD
Gears	CAPPED
Lubrication	GOOD
Operation	GOOD : Smooth
Noise	GOOD: No unusual noises noted.
General	GOOD

TABLE C
Element 542/4: Shafts

SHAFTS:

Item	General Condition	Comments
S-1	FAIR	Peeling paint and light surface corrosion
S-2	FAIR	Peeling paint and light surface corrosion
S-3	FAIR	Peeling paint and light surface corrosion
S-4N	FAIR	Peeling paint and light surface corrosion
S-5N	FAIR	Peeling paint and light surface corrosion
S-4S	FAIR	Peeling paint and light surface corrosion
S-5S	FAIR	Peeling paint and light surface corrosion

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TABLE D
Element 543/4: Shaft Brgs and Coupl

SHAFT BEARINGS AND COUPLINGS:

Item	General Condition	Comments
B-1	GOOD	
B-2	GOOD	
B-3	GOOD	
B-4	GOOD	
B-5	GOOD	
B-6N	GOOD	
B-7N	GOOD	
B-8N	GOOD	
B-9N	GOOD	
B-10N	GOOD	
B-6S	GOOD	
B-7S	GOOD	
B-8S	GOOD	
B-9S	GOOD	
B-10S	GOOD	
C-1	GOOD	
C-2W	FAIR	Peeling paint and minor surface corrosion
C-2E	FAIR	Peeling paint and minor surface corrosion

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TABLE E
Element 544/4: Brakes

Brakes:

Item	Brake 1	Brake 2
Operation	GOOD	GOOD
Noise	GOOD	GOOD
General Condition	GOOD: light surface corrosion	GOOD: light surface corrosion

TABLE F
Element 546/4: Span Drive Motors

	Phase A to B/ Phase A to Gnd. (Volts)	Phase B to C/ Phase B to Gnd. (Volts)	Phase A to C/ Phase C to Gnd. (Volts)
Normal Service – AT REST	243/120	240/210	242/120
Normal Service – RAISE	241/119	237/208	240/120
Normal Service – LOWER	241/119	238/208	240/120
Auxiliary Power – AT REST	240/119	241/208	239/120
Auxiliary Power – RAISE	238/118	240/209	238/119
Auxiliary Power – LOWER	238/118	241/209	239/119

NOTE: Measurements taken during 2012 inspection

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TABLE G
Element 546/4: Span Drive Motors

Motor Currents (Amps)	Raise	Lower
East Motor	6.3	4.1
West Motor	6.9	6.8

NOTE: Measurements taken during 2012 inspection

Span Drive Motor Data:

Horsepower: 3
Motor Voltage: 230/460
Motor Current: 9.2/4.6
RPM: 1160
Service Factor: 1.15

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TABLE H
Element 547/4: Hydraulic Power Unit & Element 548/4: Hydraulic Piping

ITEM	GENERAL CONDITION
OPERATION	GOOD
H.P.U. MAXIMUM OPERATING PRESSURE	GOOD – 1200PSI
BRAKE 1	GOOD – 250 PSI, opening and closing
BRAKE 2	GOOD – 350 PSI, opening and closing
RESERVOIR	GOOD
FILTER	GOOD
PUMP	GOOD
MOTOR	GOOD
VALVES	GOOD
DISCONNECT & MANUAL PUMP	GOOD
PIPING (BRAKES)	FAIR: pressure gauge at Brake 1 is leaking oil
PIPING (LOCKS)	FAIR: loose/leaking compression fittings for north lock

TABLE I
Element 549/4: Hydraulic Cylinders

ITEM	NORTH LOCK CYLINDER	SOUTH LOCK CYLINDER
HOUSING	GOOD	GOOD
PISTON	GOOD	GOOD
MOUNTS	GOOD	GOOD
OPERATION	GOOD	GOOD

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TABLE J
Element 560/4: Locks

Motor Currents (Amps)	Pull	Drive
Span Lock Motor	4.9	4.0

Span Lock Motor Data:

Horsepower: 2
Motor Voltage: 208-230/460
Motor Current: 6.5-6.2/3.0
RPM: 1725
Service Factor: 1.15

TABLE K
Element 560/4: Locks

SPAN LOCK CLEARANCES:

Item	Location	South	North
Receiver	Top	<0.005 in.	<0.005 in.
	Bottom	<0.005 in.	<0.005 in.
Front Guide	Top	<0.005 in.	0.016 in.
	Bottom	<0.005 in.	<0.005 in.
Rear Guide	Top	<0.005 in.	<0.005 in.
	Bottom	0.032 in.	0.018 in.

NOTE: Readings and measurements were taken during the 2012 inspection.

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TABLE L
Element 561/4: Live Load Shoes

Live Load Shoes:

LL Shoe ID	Contact	Bolts	General Condition
North	GOOD: Full	GOOD	FAIR: minor to moderate surface corrosion
South	GOOD: Full	GOOD	FAIR: minor to moderate surface corrosion

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TABLE M
Element 581/4: Operator Facilities

SAFETY AND MISC. EQUIPMENT:

ITEM	NO. SUGGESTED	AVAILABLE	CONDITION	REMARKS
LIFE JACKETS	2	1	GOOD	NEED 1
LIFE RING AND Rope	2	2	GOOD	
BINOCULARS	1	0	--	NEED 1
TRAFFIC FLAGS	4	5	GOOD	NEED 1
TRAFFIC CONES	6	5	GOOD	NEED 1
SAFETY VESTS	2	1	FAIR	NEED 1
TRAFFIC FLARES	4	2	FAIR	NEED 2
BATTERY OPERATED LIGHTS	4	0	--	NEED 4
EMERGENCY LIGHT SYSTEM	--	NO	--	NONE
FLASHLIGHTS	2	0	--	NEED 2
EXTRA LIGHT BULBS	4	5	GOOD	
COASTGUARD REGULATIONS	--	NO	--	NEED REGULATIONS
FIRE EXTINGUISHERS	2	1	GOOD	CHARGED 02/11 NEED 1
FIRST AID KIT	1	0	GOOD	NEED 1
RUBBER MAT AT CONSOLE	1	1	GOOD	
LIGHTS (GATE)	--	YES	GOOD	
TRAFFIC SIGNALS	--	YES	GOOD	
FENDER LIGHTS	--	YES	GOOD	
DRAW SPAN LIGHTS	--	YES	GOOD	

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TABLE N
Element 590/4: Resistance Barrier

Resistance Barrier Height (Inches)	Height
Resistance Barrier (center of upper tube)	32-1/2

TABLE O
Element 590/4: Resistance Barrier

Warming Gate Motor Currents (Amps)	Lower	Raise
Resistance Barrier	1.9	1.9

Traffic Gate Motor Data

Horsepower: 1.0
Motor Voltage: 208-230/460
Motor Current: 3.2/1.6
RPM: 1725
Service Factor: 1.0

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TABLE P
Element 591/4: Warning Gates

Warning Gate Heights (Inches)	Height
Near Oncoming Traffic Gate	45-1/2
Far Oncoming Traffic Gate	51

NOTE: FDOT Standard Index 17890 requires gate heights to be 42 in. to 54 in. at the centerline of the gate arm in the down position. Measurements were taken during the 2012 inspection.

TABLE Q
Element 591/4: Warning Gates

Warning Gate Motor Currents (Amps)	Lower	Raise
Near Oncoming Traffic Gate	1.8	1.9
Far Oncoming Traffic Gate	1.7	1.7

Traffic Gate Motor Data

Horsepower: 1.0
Motor Voltage: 208-230/460
Motor Current: 3.2/1.6
RPM: 1725
Service Factor: 1.0

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FRACTURE CRITICAL DATA

I. DEFINITION

The AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members states that Fracture Critical Members or member components (FCMs) are steel tension members or tension components of members whose failure would be expected to result in partial or complete collapse of the bridge.

II. DESCRIPTION

The bascule span (Span 6) is a single leaf. The leaf frame consists of two main girders, three floor beams, twenty-one stringers, counterweight framing, and lateral bracing. The main girders and Floor Beam 6-3 are built-up "I" sections. Floor Beams 6-1 and 6-2 are rolled members. Refer to Fracture Critical Photo A.

Since the leaf only consists of two main load carrying members, the main girders, the leaf was considered fracture critical. Both flanges and the web plate were considered to be in tension since the main girders experience stress reversal depending on their position. For the purpose of this inspection, the bascule leaf floor beams were also considered to be fracture critical members. This approach was taken, because if one floor beam were to fail, adequate redistribution of the deck loads to adjacent floor beams may not occur.

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FRACTURE CRITICAL DATA

III. INSPECTION PROCEDURES:

A. The first step to the inspection of this structure was to have the plans and previous inspection reports examined by a structural engineer. Note that a complete set of plans with member details are not available. The engineer noted fracture critical/fatigue sensitive details, had sketches created showing their location and then briefed the inspectors about such details.

B. Proper inspection of the built-up members (Main Girders, and Floor Beam 6-3) generally includes the following steps

1. Check all rivets (and any bolts) to determine that they are tight and that the individual components are functioning as one member.
2. Check for corroded, cracked, or missing rivets (or any bolts).
3. Check the main girders around the floor beams and lateral bracing connections for deformation or cracking due to out of plane bending.
4. Check the floor beam around the stringer and lateral bracing connections.
5. Check the entire member length, particularly in the tension zones for buckling. Also, check for cracking which may have originated from fatigue, corrosion, nicks, or gouges. Thoroughly inspect any area with impact damage.
6. Check entire member length for temporary erection welds, tack welds, plug welds, weld repairs, or welded connections.
7. Carefully check members at any deck or handrail attachments.

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III. INSPECTION PROCEDURES (cont.):

C. Proper inspection procedures for the rolled shapes (Floor Beams 6-1 and 6-2) generally included the following steps:

1. Check the areas around the stringer connections.
2. Check the bascule span floor beams around the lateral bracing connections.
3. Check for missing or cracked rivets or rivet heads (and any bolts) at all connections.
4. Check the entire length of the tension flange and web for cracking which may have originated from fatigue, corrosion, nicks, or gouges. Also thoroughly inspect any areas with impact damage.
5. Check entire member length for temporary erection welds, tack welds, plug welds, weld repairs, or welded connections not shown on the plans.

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MOVABLE BRIDGE DATA

FRACTURE CRITICAL DATA

IV. CATEGORIES

A. Fatigue Categories

1. CATEGORY A: This fatigue category generally refers to plain members or components of plain members which are base metal and are away from any connection details. The components are generally rolled, but may be flame cut with ANSI smoothness of 1,000 or less.
2. CATEGORY B: This fatigue category generally refers to connections using continuous full penetration welds or high strength bolts. The base metal and weld metal are subject to this fatigue category.
3. CATEGORY C: This fatigue category generally refers to base and weld metal used in very short connections.
4. CATEGORY D: This fatigue category generally refers to base and weld metal used in longer fillet welded connections than for Category C. This category also refers to short groove welded connections with fairly sharp transitions as well as riveted connections.
5. CATEGORY E AND E': This fatigue category generally refers to base and weld metal of welded connections not mentioned in Categories C and D, namely longer fillet and groove welds with sharp transitions.

NOTE: Non-destructive testing was performed on the gusset plates between the main girders to measure the section remaining of each plate. Refer to Table 1 within this section for the field measured nominal and actual values for each gusset plate.

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Photo A: Bascule Span Framing



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FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: MAIN GIRDERS (2 each)
CONSTRUCTION: BUILT-UP PLATE GIRDERS

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Main Girder (A1)	B	N/A	Fillet	Refers to base metal away from member connections. Both main girders have holes in web plates at the locks and rack pinion shafts. Web plates have welds and welded repair plates located in the vicinity of the curved track.
Top flange to web connection (A2)	D	Riveted	N/A	
Bottom flange to web connection (A3)	B/D	Bolted/Riveted	N/A	Connections are riveted where bottom flange changes in section adjacent to live load shoes and from curved track to a point between Floor Beam 6-2 and 6-3.
Curved track connections (A4)	E	Welded	Fillet	A various number of welds, welded repairs and welded attachments are present.
Web splices (A5)	D	Riveted	N/A	Located at floor beams.
Vertical web stiffener connections (A6)	D/B/C	Riveted/ Bolted/ Welded	Tack	Stiffeners were originally riveted. Angles where sidewalk supports are present are riveted and bolted. Some stiffeners have had plates welded to girder bottom flange.
Lateral Bracing connections (A7)	B/D	Bolted/Riveted	N/A	Connection angle at Main Girder 6-1 LT to Floor Beam 6-3 is riveted.
Floor beam connections (A8)	B/D	Bolted/Riveted	N/A	
Primary transverse deck grating supports (A9)	B	Welded	Fillet	
Live load shoe assemblies (A10)	B	Bolted	N/A	
Transverse machinery support to web connection (A11)	B	Welded	Fillet	

() = See sketch for detail location

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FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: FLOOR BEAMS 6-1 and 6-2
(2 each)
CONSTRUCTION: ROLLED (UNKNOWN SIZE)

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Floor beam (B1)	A	N/A	N/A	Refers to base metal away from member connections.
Stringer to floor beam connections (B2)	D/E	Riveted/Welded	Fillet	Bottom flange of stringers are riveted to top flange of floor beams. Fillet welds are also present. Stringers over Floor Beam 6-2 are continuous.
Floor beam to main girder connection (B3)	B/D	Bolted/Riveted	N/A	Connections are riveted and bolted.
Lateral bracing connection at midpoint of top flange (B4)	B	Bolted	N/A	Only applies to Floor Beam 6-2.
Lateral bracing connection at ends of top flange (B5)	B	Bolted	N/A	Only applies to Floor Beam 6-1
Bottom flange to main girder gusset plate connections (B6)	B	Bolted	N/A	Only applies to Floor Beam 6-1
Original span lock bracing (B7)	C	Welded	Fillet	Welded to web at each end of Floor Beam 6-1.
Bottom Flange (B8)	A	N/A	N/A	Floor Beams 6-1 and 6-2
Lower portion of web (B9)	A	N/A	N/A	Floor Beams 6-1 and 6-2

() = See sketch for detail location.

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FRACTURE CRITICAL DATA

FRACTURE CRITICAL/FATIGUE SENSITIVE ELEMENTS: FLOOR BEAM 6-3 (1 each)
CONSTRUCTION: BUILT-UP PLATE GIRDER

DETAIL DESCRIPTION AND LOCATION	FATIGUE CATEGORY	TYPE CONNECTION	TYPE WELD	COMMENTS
Floor beam (C1)	A	N/A	N/A	Refers to the base metal away from member connections.
Stringer to floor beam connections (C2)	B/D	Bolted/Riveted	N/A	Stringers are connected to top flange of floor beam. Stringers on west side of top flange are riveted; stringers on the east side are bolted.
Floor beam to main girder connections (C3)	B/D	Bolted/Riveted	N/A	Connections have both rivets and bolts.
Lateral bracing connections (C4)	B	Bolted	N/A	
Vertical web stiffeners (C5)	D	Riveted	N/A	
Bottom flange to web connection (C6)	D/B	Riveted/Bolted	N/A	Bolts present where rivets were replaced.
Top flange to web connection (C7)	D	Riveted	N/A	
Machinery Supports (C8)	B	Bolted	N/A	Connections are bolted to web plate.

() = See sketch for detail location

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MOVABLE BRIDGE DATA

**Table 1: Non-Destructive Testing
Thickness Measurements**

Gusset Plates:

Member ID	Nominal* (in.)	Actual (in.)	Comment
6-1	0.371	0.371	
6-2	0.373	0.373	
6-3	0.372	0.167	
6-4	0.371	0.371	
6-5	0.369	0.369	

*Nominal thicknesses were field measured. Measurements were taken using Krautkramer DMS 2 Ultrasonic Thickness Gauge and a Krautkramer TC-560 Transducer.

Refer to the Framing Plan for gusset plate locations.

NOTE: The lateral brace gusset plate measurements are documented for use as a baseline reference and are supplied for future reference. Measurements were taken during this inspection.

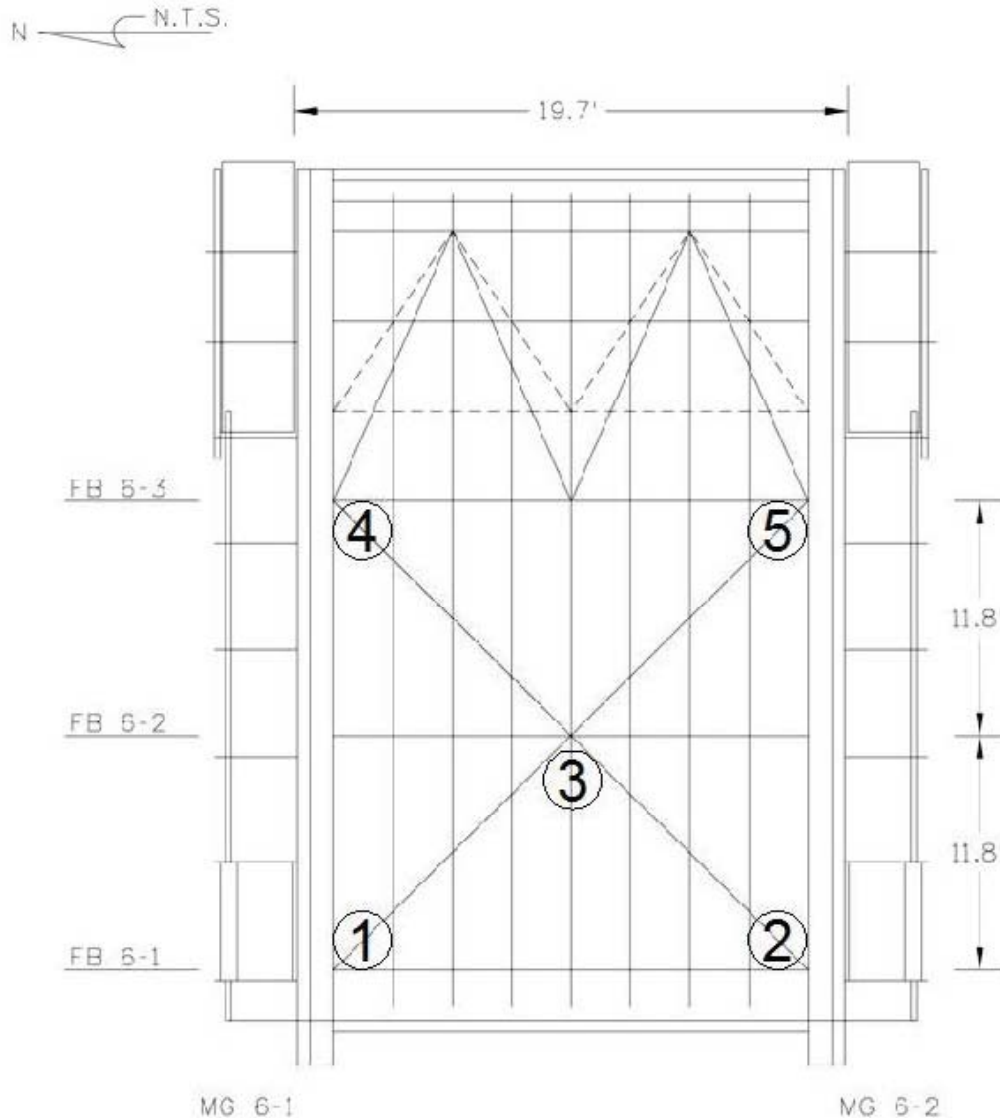
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MOVABLE BRIDGE DATA

FRACTURE CRITICAL DATA



LEGEND:
MG = MAIN GIRDER
FB = FLOORBEAM
N.T.S. = NOT TO SCALE

FRAMING PLAN
PLAN VIEW
BASCULE SPAN 6
N.T.S.

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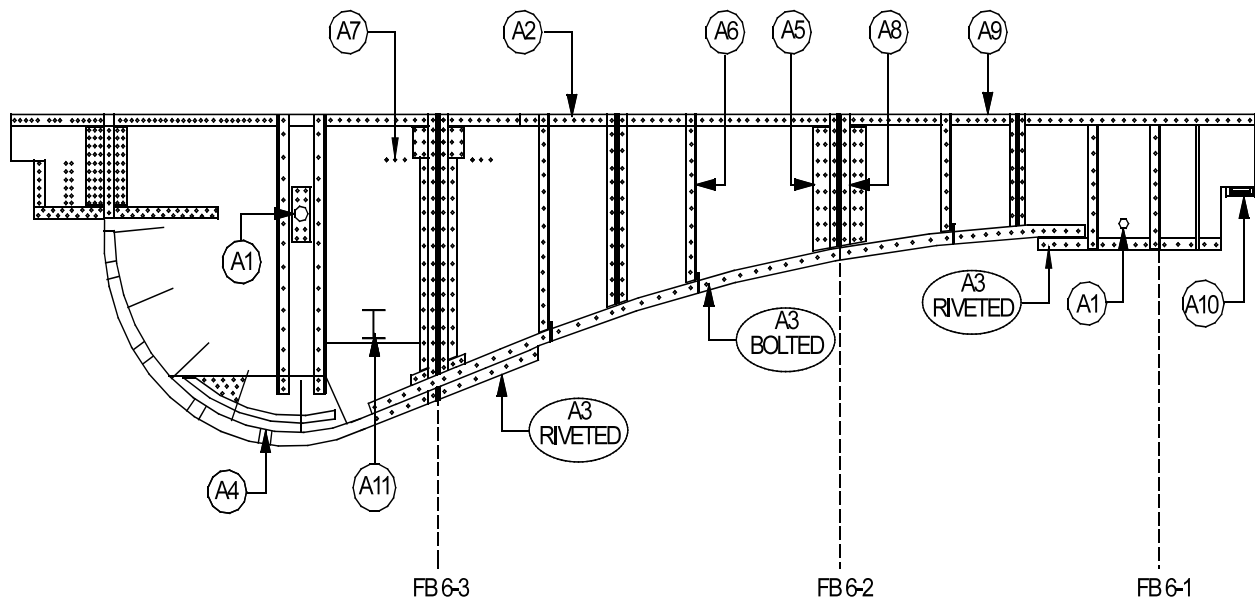
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FRACTURE CRITICAL DATA

(A1) REFERS TO THE BASE METAL AWAY FROM CONNECTION DETAILS



MAIN GIRDER ELEVATION
N.T.S.

LEGEND:

(A1) = TYPICAL FATIGUE SENSITIVE DETAIL

N.T.S. = NOT TO SCALE

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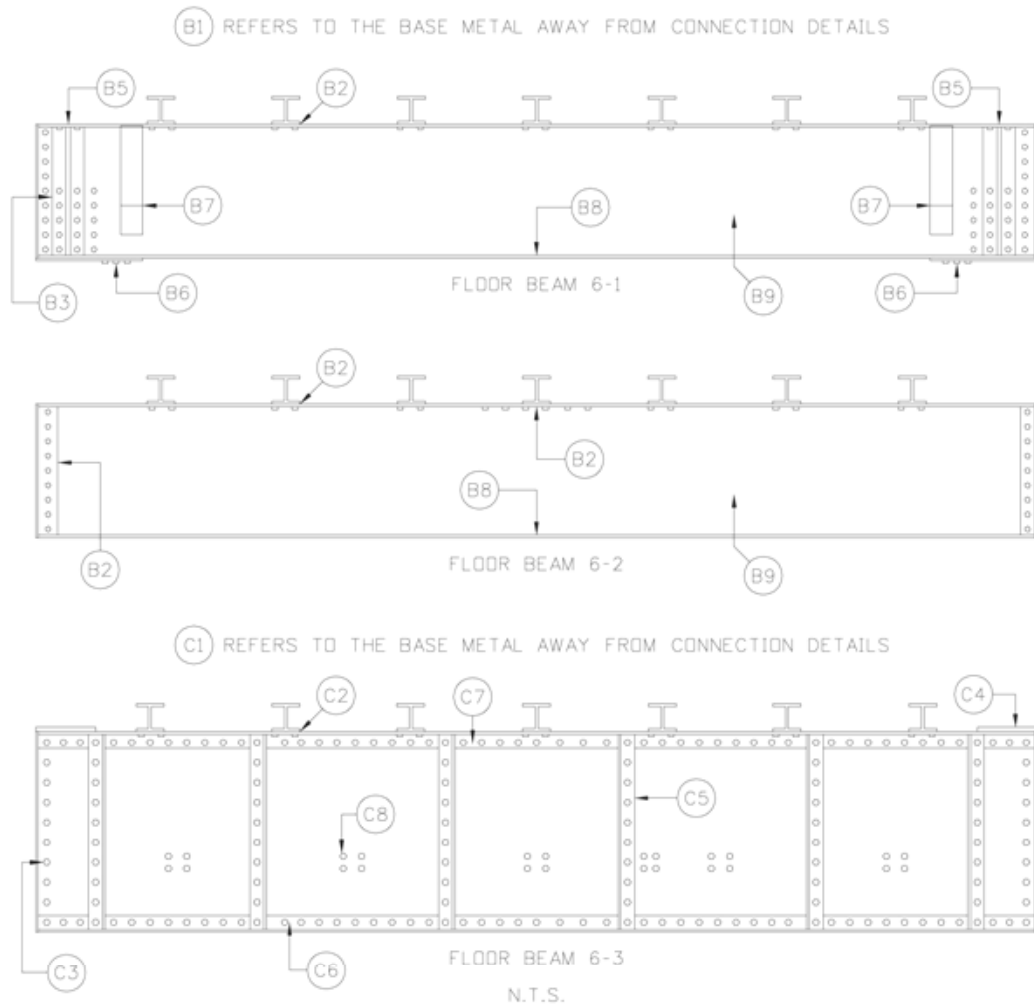
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MOVABLE BRIDGE DATA

FRACTURE CRITICAL DATA



LEGEND:

(B1) TYPICAL FATIGUE SENSITIVE DETAIL FOR FLOOR BEAM 6-1 & 6-2

(C1) TYPICAL FATIGUE SENSITIVE DETAIL FOR FLOOR BEAM 6-3

N.T.S. = NOT TO SCALE

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Description

Structure Unit Identification

Bridge/Unit Key: 154000 0
Structure Name: BECKETT BRIDGE
Description: BASCULE SPAN 6
Type: M Main

Roadway Identification:

NBI Structure No (8) 154000
Position/Prefix (5) Route On Structure
Kind Hwy (Rte Prefix) 4 County Hwy
Design Level of Service 1 Mainline
Route Number/Suffix 00000/ 0 N/A (NBI)
Feature Intersect (6) MINETTA BRANCH
Critical Facility Not Defense-crit
Facility Carried (7) N SPRING BLVD
Mile Point (11) 0
Latitude (16) 028d08'59.8" Long (17) 082d45'55.9"

Roadway Classification

Nat. Hwy Sys (104) 0 Not on NHS
National base Net (12) Not on Base Network
LRS Inventory Rte (13a) 15 000 000 Sub Rte (13b) 00
Functional Class (26) 19 Urban Local
On Federal Aid System N
Defense Hwy (100) 0 Not a STRAHNET hwy
Direction of Traffic (102) 2 2-way traffic
Emergency ☐

Structure Unit Identification

Bridge/Unit Key: 154000 1
Structure Name: BECKETT BRIDGE
Description: FIXED SPANS
Type: A Approach

Roadway Traffic and Accidents

Lanes (28) 2 Medians 0 Speed 20 mph
ADT Class ADT Class 3
Recent ADT (29) 7690 Year (30) 2009
Future ADT (114) 9600 Year (115) 2029
Truck % ADT (109) 2
Detour Length (19) 1.9 mi
Detour Speed 30 mph
Accident Count -1 Rate -1

Roadway Clearances

Vertical (10) 99.99 ft Appr. Road (32) 20.2
Horiz. (47) 20.2 ft Roadway (51) 20.2 ft
Truck Network (110) 0 Not part of natl netwo
Toll Facility (20) 3 On free road
Fed. Lands Hwy (105) 0 N/A (NBI)
School Bus Route ☒
Transit Route ☐

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Structure Identification

Admin Area Pinellas County
District (2) D7 - Tampa
County (3) (15)Pinellas
Place Code (4) Tarpon Springs
Location (9) 0.4 MI W/O GRAND BLVD
Border Br St/Reg (98) Not Applicable (P) Share 0 %
Border Struct No (99)
FIPS State/Region (1) 12 Florida Region 4-Atlanta
NBIS Bridge Len (112) Meets NBI Length
Parallel Structure (101) No || bridge exists
Temp. Structure (103) Not Applicable (P)
Maint. Resp. (21) 2 County Hwy Agency
Owner (22) 2 County Hwy Agency
Historic Signif. (37) 3 Possibly eligible for

Geometrics

Spans in Main Unit (45) 1
Approach Spans (46) 9
Length of Max Span (48) 41.9 ft
Structure Length (49) 358.4 ft
Total Length 398.4 ft
Deck Area 10036 sqft
Structure Flared (35) 0 No flare

Age and Service

Year Built (27) 1924
Year Reconstructed (106) 1996
Type of Service On (42a) 5 Highway-pedestrian
Under (42b) 5 Waterway
Fracture Critical Details 1 or 2 Stl-girder systms

Structure Type and Material

Curb/Sidewalk (50): Left 2.15 ft Right 2.15 ft
Bridge Median (33): 0 No median
Main Span Material (43A): 3 Steel
Appr Span Material (44A): 5 Prestressed Concrete
Main Span Design (43B): 16 Movable-Bascule
Appr Span Design (44B): 02 Stringer/Girder

Deck Type and Material

Deck Width (52): 28
Skew (34): 0
Deck Type (107): 1 Concrete-Cast-in-Place
Surface (108): 0 None
Membrane: 0 None
Deck Protection: None

Appraisal

Structure Appraisal

Open/Posted/Closed (41) P Posted for load
Deck Geometry (68) 2 Intolerable - Replace
Underclearances (69) N Not applicable (NBI)
Approach Alignment (72) 8-No Speed Red thru Curv
Bridge Railings (36a) 0 Substandard
Transitions (36b) 0 Substandard
Approach Guardrail (36c) 0 Substandard
Approach Guardrail ends (36d) 0 Substandard
Scour Critical (113) 5 Stable w/in footing

Navigation Data

Navigation Control (38) Permit Not Required
Nav Vertical Clr (39) 0 ft
Nav Horizontal Clr (40) 0 ft
Min Vert Lift Clr (116) -1 ft
Pier Protection (111) 4 In-Place, Re-Evaluate

NBI Condition Rating

Sufficiency Rating 44.9
Health Index 88.4
Structural Eval (67) 3 Intolerable - Correct
Deficiency Functionally Obsolete

Minimum Vertical Clearance

Over Structure (53) 99.99 ft
Under (reference) (54a) N Feature not hwy or RR
Under (54b) 0 ft

Minimum Lateral Underclearance

Reference (55a) N Feature not hwy or RR
Right Side (55b) 0 ft
Left Side (56) 0 ft

Load Rating

Design Load (31) 0 Unknown
Rating Date 1/16/1987 Initials TAL
Posting (70) 0 >39.9% below

Operating Type (63) 2 AS Allowable Stress
Operating rating (64) 24.3 tons Alternate -1
Inventory Type (65) 2 AS Allowable Stress
Inventory Rating (66) 17.5 tons Alternate -1
Alt Meth -1

Schedule

Current Inspection

Inspection Date: 07/31/2012
Inspector: KNICAMH-P - Marshall Hampton
Bridge Group: BD520
Primary Type: Special - Movable
Review Required: ☒

Next Inspection Date Scheduled

NBI: 7/28/2013
Element: 07/28/2013
Fracture Critical: 07/28/2013
Underwater: 07/28/2013
Other/Special: 07/28/2013

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Schedule Cont.

Inspection Types
Performed

NBI ☐ Element ☒ Fracture Critical ☒ Underwater ☐ Other Special ☒

<u>Inspection Intervals</u>	<u>Required (92)</u>	<u>Frequency (92)</u>	<u>Last Date (93)</u>	<u>Inspection Resources</u>
Fracture Critical	<input checked="" type="checkbox"/>	12 mos	07/31/2012	Crew Hours 36
Underwater	<input checked="" type="checkbox"/>	24 mos	06/24/2011	Flagger Hours 0
Other Special	<input checked="" type="checkbox"/>	12 mos	07/31/2012	Helper Hours 0
NBI		24 mos (91)	07/28/2011 (90)	Snooper Hours 0
				Special Crew Hours 6
				Special Equip Hours 0

Custom

General Bridge Information

Parallel Bridge Seq	Bridge Rail 1 Concrete post & beam
Channel Depth 5.2 ft	Bridge Rail 2 Other
Radio Frequency -1	Electrical Devices Combination values 1-7
Phone Number (727) 464-8900	Culvert Type Not applicable
Exception Date	Maintenance Yard Not FDOT Maintained
Exception Type Unknown	FIHS ON / OFF No Routes on FIHS
Accepted By Construction 01/01/1924	Previous Structure
Warranty Expiration 00/00/0000	2nd Previous Structure
	Replacement Structure

Bridge Load Rating Information

HS20 Govr. Span Length 13.5 ft	Single Unit Truck 2 Axles 12.5 tons
L-Rating Origination Field Measurements	Single Unit Truck 3 Axles 19.3 tons
Load Rating Date 01/16/1987	Single Unit Truck 4 Axles 18.9 tons
Method Calculation AASHTO formula	Combination Unit Truck 3 Axles 20.5 tons
Load Dist. Factor 1	Combination Unit Truck 4 Axles 21.4 tons
Impact Factor 30	Combination Unit Truck 5 Axles 23.4 tons
Design Method Unknown	Truck Trailer 5 Axles -1 tons
Design Measure English	Posting Weight 99 tons
Recommend SU Posting 12.5 tons	Actual SU Posting 12 tons
Recommend C Posting 20.5 tons	Actual C Posting 15 tons
Recommend ST Posting 99 tons	Actual ST Posting 15 tons
Gov FB Span 19.7 ft	FL 120 Long Gov Span -1 tons
Gov FB Spacing 11.8 ft	FL 120 Trans -1 tons
FB HS20 Rating 24.3 tons	Single Axle Trans -1 tons
FB SU4 Rating 18.9 tons	Tandem Axle Trans -1 tons
FB Present Y	Wing Span -1 ft
FB INV Rating Factor -1	Web to Web Span -1 ft
FB OPR Rating Factor -1	HS20 OPR Rating Max Span 24.3 tons
FB FL 120 -1 tons	FL120 Long Max Span -1 tons

Bridge Scour and Storm Information

Pile Driving Record Unknown	Scour Recommended I Perform Phase IV
Foundation Type No foundation details	Scour Recommended II Perform add'l monitoring
Mode of Flow Tidal	Scour Recommended III No recommendation
Rating Scour Eval Scour Susceptible - High	Scour Elevation -27.999 ft
Highest Scour Eval Phase III completed	Action Elevation -27.999 ft
	Storm Frequency 100

Condition

NBI Rating

Channel (61) 7 Minor Damage	Culvert (62) N N/A (NBI)
Deck (58) 7 Good	Waterway (71) 8 Equal Desirable
Superstructure (59) 6 Satisfactory	Unrepaired Spalls -1 sq.ft.
Substructure (60) 6 Satisfactory	Review Required <input checked="" type="checkbox"/>

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Elements

Inspection Date: 8/10/2012LQIG

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	28/4	Steel Deck/Open Grid	0	.	500	100.	0	.	0	.	0	.	500 sf.

Notes NOTE: This element quantifies the steel grid deck grating of Span 6. The cantilevered sidewalk supports are incidental to this element.

CS2: The deck grating exhibits isolated areas of peeling paint throughout - NEW.

The cantilevered sidewalk supports (CSWS) exhibit minor corrosion at the sidewalk curb junctions - NEW.

0	29/4	Steel Deck/Conc Grid	291	100.	0	.	0	.	0	.	0	.	291 sf.
---	------	----------------------	-----	------	---	---	---	---	---	---	---	---	---------

Notes NOTE: This element quantifies the concrete-filled grid deck of Span 6.

0	399/4	Other Xpansion Joint	52	100.	0	.	0	.	0	.	0	.	52 lf.
---	-------	----------------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the armored joint at Rest Pier 6 and the traffic plate joint at Bascule Pier 7.

CS1: The paint on both joints is moderately worn.

The armored angle over Rest Pier 6 is missing 1 ft. per side adjacent to the curbs due to two 1 ft. x 4 in. add-on sections to the open steel grid deck.

0	334/4	Metal Rail Coated	82	100.	0	.	0	.	0	.	0	.	82 lf.
---	-------	-------------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the metal bridge rails along Span 6.

CS1: There are minor scuffs on Posts 6-5 and 6-6 due to contact during openings.

0	107/4	Paint Stl Opn Girder	71	85.54	12	14.46	0	.	0	.	0	.	83 lf.
---	-------	----------------------	----	-------	----	-------	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the main girders and trunnion girders of Span 6, which are fracture critical. Refer to the Fracture Critical section in the Addendum.

There are welded repair plates in the vicinity of the rolling tracks and drilled holes where the span drive machinery had once been located.

CS2: The north edge of Main Girder 6-2 top flange exhibits painted over knife edging and small areas of painted corrosion holes to 1/4 in. in each side of Floor Beam 6-2.

The top flanges, lower portions of the webs and bottom flanges exhibit painted over pitting with corrosion holes to 1/4 in. diameter near the curve tracks.

The bottom flanges of the main girders exhibit reoccurring active corrosion at Floor Beam 6-2 junctions - NEW.

0	113/4	Paint Stl Stringer	246	100.	0	.	0	.	0	.	0	.	246 lf.
---	-------	--------------------	-----	------	---	---	---	---	---	---	---	---	---------

Notes NOTE: This element quantifies the stringers of Span 6.

CS1: The bottom faces of the bottom flanges exhibit painted over pitting up to 3/16 in. deep.

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Elements

Inspection Date: 8/10/2012LQIG

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	152/4	Paint Stl Floor Beam	58	98.31	1	1.69	0	.	0	.	0	.	59 lf.

Notes NOTE: This element quantifies the floor beams of Span 6, which are fracture critical. Refer to the Fracture Critical section in the Addendum. Lateral bracing gusset plate thicknesses were taken during this inspection. Refer to Table 1 in the Fracture Critical section of the Addendum. Refer to the framing plan sketch in the Fracture Critical section of the Addendum for gusset plate locations.

CS1: The floor beams exhibit painted over pitting to 1/4 in. deep in the bottom faces of the bottom flanges and in the top flanges at the stringer connections.

CS2: Floor Beam 6-3 exhibits three small painted corrosion holes to 3/4 in. in the lower portion of the web at the two southernmost vertical stiffeners.

0	540/4	Open Gearing	0	.	8	100.	0	.	0	.	0	.	8 ea.
---	-------	--------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the eight gear sets including rack sets. Refer to the Machinery Layout Diagram and Table A in the Addendum.

CS2: Both rack and pinion sets and gear sets P/G-3S and P/G-4S exhibit minor cross bearing wear.

The outboard pinions exhibit excessive wear due to end loading.

All gear sets exhibit peeling paint and light surface corrosion - INCREASE. Refer to Photo 1. REPAIR

0	541/4	Speed Reducers	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	----------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: Refer to the Machinery Layout Diagram and Table B in the Addendum.

CS2: The housing of the speed reducer exhibits peeling paint and light surface corrosion.

0	542/4	Shafts	0	.	7	100.	0	14.29	0	.	0	.	7 ea.
---	-------	--------	---	---	---	------	---	-------	---	---	---	---	-------

Notes NOTE: Refer to the Machinery Layout Diagram and Table C in the Addendum. The quantity has been field verified.

CS2: All shafts exhibit peeling paint and light surface corrosion. Refer to Photo 2. REPAIR

0	543/4	Shaft Brgs and Coupl	16	88.89	2	11.11	0	.	0	.	0	.	18 ea.
---	-------	----------------------	----	-------	---	-------	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies fifteen bearings and three couplings. Refer to the Machinery Layout Diagram and Table D in the Addendum.

CS2: Couplings C-2, both east and west, exhibit peeling paint with minor surface corrosion.

0	544/4	Brakes	2	100.	0	.	0	.	0	.	0	.	2 ea.
---	-------	--------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: The brakes and span locks are hydraulically operated by a common hydraulic power unit (HPU). Refer to Elements 547, Hydraulic Power Unit and 548, Hydraulic Piping Sys, for additional comments on these components. Refer to the Machinery Layout Diagram and Table E in the Addendum.

CS1: Both brakes exhibit light surface corrosion on the outside - NEW.

CORRECTIVE ACTION TAKEN:
 Brake 1 has been repaired.

0	546/4	Span Drive Motors	2	100.	0	.	0	.	0	.	0	.	2 ea.
---	-------	-------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: There is no backup system emergency drive at the bridge site. A truck mounted portable generator is available when needed. The generator switch and outlet are located on the power panel at the northeast corner of the bridge. Refer to Tables F and G and the Machinery Layout Diagram in the Addendum.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	547/4	Hydraulic Power Unit	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes NOTE: The brakes and span locks are operated by a common hydraulic power unit (HPU). This element quantifies the pump, electric motor, valves, filters, reservoir, manual pump and any accessories as one system. Refer to Table H the Addendum.

0	548/4	Hydraulic Piping Sys	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	----------------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: The hydraulic piping and flexible hoses that run from the HPU to the brakes and span locks were inspected under this element. Refer to Table H in the Addendum.

CS2: The compression fittings are loose for the hydraulic piping for the north span lock assembly which enables the hydraulic fluid to leak out. Refer to Photo 3. REPAIR

The pressure gauge, at Brake 1, is leaking oil - NEW. Refer to Photo 4. REPAIR

0	549/4	Hydraulic Cylinders	2	100.	0	.	0	.	0	.	0	.	2 ea.
---	-------	---------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the cylinders that drive the span locks. Refer to Table I in the Addendum.

0	560/4	Locks	0	.	2	100.	0	.	0	.	0	.	2 ea.
---	-------	-------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: Refer to Tables J and K in the Addendum.

CS2: The lockbars and couplings exhibit areas of light surface corrosion - NEW.

0	561/4	Live Load Shoes	0	.	2	100.	0	.	0	.	0	.	2 ea.
---	-------	-----------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: Refer to Table L in the Addendum.

CS2: Both live load shoe assemblies exhibit minor to moderate surface corrosion - INCREASE.

0	562/4	Counterweight Suppor	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	----------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the steel frame around the counterweight.

CORRECTIVE ACTION TAKEN:
 The counterweight support has been painted.

0	563/4	Acc Ladd & Plat	4	100.	0	.	0	.	0	.	0	.	4 ea.
---	-------	-----------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the two ladders at Rest Pier 6, one set of stairs at Bascule Pier 7 and the platform on the north side of Bascule Pier 7. Lighting of the machinery area was inspected under this element.

0	564/4	Counterweight	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	---------------	---	------	---	---	---	---	---	---	---	---	-------

Notes

0	565/4	Trun/Str and Cur Trk	0	.	2	100.	0	.	0	.	0	.	2 ea.
---	-------	----------------------	---	---	---	------	---	---	---	---	---	---	-------

Notes CS2: The curved segmental girders do not have a constant radius in relation to their flat tracks.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	570/4	Transformers	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes

0	571/4	Submarine Cable	2	100.	0	.	0	.	0	.	0	.	2 ea.
---	-------	-----------------	---	------	---	---	---	---	---	---	---	---	-------

Notes

0	572/4	Conduit & Junc. Box	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	---------------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the electrical conduit and junction boxes as one system.

The access door of the submarine cable termination cabinet at Rest Pier 6 is partially obstructed by the fender access ladder but is still accessible for inspection/maintenance.

CS2: Several conduit bodies, clamps and junction boxes, throughout the bridge, exhibit minor to moderate corrosion. Refer to Photo 5. REPAIR

The grounding cables for all warning gates, traffic signals and the resistance barrier have been cut/stolen - INCREASE. Refer to Photo 6. REPAIR

The lower section of the submarine cable termination cabinet at Rest Pier 6 exhibits moderate to heavy corrosion. Refer to Photo 7. REPAIR

CORRECTIVE ACTION TAKEN:

The receptacle enclosure on the near side of the machinery level has been repaired.

The SO cable for the near fender navigational light has been repaired.

0	574/4	Control Console	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	-----------------	---	---	---	------	---	---	---	---	---	---	-------

Notes CS2: The control console is missing several nameplates for switches and indicator lights. Refer to Photo 8. REPAIR

The high voltage warning labels were not provided for the control console and MCC.

The control console has a selector switch which selects drive #1 or drive #2. If this switch is placed in the "drive #2" position, then the drive #1 "fault indicator" light will illuminate. The control circuit appears to be connected such that the non-selected drive is indicated as a "fault condition".

0	580/4	Navigational Lights	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	---------------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the six fender mounted lights, two draw span tip swing lights and two flood lights for the clearance gauges as one system.

CS2: The bottom of the south tip swing light is cracked in several places. Refer to Photo 9. REPAIR

The southwest fender light base is broken. Refer to Photo 10. REPAIR

The northwest clearance gauge flood light bulb is burnt-out - NEW. Refer to Photo 11. REPAIR

The UPS backup battery system for the navigational lights has been removed from the bridge. Refer to Photo 12. REPAIR

CORRECTIVE ACTION TAKEN:

The south swing light chain has been replaced.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	581/4	Operator Facilities	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes NOTE: Refer to Table M in the Addendum.

CS1: There is equipment and materials blocking access to the storage cabinets (previously noted as UPS cabinets). Repair is not warranted.

The bulb for the floodlight attached to the west side of the tender house is burnt-out - NEW. Refer to Photo 13. REPAIR

The fasteners for the signal horn exhibit heavy corrosion (previously noted under Element 563). Refer to Photo 13. REPAIR

CORRECTIVE ACTION TAKEN:

The floodlight has been properly secured (previously noted under Element 563).

0	590/4	Resistance Barriers	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	---------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: Refer to Tables N and O in the Addendum.

CS1: Several components of the resistance barrier exhibit light to moderate surface corrosion - INCREASE. Refer to Photo 14. REPAIR

The SO cable is cracked at the compression fitting. Refer to Photo 15. REPAIR

CORRECTIVE ACTION TAKEN:

The resistance barrier lights have been repaired.

0	591/4	Warning Gates	0	.	2	100.	0	.	0	.	0	.	2 ea.
---	-------	---------------	---	---	---	------	---	---	---	---	---	---	-------

Notes NOTE: Refer to Tables P and Q in the Addendum.

CS2: Both warning gate arms exhibit chipped and faded paint/stripes. Refer to Photo 16. REPAIR

Several components of both warning gates exhibit areas of light to moderate surface corrosion. Refer to Photo 17. REPAIR

Several fasteners of the warning gate lights exhibit heavy corrosion. Refer to Photo 18. REPAIR

The SO cable for the near oncoming gate has split, exposing the wires - NEW. Refer to Photo 19. REPAIR.

CORRECTIVE ACTION TAKEN:

The light at the tip of the far oncoming gate has been properly secured.

All warning gate light are operating correctly.

0	592/4	Traffic Signals	4	100.	0	.	0	.	0	.	0	.	4 ea.
---	-------	-----------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the four (4) traffic signals; one at each corner of the structure.

CS1: All traffic signal light housings exhibit peeling paint. Refer to Photo 20. REPAIR

0	205/4	R/Conc Column	0	.	0	.	2	100.	0	.	0	.	2 ea.
---	-------	---------------	---	---	---	---	---	------	---	---	---	---	-------

Notes NOTE: This element quantifies the columns under each end of the west half of Bascule Pier 7 and has been moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS3: Northeast edge of Column 7-1 at the top of the marine growth exhibits a 5 ft. 3 in. H x 18 in. W x 4 in. D spall/void (combination of several voids). The spall extends behind the mounting bracket for the helper piling. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

There is a construction joint in Column 7-2 along the west face up to 1-1/4 in. deep located 10 in. below the top of the marine growth. There are vertical and horizontal cracks up to 1/16 in. wide with corrosion staining that extend a maximum of 8 in. into the marine growth.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	220/4	R/C Sub Pile Cap/Ftg	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes NOTE: This element quantifies the west portion of Bascule Pier 7 which supports the bascule leaf and has been moved from Unit 1.

0	298/4	Pile Jacket Bare	12	100.	0	.	0	.	0	.	0	.	12 ea.
---	-------	------------------	----	------	---	---	---	---	---	---	---	---	--------

Notes The 06/24/2011 UW inspection revealed the following:

NOTE: The piling under the webwall on Bascule Pier 7 are H-piling (per 1997 report) and are jacketed with cylindrical jackets (two total). These jackets are in good condition with no washouts or exposed base pile. Jackets on the steel HP-14 (10 total) extend to the groundline on the four helper piling attached to the columns. The other six H-pile jackets (crutch piling and Tender House) end above the groundline a maximum of 18 in. The area below these jackets are covered with epoxy. A portion of this element has been moved from Unit 1.

0	389/4	Timber Fender/Dolphi	0	.	177	100.	0	.	0	.	0	.	177 lf.
---	-------	----------------------	---	---	-----	------	---	---	---	---	---	---	---------

Notes NOTE: This element was moved from Unit 1.

The 06/24/2011 UW inspection revealed the following:

CS2: Several Piles have marine borer activity with up to 20% section loss – NEW

The lower wales have marine borer activity with up to 10% section loss – NEW.

Corrective Action Taken:

The second pile from the north end of the east fender has been repaired.

0	290/4	Channel	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	---------	---	------	---	---	---	---	---	---	---	---	-------

Notes CS1: The leaf does not clear the near fender in the full open position - NEW. Refer to Photo 10.

Due to the design configuration, when the span is fully open, as seen in Photo 10, the Span 6 counterweight is contacting the rear of the bascule pier.

1	12/4	Bare Concrete Deck	0	.	9253	100.	0	.	0	.	0	.	9253 sf.
---	------	--------------------	---	---	------	------	---	---	---	---	---	---	----------

Notes NOTE: The west half of Span 1 and the east half of Span 10 are overlaid with asphalt 1/4 in. thick.

CS2: The deck top exhibits minor abrasive wear and multi-directional cracks up to 10 ft. x 1/32 in. throughout.

Both curbs exhibit minor delaminations/ lack of cover spalls. All exposed steel was painted with cold galvanizing.

There are lateral misalignments of the approach spans up to 1-1/4 in. Refer to Table 1 in the Addendum for Deck Misalignment Measurements. Refer to Photo 31.

The right deck soffit exhibits an 8 in. x 1 ft. x 1-1/2 in. delamination/spall with exposed, corroded reinforcing steel in Span 2 at Bent 2 – NEW. Refer to Photo 32. REPAIR.

The 3/4 point in the middle of Lane 2 of Span 2 exhibits (3) delaminations/spalls with exposed steel up to 5 in. x 3 in. x 1/2 in. Refer to Photo 33. REPAIR.

The top of the right curb adjacent to the joint at Abutment 11 exhibits a 30 in. x full width delaminated repair – NEW. Refer to Photo 34. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated area at the tender house entrance was repaired.

The right sidewalk soffit delamination of Span 3 near Bent 4 was repaired.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
1	301/4	Pourable Joint Seal	211	83.4	35	13.83	7	2.77	0	.	0	.	253 lf.

Notes CS2: There is minor cracking of the asphalt and pourable joint seal above both abutments – INCREASE.

CS3: There are two potholes up to 4 ft. x 4 in. that exhibit exposed joint sealant with major adhesion failure at Abutment 11 – NEW. Refer to Photo 35. REPAIR.

1	331/4	Conc Bridge Railing	640	100.	0	.	0	.	0	.	0	.	640 lf.
---	-------	---------------------	-----	------	---	---	---	---	---	---	---	---	---------

Notes < none >

1	109/4	P/S Conc Open Girder	1589	99.69	0	.	5	.	0	.	0	.	1594 lf.
---	-------	----------------------	------	-------	---	---	---	---	---	---	---	---	----------

Notes CS1: The north face of Beam 7-1 at Bent 7 poured end exhibits a 24 in. x 1/32 in. vertical crack.

The beam end of Beam 4-5 at Bent 4 exhibits a 3 in. x 10 in. x 2 in spall with exposed, corroded reinforcing steel – NEW. Refer to Photo 36. REPAIR.

CS3: Beams 3-5 and 4-5, south faces, exhibit delaminated repairs up to 4 in. x 8 in. over Bent 4 – NEW. Refer to Photo 37. REPAIR.

Beam 4-1, north face, exhibits a 30 in. x 8 in. x 2 in spall with two exposed, corroded pre-stressing strands at Bent 5. Refer to Photo 38. REPAIR.

Beam 7-5, previously reported as 7-1, south face, exhibits a 12 in. x 8 in. delaminated repair at Bent 8. Refer to Photo 39. REPAIR.

Beam 9-5, south face, exhibits a 6 in. x 8 in delaminated repair at Bent 9 – NEW. Refer to Photo 40. REPAIR.

CORRECTIVE ACTION TAKEN:

The delaminated spall in Beam 1-3 was repaired.
The delamination with corrosion staining in Beam 1-4 was repaired.

1	310/4	Elastomeric Bearing	10	100.	0	.	0	.	0	.	0	.	10 ea.
---	-------	---------------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the neoprene pads placed on top of stacked steel plates at Bent 7 and the adjacent crutch bent cap. The Bent 7 bearings exhibit partial bearing loads due to the crutch bent.

CS1: Crutch Bearing 7-4 is bulging slightly but is not deteriorated.

1	313/4	Fixed Bearing	10	100.	0	.	0	.	0	.	0	.	10 ea.
---	-------	---------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the five steel bearing assemblies bolted to Bent Cap 8 and the five sets of stacked steel plates at the steel crutch bent cap in Span 5. The assemblies bolted to Bent Cap 8 were installed in the past to achieve a larger bearing area.

CS1: The bearing anchor plates on the west face of Bent Cap 8 exhibit minor surface corrosion.

1	202/4	Paint Stl Column	12	100.	0	.	0	.	0	.	0	.	12 ea.
---	-------	------------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies steel crutch and helper piling and the H-pile in Bent 7. The tender house is supported by two jacketed HP-14.

The 06/24/2011 UW inspection revealed the following:

CS1: The steel H-pilings are HP-14 and are jacketed. Below the jacket the H-piling are coated with epoxy. These piling are in good condition. See Element 298 Pile Jacket Bare for additional information.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
1	204/4	P/S Conc Column	41	91.11	0	.	4	8.89	0	.	0	.	45 ea.

Notes CS1: Several piles exhibit corner scrapes up to 6 in. H x 4 in. W x 1/2 in. D – NEW.

CS3: There is a 20 in. x 6 in. delamination in the NE edge above the jacket of Pile 8-5 - INCREASE. Refer to Photo 41. REPAIR.

The west face of Pile 10-3 from the cap down exhibits a delamination with corrosion staining, 26 in. H x 14 in. W – INCREASE. Refer to Photo 42. REPAIR.

The upper 24 in. of Pile 10-5 is built-up with cracks and delaminations on all four faces up to 1/16 in. wide with corrosion staining. There are minor spalls in the bottom of the build-up. The epoxy patches on the pile are beginning to crack. Refer to Photo 43. REPAIR.

The 06/24/2011 UW inspection revealed the following:

Pile 8-4 exhibits minor spalls around the splice between the pile and the build-up, 3 ft. 3 in. below the top of the marine growth. This spall is located on the southwest edge and measures 4 in. H x 4 in. W x 3 in. D with 100% deteriorated exposed steel. Refer to Photo 44. REPAIR.

Pile 8-5: There are cracks up to 1/16 in. wide on the north and east faces full height from the jacket with corrosion bleedout – INCREASE.

CORRECTIVE ACTION TAKEN:

The vertical crack and delamination in Pile 7-5 has been repaired.

1	215/4	R/Conc Abutment	59	100.	0	.	0	.	0	.	0	.	59 lf.
---	-------	-----------------	----	------	---	---	---	---	---	---	---	---	--------

Notes < none >

1	231/4	Paint Stl Cap	62	86.11	10	13.89	0	.	0	.	0	.	72 lf.
---	-------	---------------	----	-------	----	-------	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the steel crutch bent caps (WP beams) in Spans 5 and 7.

CS2: There is light to moderate surface corrosion on both steel crutch beams over the bearing area.

1	234/4	R/Conc Cap	231	97.88	0	.	5	2.12	0	.	0	.	236 lf.
---	-------	------------	-----	-------	---	---	---	------	---	---	---	---	---------

Notes NOTE: This element quantifies the bent caps including Rest Pier Cap 6.

CS3: There are up to 3.5 ft. x 5 ft. delaminations in the bottom west edge of Bent Cap 10 between Piles 10-2 and 10-3 and Piles 10-4 and 10-5. Refer to Photo 45. REPAIR.

Bent Cap 10 exhibits a 4 in. x 7 in. delamination in the SE edge – NEW. Refer to Photo 46. REPAIR.

Bent Cap 10 exhibits a 4 in. x 10 in. delamination in the NW edge – NEW. Refer to Photo 47. REPAIR.

CORRECTIVE ACTION TAKEN:

The delamination in the SW edge of Bent Cap 10 has been repaired.

1	298/4	Pile Jacket Bare	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	------------------	---	---	---	------	---	---	---	---	---	---	-------

Notes The 06/24/2011 UW inspection revealed the following:

CS2: Pile 8-5 exhibits a 25 in. square grout jacket, which starts approximately 28 in. below the cap and extends down 3 ft. 7 in. There are vertical cracks on all four sides up to full height x 1/16 in. wide.

1	394/4	R/Conc Abut Slope Pr	400	100.	0	.	0	.	0	.	0	.	400 sf.
---	-------	----------------------	-----	------	---	---	---	---	---	---	---	---	---------

Notes NOTE: This element quantifies the concrete slope pavement at the NE and SE corners of the structure.

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Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
1	396/4	Other Abut Slope Pro	0	.	172	100.	0	.	0	.	0	.	172 sf.

Notes NOTE: This element quantifies the sand cement rip rap at both abutments.

CS2: The sand cement rip rap at the abutments is weathered and slightly deteriorated.

1	360/4	Settlement SmFlag	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	-------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the settlement of Spans 5 through 7.

CS1: Countermeasures have been taken.

1	321/4	R/Conc Approach Slab	2	100.	0	.	0	.	0	.	0	.	2 ea.
---	-------	----------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes NOTE: This element quantifies the east and west approach slabs which are covered with an asphalt overlay.

1	474/4	Walls Uncoated	12	92.31	1	7.69	0	.	0	.	0	.	13 lf.
---	-------	----------------	----	-------	---	------	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the painted steel sheet pile wingwall at the SE corner of the bridge.

CS2: The wall exhibits moderate corrosion where it enters the R/Conc Slope Pavement.

There is a 1 ft. x 6 in. x 3 in. spall with no exposed steel in the NW edge of the SE wing wall cap. Refer to Photo 48.

1	475/4	R/Conc Walls	16	100.	0	.	0	.	0	.	0	.	16 lf.
---	-------	--------------	----	------	---	---	---	---	---	---	---	---	--------

Notes NOTE: This element quantifies the concrete wingwalls at the NW and SW corners of the bridge.

Total Number of Elements: 54

Inspection Information

Inspection Date: 07.31.2012

Type: Special - Movable

Inspector: KNICAMH-P - Marshall Hampton

Inspection Notes: Sufficiency Rating Calculation Accepted by KNICAKC-P at 2012-09-07 12:30:21

LOAD CAPACITY EVALUATION:

The load rating dated 01/16/1987 applies to the current condition of this bridge.

This is a Special-Movable/Fracture Critical/Posting Inspection.

The lift barge was utilized for this inspection.

Unit 0 - Quantities will include those bridge elements which are within the limits of the bascule pier and the main span. (i.e., steel bridge rails, bascule pier, mechanical & electrical related operational equipment, tender's facilities, et cetera). Inspections will include the fracture critical elements along with those aforementioned bridge elements which are within the limits of the bascule pier. Traffic control elements related to the movable span (i.e., traffic gate assemblies, traffic signaling assemblies, over-roadway traffic assemblies, et cetera) which are mounted to and/or located on the approach spans will be quantified and inspected when the movable span is scheduled for inspection.

Unit 1 - Quantities will include those bridge elements which are within the limits of the approach spans. (i.e., concrete bridge rails, related expansion joints, elastomeric bearing assemblies, et cetera)

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Structure Notes

OWNER: PINELLAS COUNTY

TRAFFIC RESTRICTIONS: This structure is posted at both approaches as follows: Single Unit Trucks - 12 tons and Combination Trucks - 15 tons and Truck and Trailer - 15 tons.

According to the load rating dated 01/16/1987, the structure should be posted at or below the following: Single Unit Truck -12 tons and Combination Trucks - 20 tons. Refer to the Posting Photos.

Structure inventoried west to east.

This structure is on a 12 month inspection frequency for Movable and Fracture Critical components and for SIA Item 70 - Posting being rated 4 or less.

Elements 107 - Paint Stl Opn Girder and 152 - Paint Stl Floor Beam are fracture critical.

The structure is not manned. To obtain an opening, a two (2) hour advance notice is required. The telephone number to obtain opening is (727)464-8900. Telephone number for the control house is (727)943-4917.

The asphalt overlay on the west half of Span 1 is 1/4 in. thick.



APPENDIX E

Water Quality Impact Evaluation

WQIE CHECK LIST

Project Name: Beckett Bridge PD&E Study, from Chesapeake Dr. to Forest Av., Pinellas Co., FL
County: Pinellas
FPN (Financial Number): 424385-1-28-01 (Pinellas Co. Proj. No. PID2161; ETDM No. 13040)
Federal Aid Project No: n/a
Short project description: The project involves evaluating options for removal, rehabilitation, or replacement of the existing Beckett Bridge

PART 1: DETERMINATION OF WQIE SCOPE

☐ Does project increase impervious surface area? (Yes) No

☐ Does project alter the drainage system? (Yes) No

If the answer to both questions is no, complete the WQIE by checking Box A in Part 4.

☐ Do environmental regulatory requirements apply? (Yes) No

PART 2: PROJECT CHARACTERISTICS

20-year design ADT: 9,700 Expected speed limit: 30 mi/hr
Drainage area: 28.48 acres 61.6 % Impervious 38.4 % Pervious
Land Use: 61.9 % Residential 0.4 % Commercial 2.2 % Industrial
0 % Agricultural 27.3 % Wetlands 8.2 % Other Natural
Potential large sources of pollution (identify): None

Groundwater receptor (name of aquifer or N/A): Surficial/Floridan

☐ Designated well head protection area? Yes (No) Name: _____

☐ Sole source aquifer Yes (No) Name: _____

Groundwater recharge mechanism:

Percolation

(Notify District Drainage Engineer if karst conditions expected)

WQIE CHECK LIST (Contd.)

Surface water receptor (name or N/A): Whitcomb Bayou

☐ Classification I II **III** IV V

Special designation (check all that apply):

☐ ONRW ☒ OFW ☒ Aquatic Preserve ☐ Wild & Scenic River
☐ Special Water ☐ SWIM Area ☐ Local Comp Plan ☐ MS4 Area
☐ Other (specify): _____

Conceptual storm water conveyances & system (check all that apply):

☐ Swales ☒ Curb and Gutter ☒ Scuppers ☒ Pipe ☒ French Drains
☒ Retention/Detention Ponds Other _____

PART 3: ENVIRONMENTAL REGULATORY REQUIREMENTS

Regulatory Agency (Check all that apply)	Reference citation for regulatory criteria (attach copy of pertinent pages)	Most stringent criteria (Check all that apply)
USEPA <input type="checkbox"/>		<input type="checkbox"/>
FDEP <input checked="" type="checkbox"/>	NPDES for Construction Activities	<input checked="" type="checkbox"/>
WMD <input checked="" type="checkbox"/> (Specify)	ERP Chapter 40E-4 FAC	<input checked="" type="checkbox"/>
OTHER <input type="checkbox"/> (Specify)	USCOE - Dredge and Fill USCG - Bridge Permit	<input checked="" type="checkbox"/>

Proceed to Part 4 and check Box C.

WQIE CHECK LIST (Contd.)

PART 4: WQIE DOCUMENTATION

- ☐ Water quality is not an issue.
- ☐ No regulatory requirements apply to water quality issues
(Document by checking the "none" box for water quality in Section 6.C.3 of the *Environmental Determination Form* or Section 5.C.3 of the SEIR.
- ☒ Regulatory requirements apply to water quality issues. Water quality issues will be mitigated through compliance with the quantity design requirements placed by SWFWMD, an authorized regulatory agency.
(Document by checking the "none" box for water quality in Section 6.C.3 of the Environmental Determination Form or Section 5.C.3 of the SEIR.

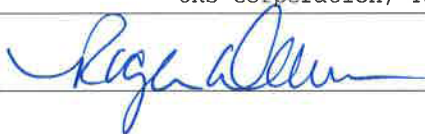
Evaluator Name (print):

Roger J. Dawson, P.E.

Office:

URS Corporation, Tampa

Signature:



Date: 02/06/2013



APPENDIX F

State Historic Preservation Office (SHPO) Concurrence



Florida Department of Transportation

RICK SCOTT
GOVERNOR

11201 N. McKinley Drive, Tampa, FL 33612-6456
Phone (813) 975-6000 1-800-226-7220

ANANTH PRASAD, P.E.
SECRETARY

February 20, 2013

Ms. Linda Anderson
Federal Highway Administration
Florida Division Office
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

RE: Beckett Bridge from Chesapeake Drive to Forest Avenue
PD&E Study Cultural Resource Assessment Survey
County Project ID: PID 2161
FDOT Financial Project ID: 424385-1-28-01
Florida DHR Project File No: 2012-2526
Pinellas County, Florida

RECEIVED
BUREAU OF
HISTORIC PRESERVATION
2013 MAR 15 P 2:58

04951101 07 1201

Dear Ms. Anderson:

Pinellas County, in cooperation with the Florida Department of Transportation (FDOT) District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate removal, rehabilitation or replacement of the Beckett Bridge over Whitcomb Bayou in Tarpon Springs, Pinellas County, Florida. The limits of the study extend from Chesapeake Drive to Forest Avenue, a distance of about 0.31 miles. A Cultural Resource Assessment Survey (CRAS) has been prepared as part of the study to comply with federal and state regulations. In March 2012, FDOT, on behalf of Pinellas County, coordinated the proposed project's area of potential effect (APE) and CRAS methodology with your office and the State Historic Preservation Officer (SHPO) and in August 2012, FDOT, on behalf of Pinellas County, coordinated the National Register of Historic Places (NRHP) Determination of Eligibility (DOE) with your office and SHPO.

This transmittal includes two bound copies of the CRAS dated February 2013; 16 Florida Master Site File (FMSF) forms (8PI12017, 8PI12043-8PI12055, 8PI12068, and 8PI12069); the DOE; a CD containing the FMSF and DOE photos and forms; and a Survey Log Sheet.

No previously recorded or newly recorded archaeological sites were located within the archaeological APE.

The historic resources survey identified 16 newly recorded historic resources within the APE: Beckett Bridge (8PI12017) and 15 buildings (8PI12043-8PI12055, 8PI12068, and 8PI12069). Beckett Bridge (8PI12017) has been determined eligible for listing in the NRHP as an individual historic resource. The Federal Highway Administration (FHWA) concurred that Beckett Bridge is individually eligible for listing in the National Register on September 17, 2012. SHPO also concurred with these findings on October 8, 2012. The 15 structures are considered ineligible for listing in the NRHP.

Ms. Linda Anderson
Beckett Bridge PD&E Study
County Project ID: *PID 2161*; Florida DHR Project File No: 2012-2526
FDOT Financial Project ID: 424385-1-28-01
February 20, 2013
Page 2 of 3

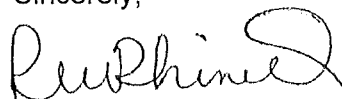
A historic resources reconnaissance survey was also undertaken in order to address historic resources along a proposed detour route which would be required for removal of the existing bridge, or during construction for the Beckett Bridge. If any of the build or rehabilitation alternatives are selected, it is anticipated that the existing Beckett Bridge route will be closed for approximately six months to two years; therefore, a detour route will be necessary. One NRHP-listed historic district and six previously recorded historic resources that are considered individually eligible for inclusion in the NRHP were identified. The historic resources include the NRHP-listed Tarpon Springs Historic District (8PI1712), the Edward Newton Knapp House (8PI238), the William T. Fleming House (8PI1617), the George Clemson House (8PI1619), the George Clemson Auxiliary (8PI1620), the Marshall H. Alworth House (8PI1621), and the Bigelow Cottage (8PI1625). The six identified significant buildings are part of the 1990 NRHP-listed Tarpon Springs Historic District (8PI1712). As part of the reconnaissance survey, one newly identified resource appears to be individually eligible for the NRHP and is located at 115 North Park Avenue. As agreed in the methodology coordination, a FMSF form was not prepared for this resource.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 Code of Federal Regulations (CFR), Part 800, as well as the provisions contained in the revised Chapter 267, Florida Statutes (F.S.).

Provided you approve the recommendations and findings in the enclosed cultural resource document, please coordinate with SHPO that Beckett Bridge is NRHP-eligible but the other 15 historic structures are not. One copy of the document is for your files.

If you have any questions, or if I may be of assistance, please contact me at (813)975-6496 or robin.rhinesmith@dot.state.fl.us, or Rebecca Spain Schwarz at (813)281-8308 or rebecca.spain-schwarz@atkinsglobal.com.

Sincerely,



Robin Rhinesmith
Environmental Administrator

Enclosures

cc: Theresa Farmer, FDOT
Roy Jackson, FDOT CEMO
Tony Hornnik, Pinellas County
David Talhouk, Pinellas County
Ann Venables, EC Driver
Amy Streelman, Janus Research
Rebecca Spain Schwarz, Atkins

The FHWA finds the attached Cultural Resource Assessment Survey complete and sufficient and ☒ approves / ☐ does not approve the above recommendations and findings.

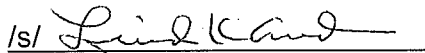
The FHWA requests the SHPO's opinion on the sufficiency of the attached Cultural Resource Assessment Survey and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

FHWA Comments:

PLEASE ADDRESS COMMENTS / OPINION TO LINDA ANDERSON, FHWA:

P: 850-553-2226 E: linda.anderson@dot.gov.

PLEASE CC: ROBIN RHODESMITH, FDOT D7; NAHIE DETZIO, FHWA;
AND BOY JACKSON, FDOT COMO.

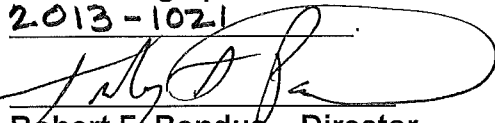
/s/ 

David Hawk
Acting Division Administrator
Florida Division
Federal Highway Administration

3-13-13

Date

The Florida State Historic Preservation Officer finds the attached Cultural Resource Assessment Survey complete and sufficient and concurs with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2013-1021



Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer

4/4/13

Date

RECEIVED
PLANNING UNIT

2012 OCT 15 AM 7:49



Florida Department of Transportation

11201 N. McKinley Drive Tampa, FL 33612-6456 Phone (813) 975-6000 1-800-226-7220

RICK SCOTT
GOVERNOR

ANANTH PRASAD, P.E.
SECRETARY

August 24, 2012

Ms. Linda Anderson
Federal Highway Administration
Florida Division Office
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

RE: Beckett Bridge PD&E Study
Cultural Resource Assessment Survey
Determination of Eligibility for Beckett Bridge (Bridge No. 154000)
County Project ID: PID 2161
FDOT Financial Project ID: 424385-1-28-01
Florida DHR Project File No: 2012-2526
Pinellas County, Florida

RECEIVED
BUREAU OF
HISTORIC PRESERVATION
2012 SEP 19 P 1:57

Dear Ms. Anderson:

Pinellas County, in cooperation with the Florida Department of Transportation (FDOT) District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate removal, rehabilitation or replacement of the Beckett Bridge over Whitcomb Bayou in Tarpon Springs, Pinellas County, Florida. The limits of the study extend from Chesapeake Drive to Forest Avenue, a distance of about 0.31 miles. A Cultural Resources Assessment Survey (CRAS) is being prepared as part of the study to comply with federal and state regulations. In March 2012, FDOT, on behalf of Pinellas County, coordinated the proposed project's area of potential effect (APE) and CRAS methodology with your office and the State Historic Preservation Officer (SHPO).

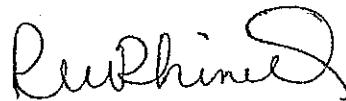
The CRAS fieldwork has been started but since the Beckett Bridge (Bridge No. 154000) has not previously been recorded in the Florida Master Site File (FMSF) or evaluated for listing on the National Register of Historic Places (NRHP), FDOT is requesting input from your office and SHPO early on concerning its eligibility for listing on the NRHP. For this reason, two copies of the NRHP Determination of Eligibility (DOE) forms are enclosed for preliminary review. After FHWA and SHPO make their eligibility determinations for the bridge, the CRAS will be completed and submitted for review. The CRAS will include a FMSF form (8PI12017) that is currently being prepared for Beckett Bridge, as well as the final DOE with all photos for the FMSF office.

Ms. Linda Anderson
Beckett Bridge PD&E Study
County Project ID: *PID 2161*; Florida DHR Project File No: 2012-2526
FDOT Financial Project ID: 424385-1-28-01
August 24, 2012
Page 2 of 3

Beckett Bridge was originally constructed in 1924 and carries Riverside Drive/North Spring Boulevard over Whitcomb Bayou in Tarpon Springs, Florida, providing the shortest route connecting the eastern and western sides of Tarpon Springs. The bascule span is a steel single-leaf bottom counterweight Scherzer rolling lift from 1924. The fixed timber approach spans were replaced with concrete approach spans in 1956. Major repairs, which included construction of crutch bents, repair of machinery, replacement of the electrical system and construction of a new control house, were performed in 1996. Additional repairs to the bridge machinery were needed in 1997 and 2011. Despite the rehabilitations and replacement of building materials, the bridge retains its historic integrity and is a rare example of a historic Scherzer rolling lift, single-leaf bascule bridge remaining in the State. Beckett Bridge is therefore considered potentially eligible for listing in the NRHP under Criterion A in the areas of Community Planning and Development and Transportation and under Criterion C in the area of Engineering.

Provided you agree that the Beckett Bridge is NRHP eligible, please submit the enclosed DOE to the SHPO for review and concurrence. We are available to participate in a conference call with your office and SHPO to discuss the NRHP eligibility, if that would help. If you have any questions, or if I may be of further assistance, please contact me at (813) 975-6496 or via e-mail at robin.rhinesmith@dot.state.fl.us, or Rebecca Spain Schwarz at (813) 281-8308 or via e-mail at rebecca.spain-schwarz@atkinsglobal.com.

Sincerely,



Robin Rhinesmith
Environmental Administrator

Enclosures

cc: Theresa Farmer, FDOT
Roy Jackson, FDOT CEMO
Amy Streelman, Janus Research
Tony Hornik, Pinellas County
David Talhouk, Pinellas County
Ann Venables, EC Driver
Rebecca Spain Schwarz, Atkins

Ms. Linda Anderson
Beckett Bridge PD&E Study
County Project ID: PID 2161; Florida DHR Project File No: 2012-2526
FDOT Financial Project ID: 424385-1-28-01
August 24, 2012
Page 3 of 3

The FHWA finds the attached Determination of Eligibility complete and sufficient and ☒ approves / ☐ does not approve the above recommendations and findings.

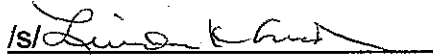
The FHWA requests the SHPO's opinion on the sufficiency of the attached Determination of Eligibility and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

FHWA Comments:

PLEASE ADDRESS COMMENTS/OPINION TO LINDA ANDERSON, FHWA.

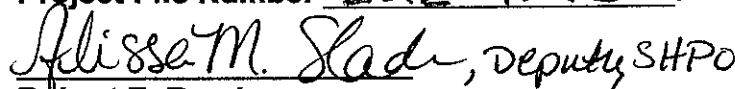
P: 850-553-2226. E: linda.anderson@dot.gov.

PLEASE CC: ROBIN RHINESMITH, FDOT D7; NATHIE DEZIO, FHWA; AND
ROY JACKSON, FDOT C&M.


Martin C. Knopp
Division Administrator
Florida Division
Federal Highway Administration

9-17-12
Date

The Florida State Historic Preservation Officer finds the attached Determination of Eligibility complete and sufficient and concurs with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2012-4295.


for Robert F. Bendus
State Historic Preservation Officer
Director, Florida Division of Historical Resources

10.8.12
Date



Florida Department of Transportation

11201 N. McKinley Drive Tampa, FL 33612-6456 Phone (813) 975-6000 1-800-226-7220

RICK SCOTT
GOVERNOR

ANANTH PRASAD, P.E.
SECRETARY

March 27, 2012

Ms. Linda Anderson
Federal Highway Administration
Florida Division Office
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

RE: Beckett Bridge PD&E Study
Cultural Resource Assessment Survey
Area of Potential Effect and Methodology
County Project ID: PID 2161
FDOT Financial Project ID: 424385-1-28-01
Pinellas County, Florida

RECEIVED
BUREAU OF
HISTORIC PRESERVATION
2012 MAY 29 A 8:46

MAR 28 12 1:28 PM

Dear Ms. Anderson:

Pinellas County, in cooperation with the Florida Department of Transportation (FDOT) District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate removal, rehabilitation or replacement of the Beckett Bridge over Whitcomb Bayou in Tarpon Springs, Pinellas County, Florida. The limits of the study extend from Chesapeake Drive to Forest Avenue, a distance of about 0.31 miles (mi). A Cultural Resources Assessment Survey (CRAS) will be conducted as part of the study to comply with federal and state regulations. The FDOT, on behalf of Pinellas County, is submitting this letter with enclosed graphics to obtain your agency's approval on the proposed project's area of potential effect (APE) and CRAS methodology. As required as part of the Section 106 of the National Historic Preservation Act, and Chapter 267, Florida Statutes (F.S.), all historic and archaeological resources that may be affected by the proposed project will be identified. The proposed APE and CRAS methodology is described in this letter and shown on the enclosed maps. The rationale for this determination is provided below.

Alternatives to be evaluated during the PD&E study include permanent removal of the existing bridge without construction of a replacement bridge, rehabilitation of the existing bridge and replacement of the existing bascule bridge with a new movable or fixed bridge. All build alternatives considered will be constructed on the existing alignment. Various vertical clearances over the navigational channel are being considered for the bridge replacement alternatives. A fixed bridge with a vertical

clearance of 42 feet (ft) is the worst case alternative in terms of potential impacts. If construction of a new bridge, repair or rehabilitation is selected as the Preferred Alternative, a detour during construction will be required. If the bridge is removed, traffic patterns will change to detour the previously existing bridge.

For the CRAS, the proposed APE was determined by evaluating the extent of improvements that may result from construction of the worst case alternative - replacement of the existing bridge with a fixed bridge with 42 ft of vertical clearance. The determination also considered the surrounding character of the area and the existing resources found within the project corridor. Additionally, the maintenance of traffic (MOT) plan for the detour that would be required during construction of a replacement bridge, rehabilitation of the existing bridge, or removal of the bridge without constructing a replacement bridge was considered.

The APE for historic resources includes all historic properties immediately adjacent to the existing roadway (a distance of approximately 200 ft) beginning at Chesapeake Drive to Forest Avenue. See enclosed Proposed Historic Resources APE map. This APE should provide appropriate coverage for the Beckett Bridge PD&E Study alternatives. In regard to the higher level fixed bridge alternative that is being studied, the APE will include properties along the riverfront that can physically be seen from a reasonable distance in order to address any viewshed/visual effects. This APE may extend two to four parcels on either side of the current bridge location on both sides of the river.

In addition, the MOT detour (see enclosed Proposed Detour map) will be subjected to a reconnaissance survey in order to identify significant properties located along the MOT detour corridor. It appears the MOT detour route may travel along roadways in the historic core of Tarpon Springs; numerous historic resources are located along this corridor. The majority of these resources have likely been recorded as part of past survey efforts (including a recent 2009 Florida Division of Historical Resources grant survey conducted for the City of Tarpon Springs). Based on this, a reconnaissance of the MOT detour route would be a more reasonable approach, and Florida Master Site File (FMSF) forms should not need to be prepared for the resources along the MOT detour route.

The survey for archaeological sites typically focuses upon identifying and evaluating resources within the geographic limits of the proposed action and its associated ground disturbing activities; that is, the proposed right-of-way (ROW) for the project. The APE for archaeological resources is typically confined to those areas where subsurface construction activity will take place. In consideration of these factors, the

Ms. Linda Anderson
Beckett Bridge PD&E Study
County Project ID: *PID 2161*
FDOT Financial Project ID: *424385-1-28-01*
March 27, 2012
Page 3

APE for archaeological resources was determined by evaluating the extent of improvements that may result from construction of the worst case alternative - replacement of the existing bridge with a fixed bridge with 42 ft of vertical clearance. See enclosed Proposed Archaeological Resources APE map.

Pinellas County and the FDOT have proposed the CRAS APE and methodology described above and illustrated on the attached maps for the Beckett Bridge PD&E Study. Should you concur with this determination of the proposed APE and methodology, please indicate your concurrence by signing in the space provided below. Following your signature, please submit a copy of this letter and the enclosed maps to the Florida State Historic Preservation Officer (SHPO) for review and concurrence. If you have any questions, or if I may be of further assistance, please contact me at (813) 975-6496 or via e-mail at robin.rhinesmith@dot.myflorida.com, or Rebecca Spain Schwarz at (813) 281-8308 or via e-mail at rebecca.spain-schwarz@atkinsglobal.com.

Sincerely,



Robin Rhinesmith
Environmental Administrator
Intermodal Systems Development Department
FDOT – District 7

Enclosures

cc: Steve Love, FDOT
Roy Jackson, FDOT CEMO
Amy Streelman, Janus Research
Tony Hornik, Pinellas County
Ann Venables, EC Driver
Rebecca Spain Schwarz, Atkins

Ms. Linda Anderson
Beckett Bridge PD&E Study
County Project ID: *PID 2161*
FDOT Financial Project ID: 424385-1-28-01
March 27, 2012
Page 4

The FHWA approves above-stated definition of the Area of Potential Effect and methodology for cultural resources for Beckett Bridge PD&E Study. *PLEASE FHWA COMMENTS OF 5-8-12 AND FDOT RESPONSES OF 5-14-12, FOR ADDITIONAL INFO. UKA*
The FHWA requests the SHPO's approval of the proposed APE.

/s/ Linda Knopp
For: Martin C. Knopp
Division Administrator
Florida Division
Federal Highway Administration

5-24-12
Date

The Florida State Historic Preservation Officer approves above-stated definition of the Area of Potential Effect and methodology for cultural resources for the Beckett Bridge PD&E Study; SHPO/DHR Project File Number
~~2012-2526~~ 2526

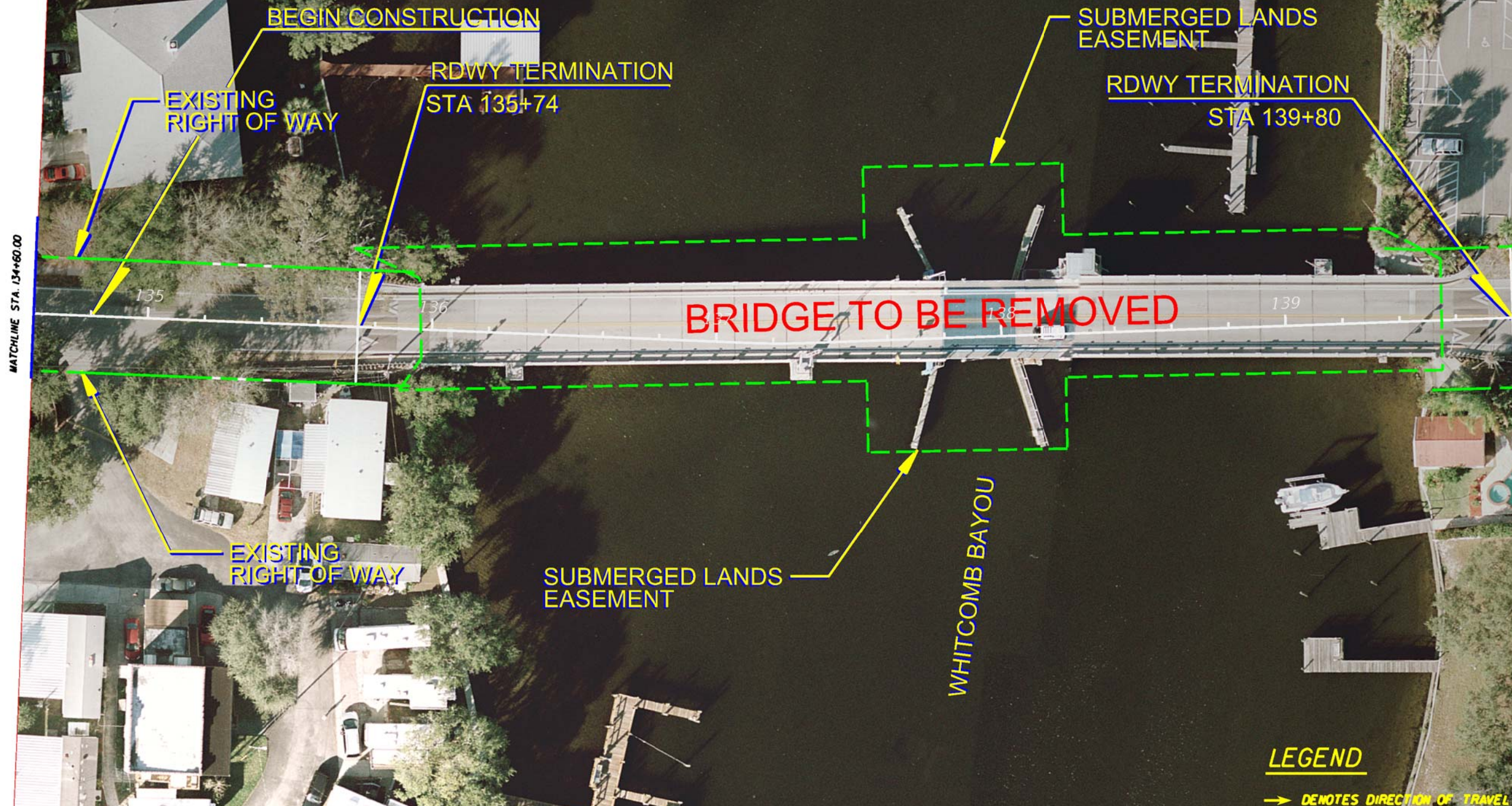
for */s/ Laura R. Kammner* 6.14.2012
Robert F. Bendus Date
State Historic Preservation Officer
Director, Florida Division of Historical Resources



APPENDIX G

Conceptual Plans for Proposed Alternatives

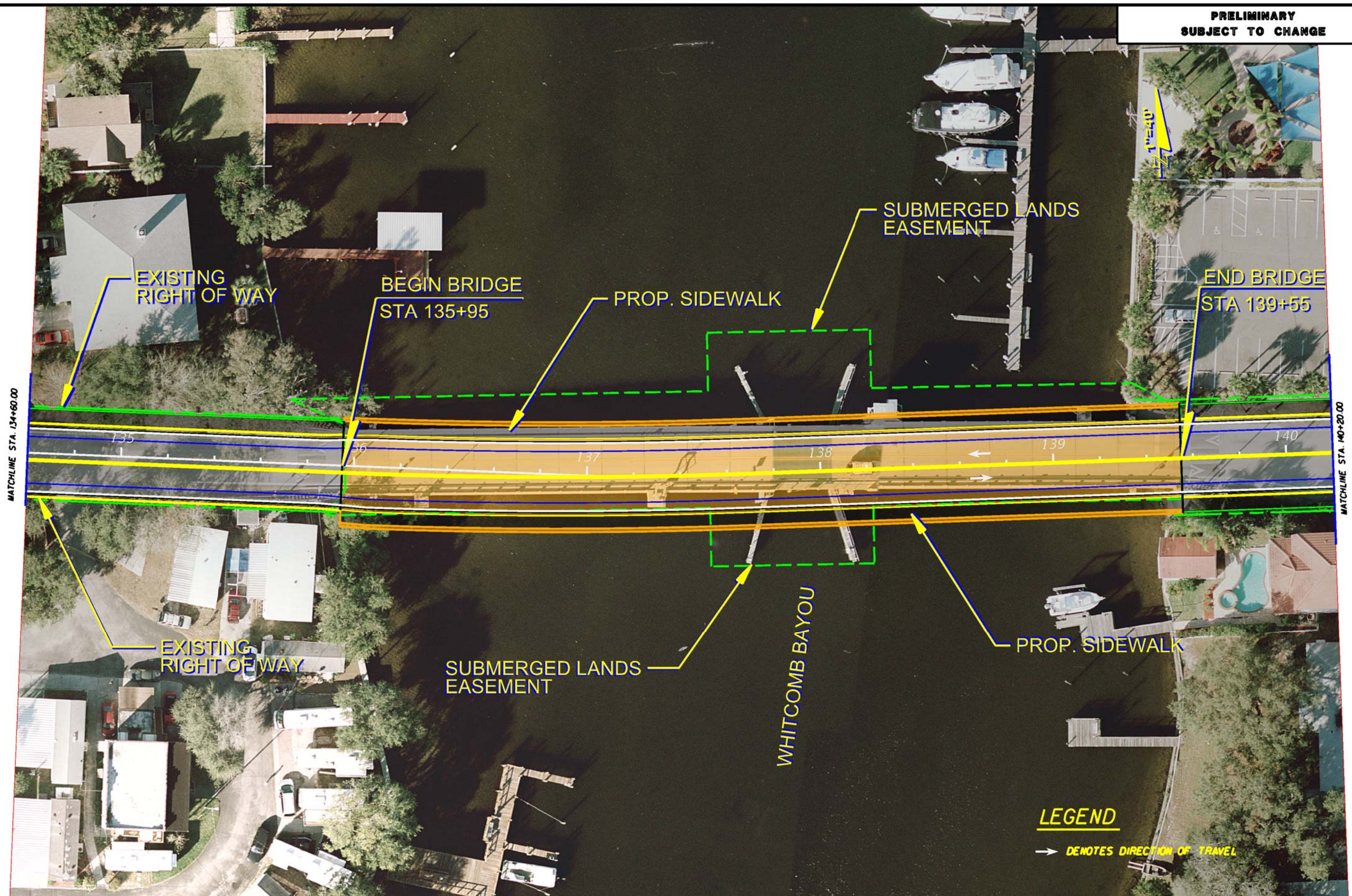


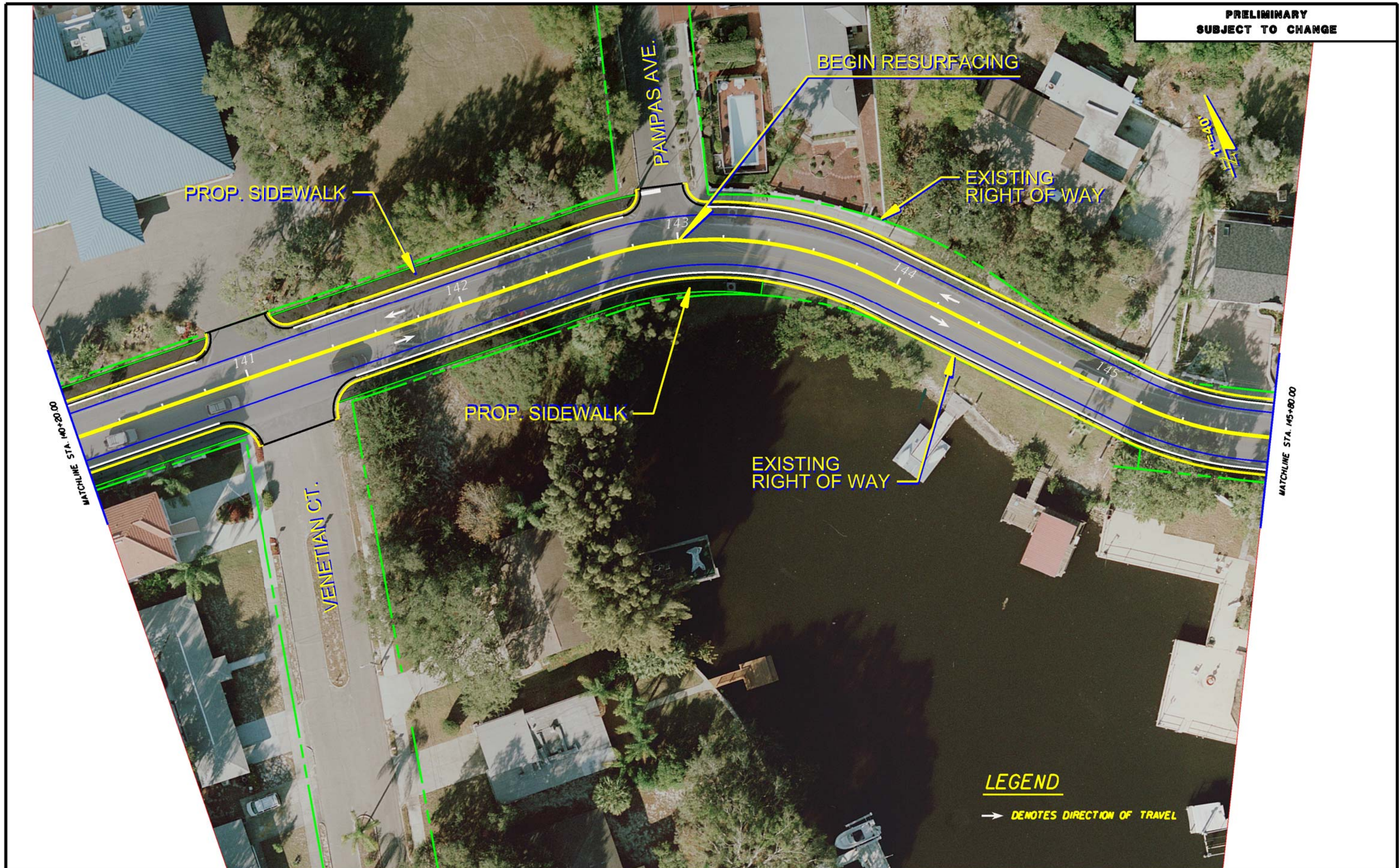


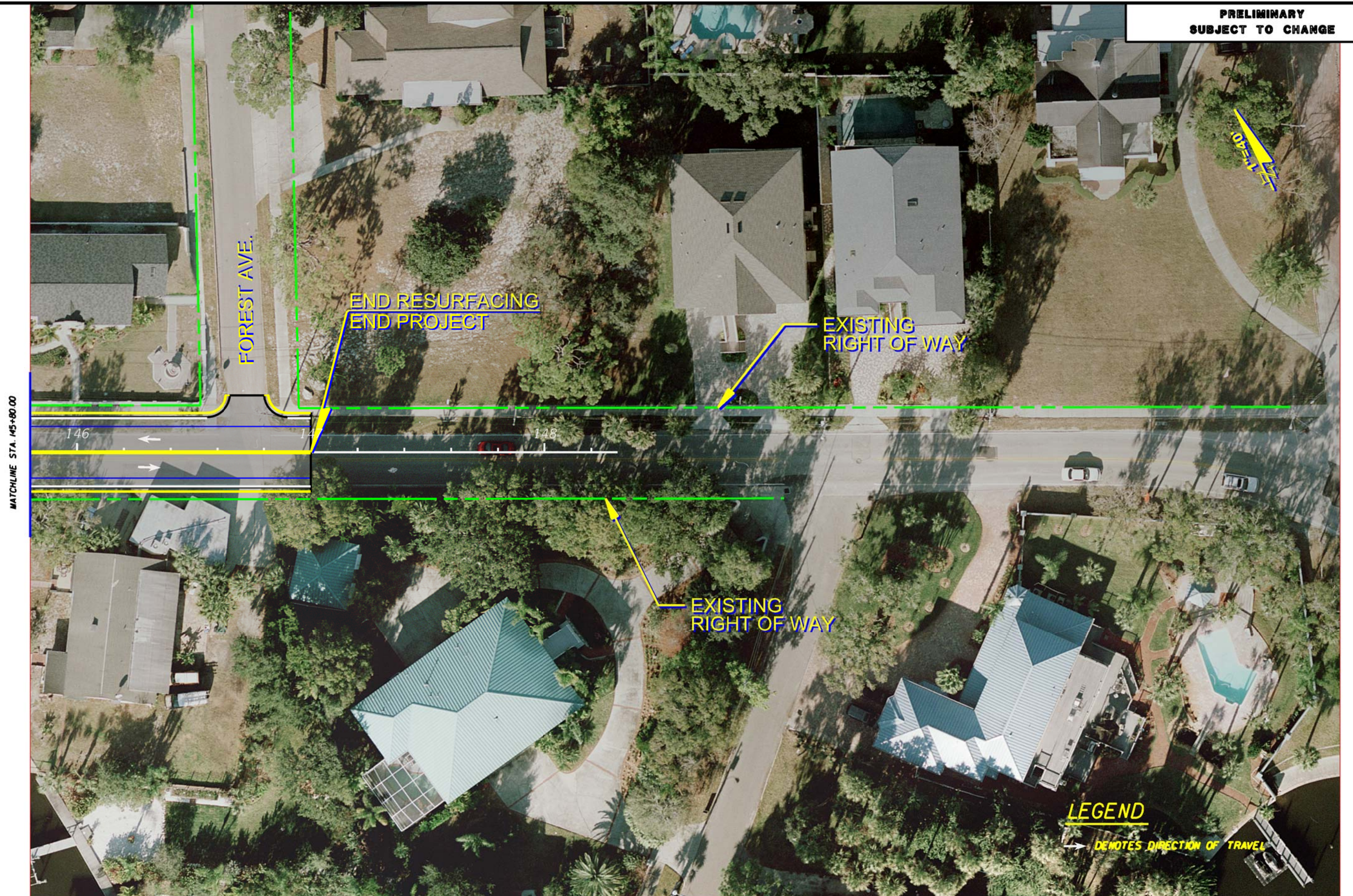


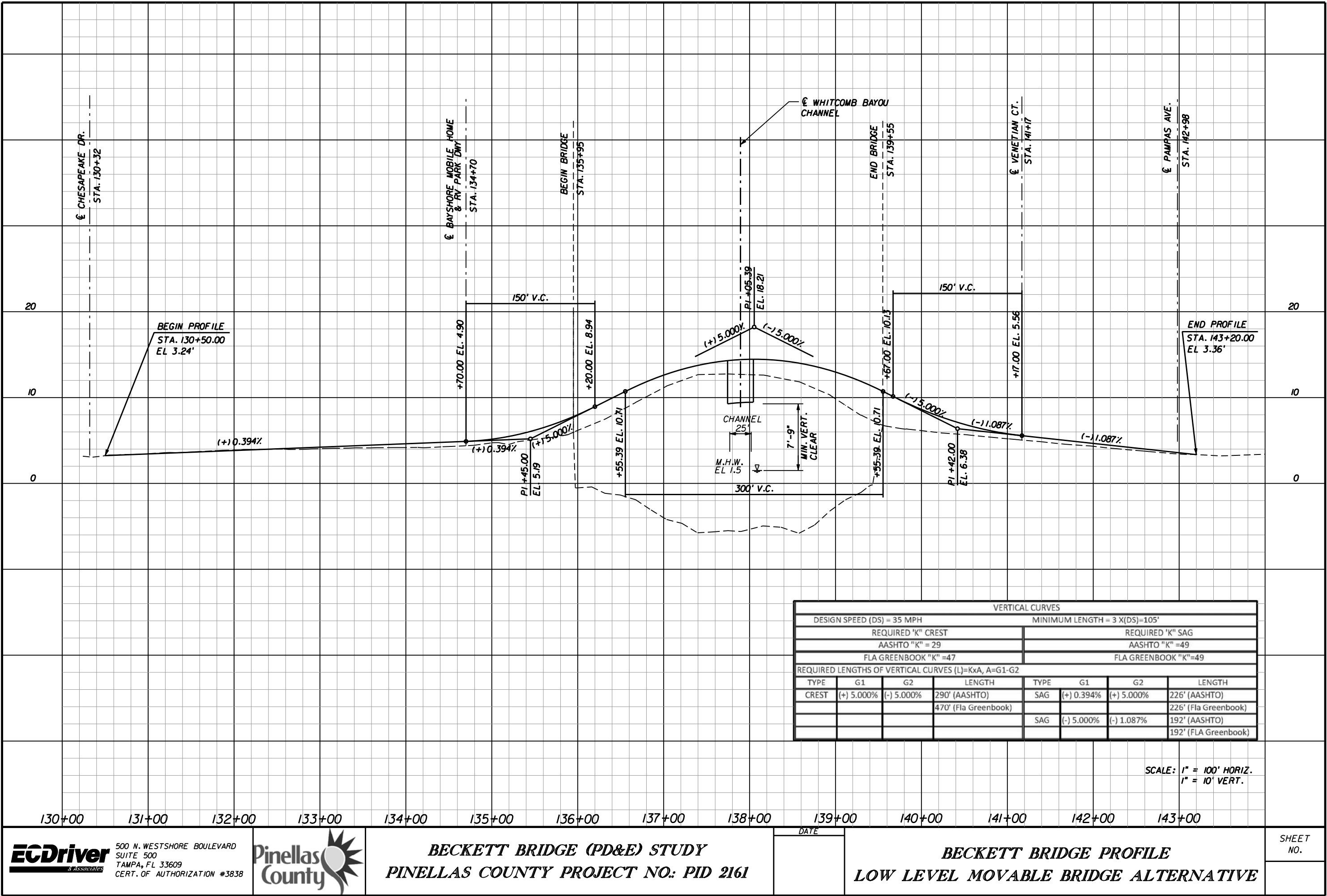












VERTICAL CURVES							
DESIGN SPEED (DS) = 35 MPH				MINIMUM LENGTH = 3 X(DS)=105'			
REQUIRED 'K" CREST				REQUIRED 'K" SAG			
AASHTO "K" = 29				AASHTO "K" =49			
FLA GREENBOOK "K" =47				FLA GREENBOOK "K" =49			
REQUIRED LENGTHS OF VERTICAL CURVES (L)=KxA, A=G1-G2							
TYPE	G1	G2	LENGTH	TYPE	G1	G2	LENGTH
CREST	(+) 5.000%	(-) 5.000%	290' (AASHTO)	SAG	(+) 0.394%	(+) 5.000%	226' (AASHTO)
			470' (Fla Greenbook)				226' (Fla Greenbook)
				SAG	(-) 5.000%	(-) 1.087%	192' (AASHTO)
							192' (FLA Greenbook)

SCALE: 1" = 100' HORIZ.
1" = 10' VERT.



500 N. WESTSHORE BOULEVARD
SUITE 500
TAMPA, FL 33609
CERT. OF AUTHORIZATION #3838



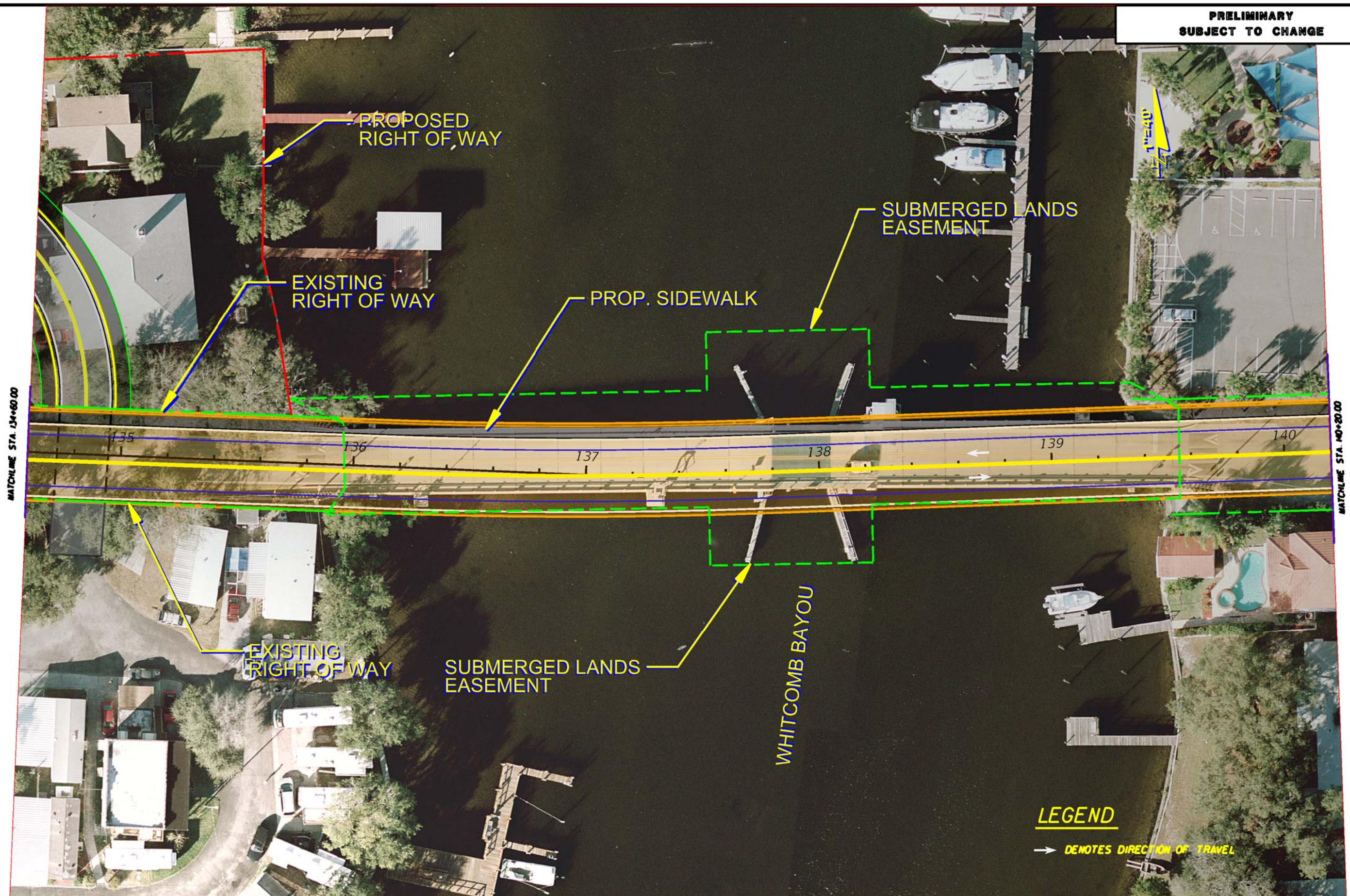
BECKETT BRIDGE (PD&E) STUDY
PINELLAS COUNTY PROJECT NO.: PID 2161

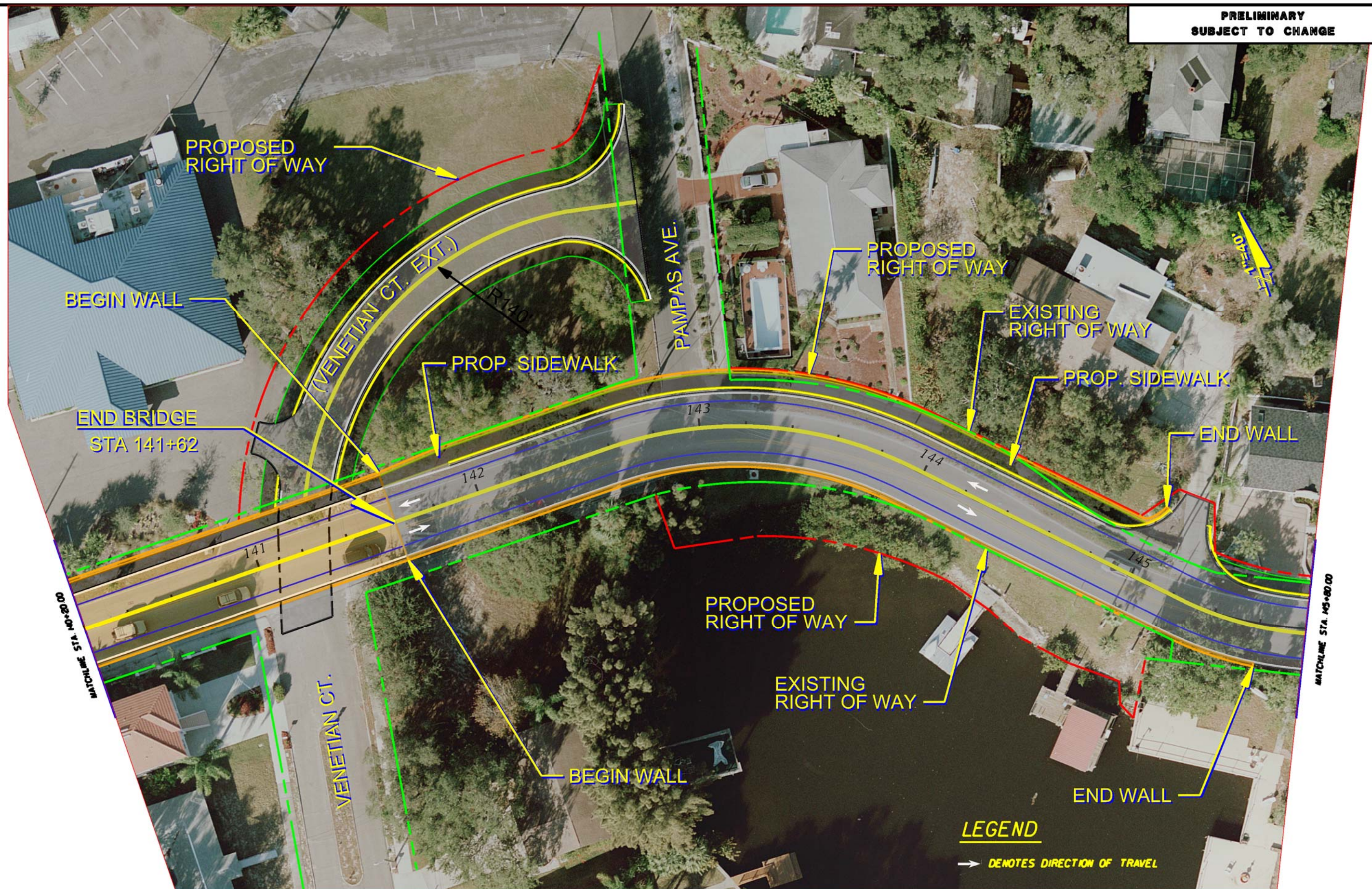
DATE

BECKETT BRIDGE PROFILE
LOW LEVEL MOVABLE BRIDGE ALTERNATIVE

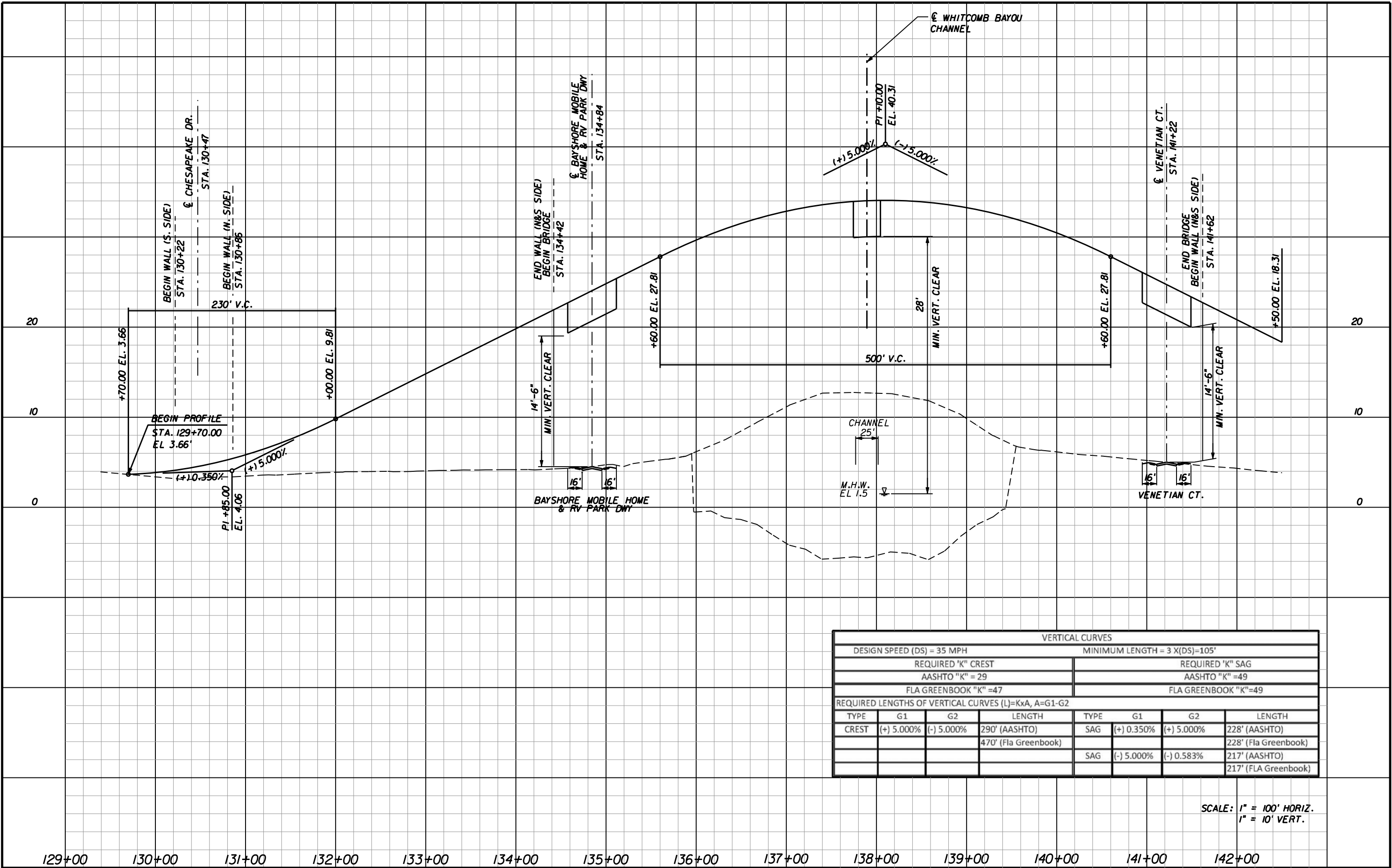
SHEET NO.











VERTICAL CURVES							
DESIGN SPEED (DS) = 35 MPH				MINIMUM LENGTH = 3 X(DS)=105'			
REQUIRED 'K" CREST				REQUIRED 'K" SAG			
AASHTO "K" = 29				AASHTO "K" =49			
FLA GREENBOOK "K" =47				FLA GREENBOOK "K" =49			
REQUIRED LENGTHS OF VERTICAL CURVES (L)=KxA, A=G1-G2							
TYPE	G1	G2	LENGTH	TYPE	G1	G2	LENGTH
CREST	(+) 5.000%	(-) 5.000%	290' (AASHTO)	SAG	(+) 0.350%	(+) 5.000%	228' (AASHTO)
			470' (Fla Greenbook)				228' (Fla Greenbook)
				SAG	(-) 5.000%	(-) 0.583%	217' (AASHTO)
							217' (FLA Greenbook)

SCALE: 1" = 100' HORIZ.
1" = 10' VERT.



500 N. WESTSHORE BOULEVARD
SUITE 500
TAMPA, FL 33609
CERT. OF AUTHORIZATION #3838



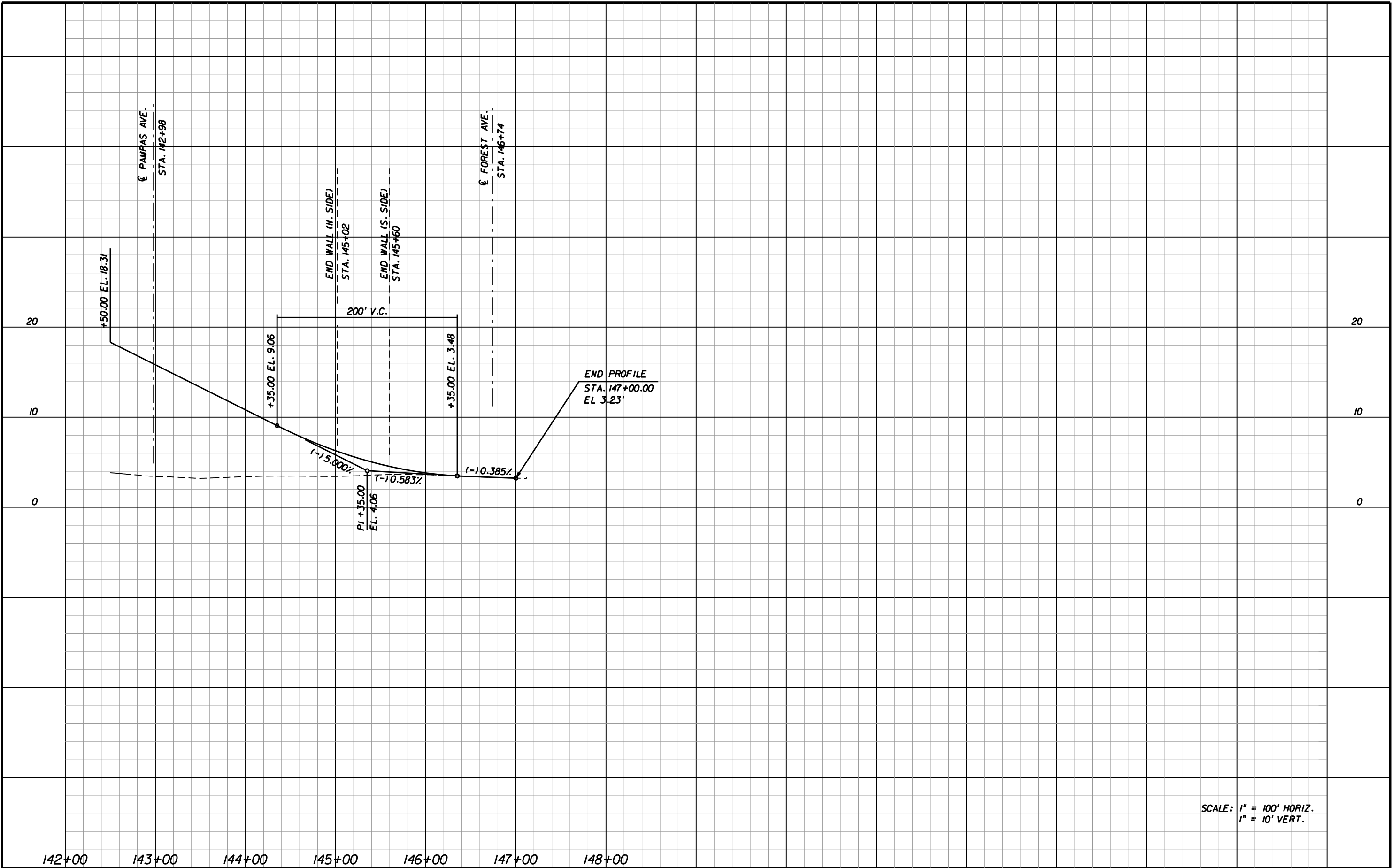
BECKETT BRIDGE (PD&E) STUDY
PINELLAS COUNTY PROJECT NO.: PID 2161

DATE

BECKETT BRIDGE PROFILE
MID-LEVEL FIXED BRIDGE ALTERNATIVE A

SHEET NO.

1



SCALE: 1" = 100' HORIZ.
1" = 10' VERT.



500 N. WESTSHORE BOULEVARD
SUITE 500
TAMPA, FL 33609
CERT. OF AUTHORIZATION #3838



BECKETT BRIDGE (PD&E) STUDY
PINELLAS COUNTY PROJECT NO.: PID 2161

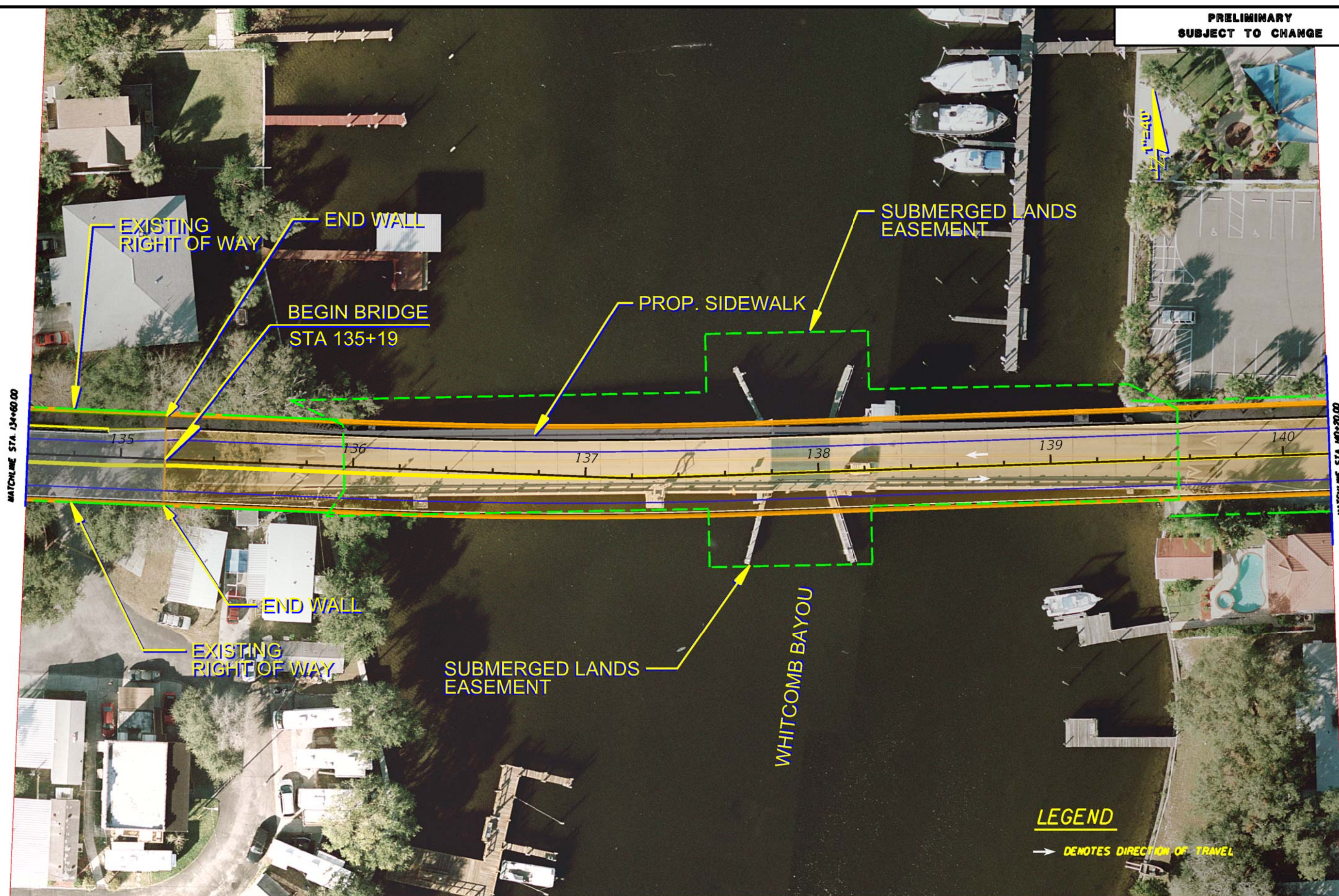
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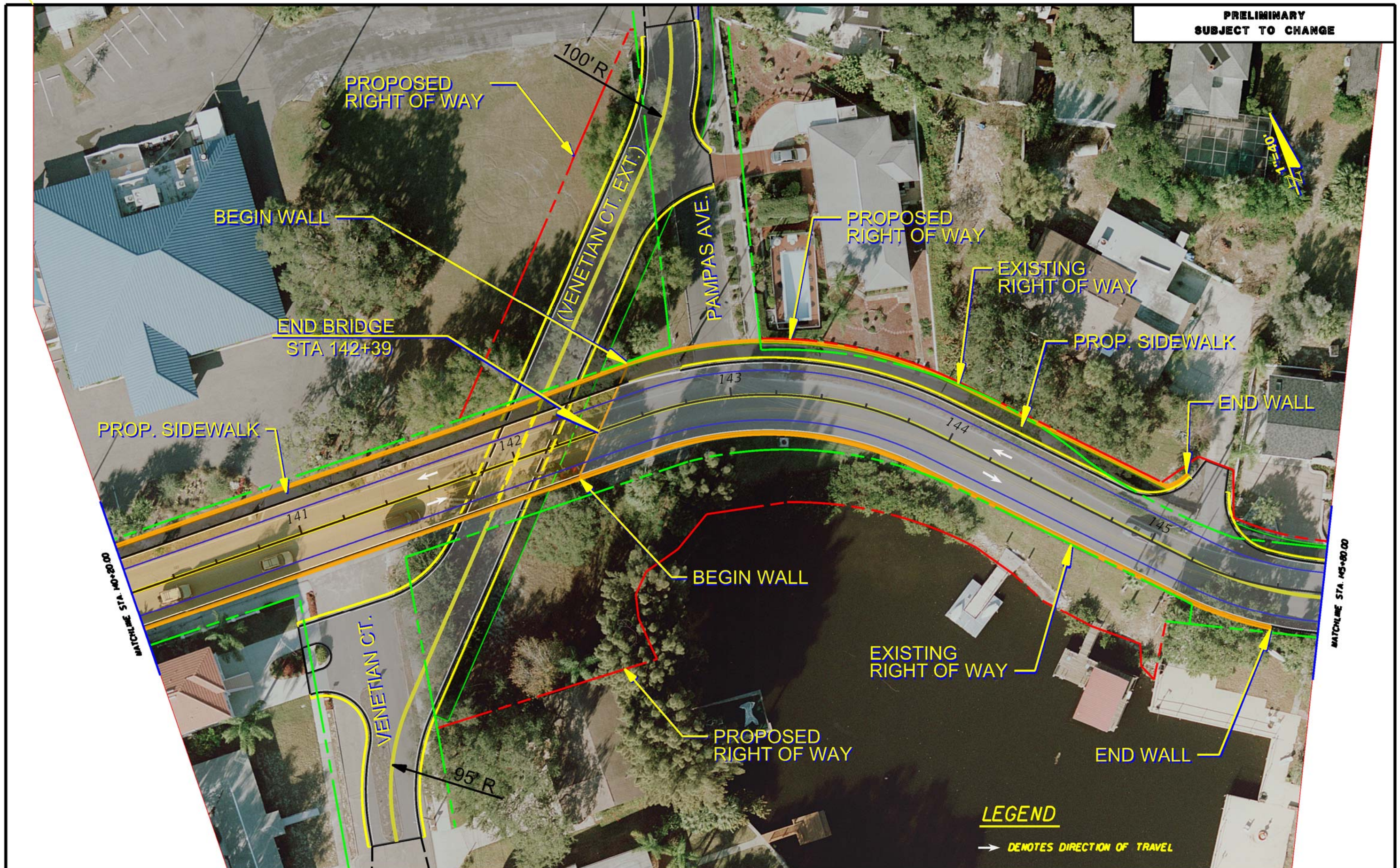
BECKETT BRIDGE PROFILE
MID-LEVEL FIXED BRIDGE ALTERNATIVE A

SHEET
NO.

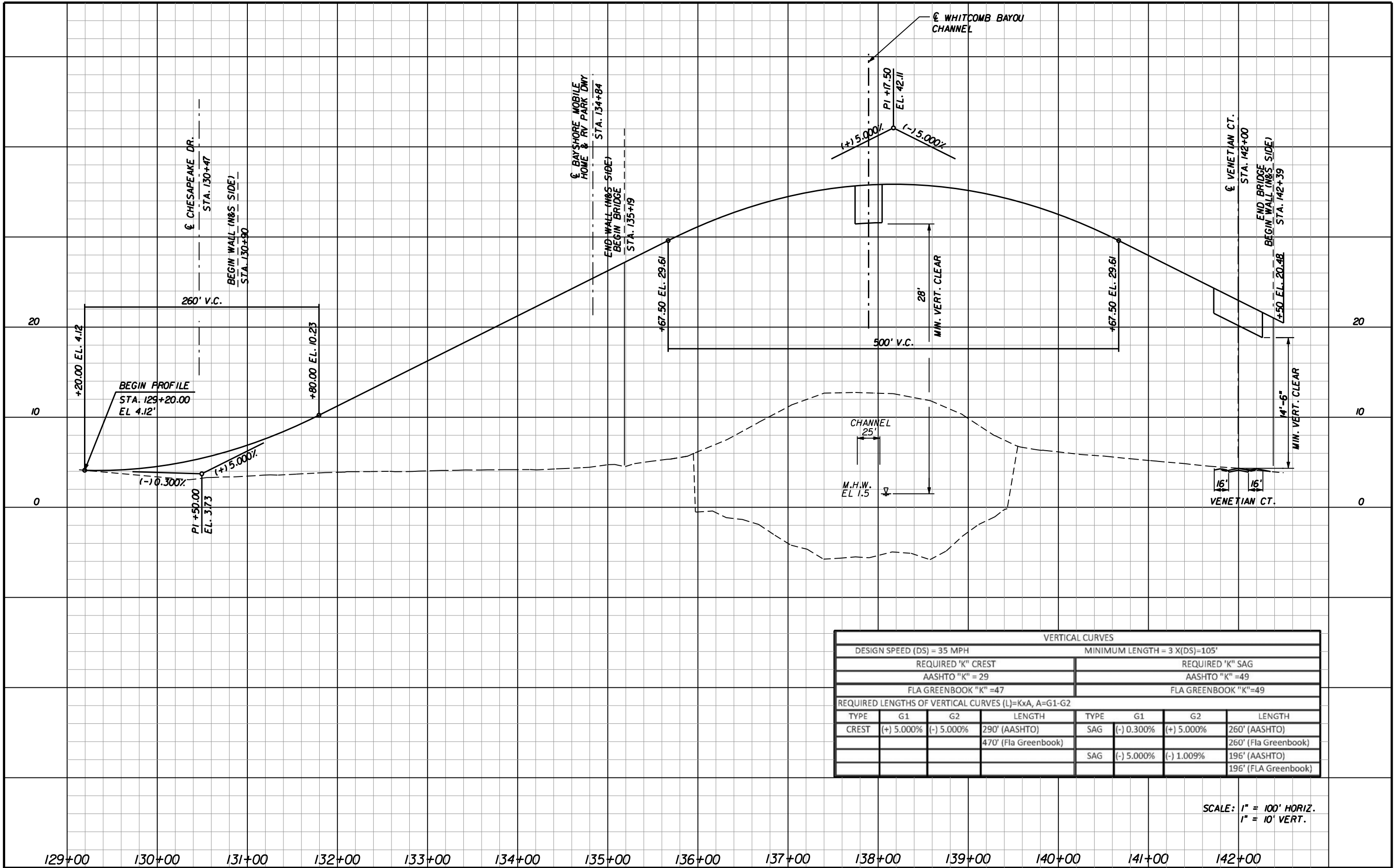
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VERTICAL CURVES							
DESIGN SPEED (DS) = 35 MPH				MINIMUM LENGTH = 3 X(DS)=105'			
REQUIRED 'K" CREST				REQUIRED 'K" SAG			
AASHTO "K" = 29				AASHTO "K" =49			
FLA GREENBOOK "K" =47				FLA GREENBOOK "K"=49			
REQUIRED LENGTHS OF VERTICAL CURVES (L)=KxA, A=G1-G2							
TYPE	G1	G2	LENGTH	TYPE	G1	G2	LENGTH
CREST	(+) 5.000%	(-) 5.000%	290' (AASHTO)	SAG	(-) 0.300%	(+) 5.000%	260' (AASHTO)
			470' (Fla Greenbook)				260' (Fla Greenbook)
				SAG	(-) 5.000%	(-) 1.009%	196' (AASHTO)
							196' (FLA Greenbook)

SCALE: 1" = 100' HORIZ.
1" = 10' VERT.



500 N. WESTSHORE BOULEVARD
SUITE 500
TAMPA, FL 33609
CERT. OF AUTHORIZATION #3838



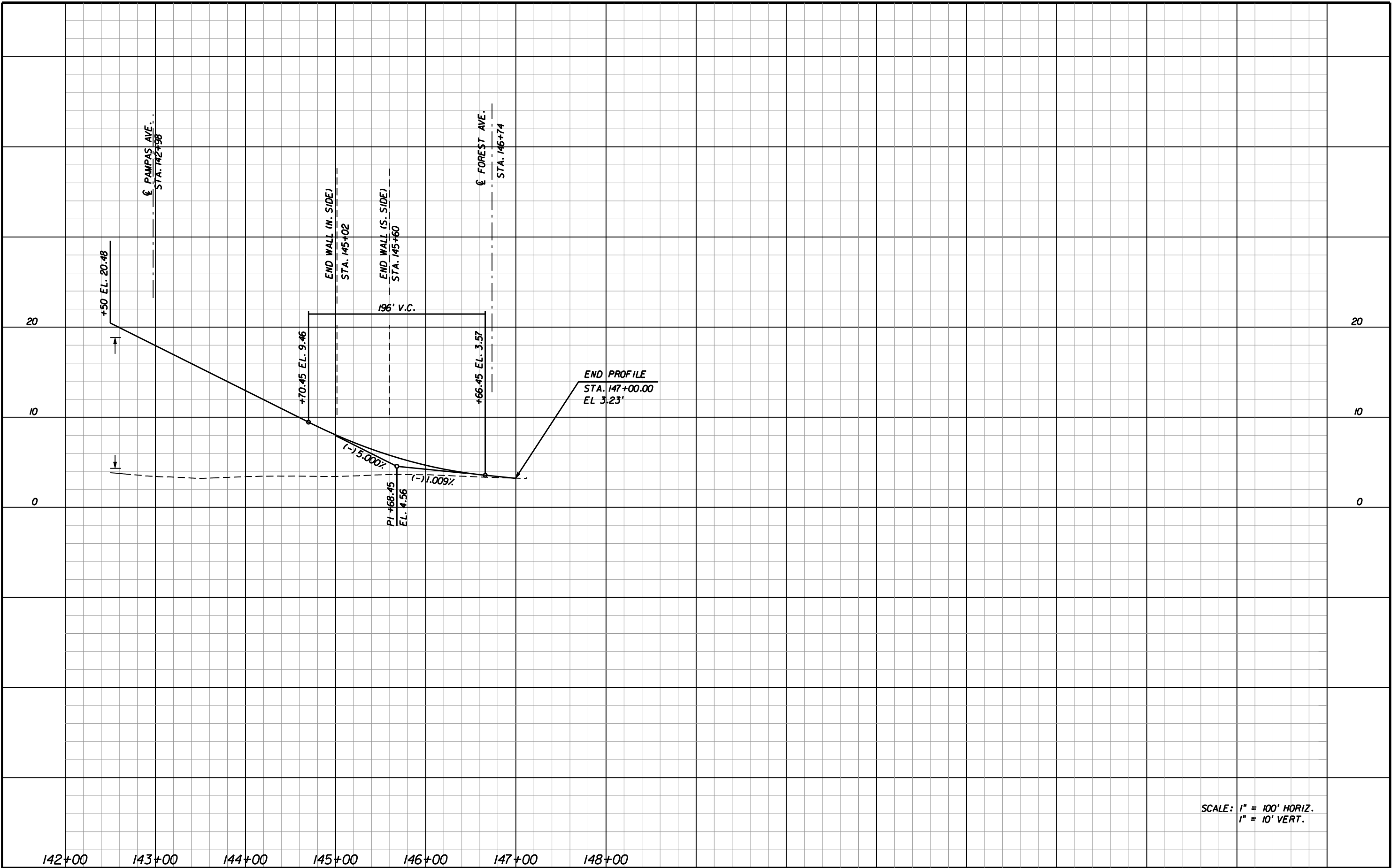
BECKETT BRIDGE (PD&E) STUDY
PINELLAS COUNTY PROJECT NO.: PID 2161

DATE

BECKETT BRIDGE PROFILE
MID-LEVEL FIXED BRIDGE ALTERNATIVE B

SHEET
NO.

1



SCALE: 1" = 100' HORIZ.
1" = 10' VERT.



500 N. WESTSHORE BOULEVARD
SUITE 500
TAMPA, FL 33609
CERT. OF AUTHORIZATION #3838



BECKETT BRIDGE (PD&E) STUDY
PINELLAS COUNTY PROJECT NO.: PID 2161

DATE

BECKETT BRIDGE PROFILE
MID-LEVEL FIXED BRIDGE ALTERNATIVE B

SHEET
NO.

2



APPENDIX H

Construction, Right-of-Way, and Life Cycle Cost Estimates



Prepared By: T. Farrell, P.E.
 Date: 7/17/2012
 Reviewed By: J. Phillips
 Date: 1/5/13

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE PRELIMINARY ENGINEERING REPORT BRIDGE NO. 154000 PINELLAS COUNTY

NO-BUILD ALTERNATIVE (REMOVAL OF EXISTING BRIDGE)

Item	Width ft.	Length ft.	Area sq.ft.	Unit Price	Cost
DEMOLITION					
Approach Spans	28.0	317.5	8,890	\$45.00	\$ 400,000
Bascule Span	28.0	41.0	1,148	\$65.00	\$ 75,000
Bridge Total					\$ 475,000
Mobilization (10%)					\$ 48,000
Maintenance of Traffic (10%)					\$ 48,000
Contingency (30%)					\$ 143,000
Construction Total					\$ 714,000
Design (10%)					\$ 71,000
CEI (10%)					\$ 71,000
PROJECT TOTAL					\$ 856,000

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE REHABILITATION BRIDGE NO. 154000 PINELLAS COUNTY

REHABILITATION WITH WIDENING ALTERNATIVE (50 - 60 YEAR)

Item	Qty.	Unit	Unit Price	Cost
Approach Spans				
Abutment Modifications				
Remove Existing Abutments/Bulkheads/Approach Slabs	2	EA	\$15,000	\$30,000
Replace Approach Slab	2	EA	\$35,000	\$70,000
Replace Abutments	2	EA	\$140,000	\$280,000
Replace Bulkheads	2	EA	\$75,000	\$150,000
Replace Approach Guardrail (incl. bridge and end anchorages)	300	LF	\$70	\$21,000
Substructure Modifications				
Remove Existing Pile Bents	7	EA	\$10,000	\$70,000
Replace Pile Bents	7	EA	\$125,000	\$875,000
Superstructure Modifications				
Bridge Railing/Slab Cantilever Removal	1,260	SF	\$15	\$18,900
Traffic Railing	632	LF	\$150	\$94,800
Widen Superstructure	5,700	SF	\$45	\$256,500
Hydroblast and Overlay Deck	840	SY	\$165	\$138,600
Clean and Seal Deck Joints	400	LF	\$70	\$28,000
Spall Repair Beams	10	CF	\$175	\$1,750
Spall Repair Underside of Deck	10	CF	\$175	\$1,750
Apply Spray Metalizing / Cathodic Protection	17,800	SF	\$55	\$979,000
Approach Spans - Total				\$3,015,300
Bascule Span				
Bascule Pier Modifications				
Modify/Widen Exist. Bascule Piers	1	EA	\$850,000	\$850,000
Replace Rest Pier	1	EA	\$175,000	\$175,000
Control House Replacement				
Replace Control House	1	LS	\$150,000	\$150,000
Bascule Leaf Replacement				
Replace Bascule Leaf including Counterweight	1	LS	\$1,500,000	\$1,500,000
Machinery Replacement				
Replace Span Locks	2	EA	\$15,000	\$30,000
New Tail Stop	2	EA	\$25,000	\$50,000
Replace Live Load Shoes	2	EA	\$5,000	\$10,000
Replace Main Drive Machinery	1	LS	\$130,000	\$130,000
Balance Leaf and Functional Checkout	1	LS	\$30,000	\$30,000
Electrical Replacement				
Replace Electrical System	1	LS	\$225,000	\$225,000
Replace Bascule Span Barrier Gate	1	AS	\$50,000	\$50,000
Replace Bascule Span Traffic Gate	4	AS	\$30,000	\$120,000
Replace Movable Bridge Signal	2	AS	\$15,000	\$30,000
Replace Fender System Lighting	1	LS	\$10,000	\$10,000
Fender System Replacement				
Replace Fender System	1	LS	\$120,000	\$120,000
Bascule Span - Total				\$3,480,000
				Bridge Total \$ 6,495,000
				Mobilization (10%) \$ 650,000
				Maintenance of Traffic (10%) \$ 650,000
				Contingency (25%) \$ 1,624,000
				Construction Total \$9,419,000
				Design (15%) \$ 1,413,000
				CEI (15%) \$ 1,413,000
				Post Design (3%) \$ 283,000
				PROJECT TOTAL \$ 12,528,000

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE REHABILITATION BRIDGE NO. 154000 PINELLAS COUNTY

REHABILITATION WITH WIDENING ALTERNATIVE (XX - XX YEAR)

Item	Qty.	Unit	Unit Price	Cost
Approach Spans				
Abutment Modifications				
Remove Existing Abutments/Bulkheads/Approach Slabs	2	EA	\$15,000	\$30,000
Approach Slab Concrete	116	CY	\$600	\$69,600
Approach Slab Reinforcing	17,000	LB	\$0.60	\$10,200
42" Dia. Drilled Shafts	600	LF	\$365	\$219,000
Pier Concrete	72	CY	\$600	\$43,200
Pier Reinforcing	16,000	LB	\$0.90	\$14,400
Concrete Sheet Piles	600	LF	\$115	\$69,000
Bulkhead Cap	28	CY	\$600	\$16,800
Bulkhead Reinforcing	4,000	LB	\$0.90	\$3,600
Anchor Bars	20	EA	\$3,200	\$64,000
Replace Approach Guardrail (incl. bridge and end anchorages)	300	LF	\$70	\$21,000
Substructure Modifications				
Remove Existing Pile Bents/Crutch Bents	7	EA	\$10,000	\$70,000
48" Dia. Drilled Shafts	1,260	LF	\$625	\$787,500
Pier Concrete	116	CY	\$600	\$69,600
Pier Reinforcing	26,000	LB	\$0.90	\$23,400
Superstructure Modifications				
Bridge Railing/Slab Cantilever Removal	1,260	SF	\$15	\$18,900
Traffic Railing	632	LF	\$150	\$94,800
Type II AASHTO Beams	632	LF	\$150	\$94,800
Superstructure Conc incl. Deck, Disph., Sdwk. and Curbs	179	CY	\$600	\$107,400
Superstructure Reinforcing	35,000	LB	\$0.60	\$21,000
Neoprene Pads	20	CF	\$900	\$18,000
Hydroblast and Overlay Deck	840	SY	\$165	\$138,600
Clean and Seal Deck Joints	400	LF	\$70	\$28,000
Spall Repair Beams	10	CF	\$175	\$1,750
Spall Repair Underside of Deck	10	CF	\$175	\$1,750
Apply Spray Metalizing / Cathodic Protection	17,800	SF	\$55	\$979,000
Approach Spans - Total				\$3,015,300
Bascule Span				
Bascule Pier Modifications				
Remove Existing Pier Concrete/Crutch Bents	1	EA	\$10,000	\$10,000
48" Dia. Drilled Shafts	720	LF	\$625	\$450,000
Cofferdam	1	LS	\$155,000	\$155,000
Seal	124	CY	\$400	\$49,600
Bedding Stone	60	TN	\$75	\$4,500
Pier Concrete	246	CY	\$600	\$147,600
Pier Reinforcing	37,000	LB	\$0.90	\$33,300
Rest Pier Replacement				
Remove Existing Pile Bents/Crutch Bents	1	EA	\$10,000	\$10,000
48" Dia. Drilled Shafts	240	LF	\$625	\$150,000
Pier Concrete	18	CY	\$600	\$10,500
Pier Reinforcing	5,000	LB	\$0.90	\$4,500
Control House Replacement				
24" Dia. Pipe Piles (Foundation)	480	LF	\$105	\$50,400
Building	200	SF	\$500	\$100,000
Bascule Leaf Replacement				
Remove Existing Bascule Leaf	1	EA	\$30,000	\$30,000
Structural Steel	150,000	LB	\$6	\$900,000
Grid Deck	1,180	SF	\$75	\$88,500
Sidewalk Grating	400	SF	\$70	\$28,000



Prepared By: G. Patton, P.E.
 Date: 6/5/2013
 Reviewed By: J. Phillips
 Date:

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE REHABILITATION BRIDGE NO. 154000 PINELLAS COUNTY

Counterweight Concrete	15	CY	\$1,200	\$18,000
Counterweight Reinforcing	3,000	LB	\$0.60	\$1,800
Counterweight Steel Ballast	200,000	LB	\$1.50	\$300,000
Balance Blocks	10,400	LB	\$3.00	\$31,200
Replace Track and Treads	2	EA	\$25,000	\$50,000
Replace Rack and Rack Frames	2	EA	\$20,000	\$40,000
Traffic Railing	84	LF	\$150	\$12,600
Machinery Replacement				
Replace Span Locks	2	EA	\$15,000	\$30,000
New Tail Stop	2	EA	\$25,000	\$50,000
Replace Live Load Shoes	2	EA	\$5,000	\$10,000
Replace Main Drive Machinery	1	LS	\$130,000	\$130,000
Balance Leaf and Functional Checkout	1	LS	\$30,000	\$30,000
Electrical Replacement				
Replace Electrical System	1	LS	\$150,000	\$150,000
Control Desk	1	EA	\$10,000	\$10,000
Motors and Drives	1	LS	\$25,000	\$25,000
Submarine Cable	1	LS	\$40,000	\$40,000
Replace Bascule Span Barrier Gate	1	AS	\$50,000	\$50,000
Replace Bascule Span Traffic Gate	4	AS	\$30,000	\$120,000
Replace Movable Bridge Signal	2	AS	\$15,000	\$30,000
Replace Fender System Lighting	1	LS	\$10,000	\$10,000
Fender System Replacement				
Polymeric Piles	1,200	LF	\$50	\$60,000
Plastic Marine Lumber Wales	6.0	MB	\$10,000	\$60,000
Bascule Span - Total				\$3,480,500
				Bridge Total \$ 6,496,000
				Mobilization (10%) \$ 650,000
				Maintenance of Traffic (10%) \$ 650,000
				Contingency (25%) \$ 1,624,000
				Construction Total \$9,420,000
				Design (15%) \$ 1,413,000
				CEI (15%) \$ 1,413,000
				Post Design (3%) \$ 283,000
				PROJECT TOTAL \$ 12,529,000

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE REHABILITATION BRIDGE NO. 154000 PINELLAS COUNTY

REHABILITATION ALTERNATIVE (25 - 30 YEAR)

Item	Qty.	Unit	Unit Price	Cost
Approach Spans				
Abutment Repairs				
Replace Sand-Cement Riprap	3.2	CY	\$350.00	\$1,120
Replace Approach Guardrail (incl. bridge and end anchorages)	300.0	LF	\$70.00	\$21,000
Substructure Repairs				
Install Crutch Bents at Bents 2,3,4,5,8,9,10	7.0	EA	\$50,000.00	\$350,000
Remove Existing Jackets and Install Structural Pile Jackets	530.0	LF	\$2,000.00	\$1,060,000
Spall Repair Bent Caps	10.0	CF	\$175.00	\$1,750
Apply Spray Metalizing / Cathodic Protection	1,200.0	SF	\$55.00	\$66,000
Superstructure Repairs				
Remove Existing Barrier Rail	635.0	LF	\$10.00	\$6,350
Install Vertical Face Traffic Rail	635.0	LF	\$75.00	\$47,625
Hydroblast and Overlay Deck	705.0	SY	\$165.00	\$116,325
Clean and Seal Deck Joints	252.0	LF	\$70.00	\$17,640
Spall Repair Beams	10.0	CF	\$175.00	\$1,750
Spall Repair Underside of Deck	10.0	CF	\$175.00	\$1,750
Apply Spray Metalizing / Cathodic Protection	8,890.0	SF	\$55.00	\$488,950
Approach Spans - Total				\$2,180,260
Bascule Span				
Bascule Pier Repairs				
Replace Bascule Pier	1.0	LS	\$500,000.00	\$500,000
Replace Rest Pier	1.0	LS	\$250,000.00	\$250,000
Control House Repairs				
Renovate Control House	1.0	LS	\$15,000.00	\$15,000
Bascule Leaf Repairs				
Replace Bascule Leaf including Counterweight	1.0	LS	\$1,500,000	\$1,500,000
Machinery Repairs				
Replace Span Locks	2.0	EA	\$10,000.00	\$20,000
Replace Live Load Shoes	2.0	EA	\$5,000.00	\$10,000
Replace Main Drive Machinery	1.0	LS	\$50,000.00	\$50,000
Balance Leaf and Functional Checkout	1.0	LS	\$25,000.00	\$25,000
Electrical Repairs				
Replace Electrical System	1.0	LS	\$75,000.00	\$75,000
Replace Bascule Span Barrier Gate	1.0	AS	\$35,000.00	\$35,000
Replace Bascule Span Traffic Gate	2.0	AS	\$30,000.00	\$60,000
Replace Movable Bridge Signal	2.0	AS	\$10,000.00	\$20,000
Replace Fender System Lighting	1.0	LS	\$10,000.00	\$10,000
Fender System Repairs				
Replace Fender System	1.0	LS	\$100,000.00	\$100,000
Bascule Span - Total				\$2,670,000
				Bridge Total \$ 4,850,000
				Mobilization (8%) \$ 388,000
				Maintenance of Traffic (10%) \$ 485,000
				Contingency (30%) \$ 1,455,000
				Construction Total \$7,178,000
				Design (15%) \$ 1,077,000
				CEI (15%) \$ 1,077,000
				Post Design (2%) \$ 144,000
				PROJECT TOTAL \$ 9,476,000



Prepared By: T. Farrell, P.E.

Date: 7/17/2012

Reviewed By: J. Phillips

Date: 1/5/13

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE PRELIMINARY ENGINEERING REPORT BRIDGE NO. 154000 PINELLAS COUNTY

LOW-LEVEL MOVABLE BRIDGE

Item	Width ft.	Length ft.	Area sq.ft.	Unit Price	Cost
DEMOLITION EXISTING BRIDGE					
Approach Spans	28.0	317.5	8,890	\$45.00	\$ 400,050
Bascule Span	28.0	41.0	1,148	\$65.00	\$ 74,620
Demolition - Total					\$ 474,670
APPROACH SPANS					
Prestressed Flat Slab Superstructure w/ Drilled Shaft Bent Substructure	47.1	275.0	12,953	\$135.00	\$ 1,748,588
MOVABLE SPAN					
Single Leaf with Closed Bascule Pier and Pile Bent Rest Pier	47.1	85.0	4,004	\$1,250.00	\$ 5,004,400
Control Building	NA	NA	NA	\$43,000.00	\$ 43,000
Fender System	NA	NA	NA	\$100,000.00	\$ 100,000
Movable Span - Total					\$ 5,147,400
APPROACH ROADWAY					
Approach Slabs and Guardrail	NA	NA	NA	NA	\$ 35,000
Reconstruction and Resurfacing	NA	NA	NA	NA	\$ 474,600
Signing and Pavement Marking	NA	NA	NA	NA	\$ 36,400
Approach Roadway - Total					\$ 546,000
Subtotal					\$ 7,917,000
Mobilization (10%)					\$ 792,000
Maintenance of Traffic (10%)					\$ 792,000
Aesthetic Enhancements (10%)					\$ 792,000
Contingency (20%)					\$ 1,583,000
Construction Total					\$ 11,876,000
Design (15%)					\$ 1,781,000
CEI (15%)					\$ 1,781,000
Post Design (3%)					\$ 356,000
PROJECT TOTAL					\$ 15,794,000



Prepared By: T. Farrell, P.E.
 Date: 7/17/2012
 Reviewed By: J. Phillips
 Date: 1/5/13

ESTIMATED CONSTRUCTION COST

BECKETT BRIDGE PRELIMINARY ENGINEERING REPORT BRIDGE NO. 154000 PINELLAS COUNTY

MID-LEVEL FIXED BRIDGE

Item	Width ft.	Length ft.	Area sq.ft.	Unit Price	Cost
DEMOLITION EXISTING BRIDGE					
Approach Spans	28.0	317.5	8,890	\$45.00	\$ 400,050
Bascule Span	28.0	41.0	1,148	\$65.00	\$ 74,620
Demolition - Total					\$ 474,670
NEW BRIDGE					
Florida I-Beam and Deck Superstructure w/ Pile Bent Substructure	40.0	720.0	28,800	\$150.00	\$ 4,320,000
Fender System	NA	NA	NA	\$100,000.00	\$ 100,000
New Bridge - Total					\$ 4,420,000
APPROACH ROADWAY					
MSE Walls	NA	NA	16,500	\$30.00	\$ 495,000
Barrier Railing on Walls	NA	1,700	NA	\$75.00	\$ 127,500
Approach Slabs and Guardrail	NA	NA	NA	NA	\$ 35,000
Approach Roadway and Extensions	NA	NA	NA	NA	\$ 698,600
Signing and Pavement Marking	NA	NA	NA	NA	\$ 42,800
Approach Roadway - Total					\$ 1,356,100
Bridge Total					\$ 6,251,000
Mobilization (10%)					\$ 625,000
Maintenance of Traffic (10%)					\$ 625,000
Aesthetic Enhancements (10%)					\$ 625,000
Contingency (15%)					\$ 938,000
Construction Total					\$ 9,064,000
Design (10%)					\$ 906,000
CEI (10%)					\$ 906,000
Post Design (2%)					\$ 181,000
PROJECT TOTAL					\$ 11,057,000

Methodology Used to Calculate Approximate Right-of-Way Costs for the Proposed Fixed Bridge Alternatives, Options A and B

The following methodology was used to determine a range of values for potential right-of-way takes for the mid-level bridge options for the Becket bridge replacement.

1. Using the plan sheets, the affected parcels were identified by the Pinellas County Parcel ID and owners name as found in the Pinellas County Property Appraiser's database (as of June 2013). Additional information used from the data base for each parcel included:
 - a. Parcel area in square feet
 - b. Just Market Value (determined by the property appraiser)
 - c. Assessed Value
 - d. Sales Comparison Value (determined by the property appraiser based on sales of similar properties in the area.)
2. Based on the above information a value per square foot was calculated.
3. Using the proposed new right-of way boundaries, the area of the take was calculated. For parcels identified as whole takes, the area from the Property Appraiser's database was used.
4. The propose area of the right-of-way takes was then multiplied by the value per square foot to calculate the "ROW Value". *Note that this value is a raw value and does not include a potentially negotiated higher price for the right-of-way, administrative costs, legal costs, business damages, or potential relocation costs all of which are unknown and which can vary widely and significantly to the cost of the take.*
5. To compensate for these unknown costs, the calculated value of the right-of-way take was multiplied by a range factor of 2.5 to 3.0 to obtain the estimated low and high range cost values.

The results are presented in the attached tables.

1. Parcels highlighted in green require a take of the entire parcel.
2. There were three parcels that were split by Spring Bayou Blvd. The portions of the parcels located to the south of the roadway provide waterfront access for these parcels, two of which have docks. These split parcels are listed below the main parcel (also highlighted in green) in the table were calculated separately as full takes because their waterfront access will be cut off.
3. Two additional parcels will lose their waterfront access and one additional parcel is a stand-alone small waterfront parcel with no dock.

4. For the parcels owned by Bay Shore Park, Inc. and Sebot, Inc. there were no sales comparison data listed in the Property Appraiser's Database. To estimate these values the average percentage difference between the Just Market Value and the Sales Comparison Values of the other properties was added to the Just market Value for these properties.
- 5.

The following table presents the result right-of-way cost estimates summary for the two options.

Right-of-Way Cost Estimates

Fixed Bridge Alternative	Total Row Required (square feet)	Raw ROW Cost (\$ millions)	Row Cost x 2.5 (\$ millions)	ROW Cost x 3.0 (\$ millions)
Option A	86,620	1.35	3.4	4.1
Otpion B	80,856	0.96	2.4	2.9



APPENDIX I

Drainage Calculations



Project: BECKETT BRIDGE, TARPON SPRINGS, FLORIDA
Subject: PRE-/POST-DEVELOPMENT CONDITIONS, PREFERRED ALTERNATIVE
Project No: 12010459.00003

Sheet: 1 of 2
Computed By: RJD Date: 1/30/2013
Checked By: Date:

EXISTING CONDITIONS - PROJECT AREA

SEGMENT	LENGTH	IMPERV. WIDTH (FT)	IMPERV. AREA (SF)	PERVIOUS AREA (SF)	TOTAL AREA (SF)	DESCRIPTION
Riverside Dr. West	524.68	24.50	12854.66	2098.72	14953.38	
Beckett Bridge	360.00	28.04	10095.12	0.00	10095.12	
Riverside Dr. East	745.00	24.50	18252.50	2980.00	21232.50	
TOTALS (SF)			41202.28	5078.72	46281.00	
TOTALS (AC)			0.95	0.12	1.06	
%			89.03	10.97		

PROPOSED CONDITIONS - MOVEABLE REPLACEMENT

SEGMENT	LENGTH	IMPERV. WIDTH (FT)	IMPERV. AREA (SF)	PERVIOUS AREA (SF)	TOTAL AREA (SF)	DESCRIPTION
Riverside Dr. West	524.68	38.00	19937.84	1049.36	20987.20	sidewalk, N side-38 ft.
Beckett Bridge	360.00	47.08	16949.88	0.00	16949.88	widen bridge
Riverside Dr. East 1	445.00	46.00	20470.00	1780.00	22250.00	sidewalk both sides-46 ft.
Riverside Dr. East 2	70.00	40.00	2800.00	140.00	2940.00	sidewalk, S side-40 ft.
Riverside Dr. East 3	230.00	34.00	7820.00	460.00	8280.00	no sidewalk-34 ft.
TOTALS (SF)			67977.72	3429.36	71407.08	
TOTALS (AC)			1.56	0.08	1.64	
%			95.20	4.80		

NEW IMPERVIOUS AREA - ROADWAYS SF AC
MOVEABLE REPLACEMENT = 26775.44 0.61

NEW IMPERVIOUS AREA - BRIDGE
MOVEABLE REPLACEMENT = 6854.76 0.16

TOTAL NEW IMPERVIOUS AREA
MOVEABLE REPLACEMENT = 33630.20 0.77

PRE-DEVELOPMENT, MOVEABLE REPLACEMENT

Impervious Area = 0.95
Pervious Area = 0.12
Total Area = 1.07

POST-DEVELOPMENT, MOVEABLE REPLACEMENT

Impervious Area = 1.56
Pervious Area = 0.08
Total Area = 1.64

Water Quality Retention Treatment Volume Required (SWFWMD criteria - Outstanding Water of the State)

W.Q. Volume, first 1.5-inch of runoff from impervious =	0.195	ac-ft	PRE-DEVELOPMENT
W.Q. Volume, first 1.5-inch of runoff from impervious =	0.000	ac-ft	POST-DEVELOPMENT
W.Q. Volume, first 1.5-inch of runoff from impervious =	-0.195	ac-ft	NET INCREASE, POST-DEVELOPMENT



Project: BECKETT BRIDGE, TARPON SPRINGS, FLORIDA
Subject: PRE-/POST-DEVELOPMENT CONDITIONS, POND SIZE
Project No: 12010459.00003

Sheet 2 of 2
Computed By: RJD Date: 1/30/2013
Checked By: _____ Date: _____

PROPOSED POND, MOVEABLE REPLACEMENT

1. Pond Depth for Treatment and Attenuation (H)

H = Depth to SHWT - Freeboard

SHWT Depth = 2.5 ft (from ground elev.)
Freeboard = 0.5 ft

H = 2 ft

2. Total Peak Storage Volume Required (Net Increase)

Vol. _{PEAK} = Treatment Vol. + Attenuation Vol.

Vol. _{TREAT} = 0.076 ac-ft >>>> 3,310.6 cu.ft.
Vol. _{ATTEN} = 0.000 ac-ft >>>> 0.0 cu.ft.

Vol. _{PEAK} = 3,310.6 cu.ft.

3. Surface Area of Pond with Vertical Sides

Vol. = L_{RECT} X W_{RECT} X H

Assumption: L / W = 2

L_{RECT} = 57.5 ft (length of vertical sided pond)
W_{RECT} = 28.8 ft (width of vertical sided pond)

4. Dimensions Including Side Slopes

Side Slope = 4 ft/ft (hor/vert)

L_{RECT} = 65.5 ft (length at top of slope)
W_{RECT} = 36.8 ft (width at top of slope)

Water Surface = 0.055 ac (water surface at peak design stage)

5. Dimensions and Area Including Maintenance Berm

Berm Width = 20 ft
Contingency = 10%
L_{TOP} = 105.5 ft
W_{TOP} = 76.8 ft

Total Surface Area

Area =	8,912	sq.ft.
Area =	0.205	acre



APPENDIX J

MOA



FLORIDA DEPARTMENT *of* STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Ms. Linda Anderson
US Department of Transportation
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

February 2, 2015

Re: Memorandum of Agreement: Beckett Bridge (FDOT Bridge No. 154000), Pinellas County

Dear Ms. Anderson:

In accordance with the procedures contained in 36 CFR Part 800, this office reviewed and signed four copies of the referenced Memorandum of Agreement. We are returning three of the signed original copies of the Agreement, and retaining one for our files.

If you have any questions concerning these comments, please contact Alyssa McManus by email alyssa.mcmanus@dos.myflorida.com, or at 850.245.6333 or 800.847.7278.

Sincerely

Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer



Division of Historical Resources
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399
850.245.6300 • 850.245.6436 (Fax) flheritage.com
Promoting Florida's History and Culture VivaFlorida.org



Beckett Bridge, FDOT Bridge No. 154000
Over Whitcomb Bayou, City of Tarpon Springs
Pinellas County, Florida

**MEMORANDUM OF AGREEMENT
BETWEEN THE UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION AND THE FLORIDA STATE
HISTORIC PRESERVATION OFFICER
REGARDING THE BECKETT BRIDGE (FDOT BRIDGE NO. 154000)
OVER WHITCOMB BAYOU, CITY OF TARPON SPRINGS
PINELLAS COUNTY, FLORIDA**

WHEREAS, the U.S. Department of Transportation, Federal Highway Administration (FHWA), proposes to provide financial assistance for replacement of Beckett Bridge over Whitcomb Bayou from Chesapeake Drive to Forest Avenue, City of Tarpon Springs, Pinellas County, Florida (Florida Department of Transportation Financial Project Identification Number 424385-1 and Federal Aid Project Number S129-343) (the Project); and,

WHEREAS, the undertaking consists of replacing the existing Beckett Bridge (FDOT Bridge No. 154000) with a new bridge on approximately the existing alignment and will require removal of the existing historic Beckett Bridge; and,

WHEREAS, the FHWA and the Florida State Historic Preservation Officer (SHPO) have determined that the Beckett Bridge (FDOT Bridge No. 154000), recorded in the Florida Master Site File (FMSF) as 8PI12017, is eligible for listing in the National Register of Historic Places (NRHP); and,

WHEREAS, the FHWA has consulted with the Florida SHPO pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act [16 U.S.C. Section 470(f)], and has determined that the proposed project will have an adverse effect on the Beckett Bridge (FDOT Bridge No. 154000) and that the consultation efforts have been documented within the Cultural Resources *Section 106 Effects Consultation Case Study Report for the Beckett Bridge*, hereafter referred to as the Section 106 Report; and,

WHEREAS, the Florida Department of Transportation (FDOT) has participated in the consultation and has been invited to be a signatory to this Memorandum of Agreement (MOA); and,

WHEREAS, Pinellas County has participated in the consultation as the owner of the Beckett Bridge and has been invited to be a signatory to this MOA; and,

WHEREAS, the public has been afforded the opportunity to express their opinion regarding mitigation options, as documented in the Section 106 Report; and,

NOW THEREFORE, FHWA, FDOT, Pinellas County and the Florida SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in consideration of the effects this undertaking will have on the referenced historic property:

Beckett Bridge, FDOT Bridge No. 154000
Over Whitcomb Bayou, City of Tarpon Springs
Pinellas County, Florida

STIPULATIONS

FHWA will ensure that the following stipulations are implemented.

I. Design and Construction of the Project

- A. Pinellas County will ensure that the new bridge will be constructed on approximately the existing alignment and there will be no changes to the proposed project as identified in the Section 106 Report (June 2014) for the project without consultation with the FHWA and the SHPO, pursuant to Stipulation VII.C.
- B. The design of the new bridge will be a single-leaf, rolling lift bridge type of similar design and scale to the historic Beckett Bridge.
- C. Pinellas County will create an aesthetics committee consisting of representatives from the adjacent community, City of Tarpon Springs, Tarpon Springs Historical Society, and FHWA, to serve in an advisory capacity regarding appropriate design elements for the replacement bridge that may be addressed during the development of the Project.
- D. Should there be any substantive alterations to the project design that could result in adverse effects to historic resources not addressed in this agreement, Pinellas County and FDOT shall notify FHWA, who will notify the SHPO of these alterations and provide the Florida SHPO with an opportunity to review and comment on the alterations.

II. Documentation of the Beckett Bridge

- A. Prior to the salvage of the engineering elements and demolition of the bridge, Pinellas County will perform the following documentation of the Beckett Bridge (FDOT Bridge No. 154000; FMSF No. 8PI12017) in accordance with Historic American Engineering Record (HAER) standards;
 - 1. Drawings – Select drawings of the existing bridge plans, as available, scanned and provided in an acceptable digital format (i.e. jpeg files).
 - 2. Photographs – Photographs with large-format negatives of context and views from all sides of the bridge and approaches, roadway and deck views, and noteworthy features and details. All negatives and prints will be processed to meet archival standards. One photograph of a principal elevation shall include a scale.

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3. Written Data – Report with narrative description of the bridge, summary of significance, and historical context (primarily derived from the Cultural Resource Assessment Survey).
- B. Pinellas County will provide all copies of the documentation completed in accordance with Stipulation II.A to FDOT for review and distribution. FDOT will submit the documentation to the parties as follows:
1. An archival copy to the U.S. Department of Interior, National Park Service Southeast Regional Office for review and approval prior to demolition of the structure, per HAER guidelines; and
 2. A non-archival copy and electronic copy to the FDOT; and
 3. An electronic digital copy for FHWA; and
 4. An archival copy and an electronic digital copy to the Florida SHPO for inclusion in the Florida Archives and the Florida Master Site File (FMSF); and
 5. A non-archival copy to the Tarpon Springs Historical Society.

III. Salvage and Reuse of Existing Bridge Elements

- A. Pinellas County will ensure representative, significant engineering elements from the Beckett Bridge will be identified and salvaged. These elements may be incorporated into the design of the new bridge, or displayed in accordance with paragraph C of this Section. The reuse of these historic elements will be determined by Pinellas County in coordination with the aesthetics committee and will not require consultation with FDOT, FHWA or SHPO.
- B. Pinellas County will ensure that the bridge elements determined important for salvage are removed in a manner that minimizes damage and are stored in an area protected from human and natural damage until elements can be reused on the new bridge, or elsewhere displayed in accordance with paragraph C of this Section.
- C. If during construction it is determined that the existing bridge elements are not salvageable for reuse into the design of the new bridge, Pinellas County will salvage a few intact elements for display in a location identified by Pinellas County and within the vicinity of the new bridge.

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- D. Pinellas County will ensure that the existing historic bridge plaque will be removed and stored in an area protected from human and natural damage until it can be incorporated into the new control house that will be constructed as part of the new bridge. The bridge plaque will be placed on the new control house so that it is visible to pedestrians.

IV. Public Education

Pinellas County will ensure that information regarding the Beckett Bridge, which is suitable for inclusion in a “public-facing website for project information and educational purposes” and/or suitable for use on a mobile device, such as “What Was There” or “Next Exit History”, is developed. This information will provide a historic account of the bridge to educate the public on its history.

V. Archeological Monitoring/Discoveries

Pinellas County, in consultation with the FHWA and the Florida SHPO, will ensure efforts to avoid, minimize or mitigate adverse effects to any discoveries of significant archaeological resources inadvertently discovered during the Project are addressed in accordance with 36 CFR 800.13(b). All records resulting from archaeological discoveries shall be handled in accordance with 36 CFR 79; and shall be submitted to the Florida SHPO.

VI. Professional Qualifications

All architectural history work carried out pursuant to this Agreement shall be conducted by, or under the direct supervision of, a person or persons meeting the Secretary of the Interior’s Professional Qualifications Standards for Architectural History (48 FR 44738-9); and that all archaeological work carried out pursuant to this Agreement shall be conducted by, or under the direct supervision of, a person or persons meeting the Secretary of the Interior’s Professional Qualifications Standards for Archaeology (48 FR 44738-9).

VII. Administrative Stipulations

- A. Should any signatory party to this Agreement object in writing to FHWA regarding any action carried out or proposed with respect to the undertaking or implementation of this Agreement, FHWA shall consult with the objecting party to resolve the objection. If after initiating such consultation FHWA determines that the objection cannot be resolved through consultation, FHWA shall forward all documentation relevant to the objection to the Advisory Council on Historic Preservation (ACHP), including FHWA’s proposed response to the objection. Within 30 days

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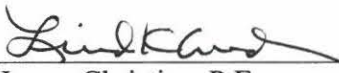
after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:

1. Provide FHWA with written concurrence of the agency's proposed response to the objection, whereupon FHWA will respond to the objection accordingly;
 2. Provide FHWA with recommendations, which the agency will take into account in reaching a final decision regarding its response to the objection; or
 3. Notify FHWA that the objection will be referred for comment pursuant to 36 CFR Part 800, and proceed to refer the objection and comment. FHWA shall take the resulting comment into account in accordance with 36 CFR Part 800 and Section 110 (1) of the NHPA.
- B. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, FHWA will assume the ACHP's concurrence in its proposed response to the objection, and will respond to the objection accordingly. Any recommendation or comment provided by the ACHP will be understood to pertain only to the subject of the dispute.
- C. If the terms of this Agreement have not been implemented by December 31, 2030, this Agreement will be considered null and void. In such event FHWA will so notify the signatories to this MOA, and if they choose to continue with the undertaking, shall reinstate review of the undertaking in accordance with 36 CFR Part 800.
- D. Any signatory party to this MOA may request that it be amended, whereupon the signatory parties will consult in accordance with CFR Part 800.6 to consider such an amendment. All parties must signify their acceptance of the proposed changes to the MOA in writing within 30 days of their receipt. This MOA shall only be amended by a written instrument executed by all the parties. The amendment will be effective on the date of signature of the last party to sign the amendment. When no consensus can be reached, the Agreement will not be amended.
- E. The effective date of this MOA will be the date of the last signature. The signatory parties agree this MOA shall continue in full force until it is amended or terminated, as provided in Stipulations VI.D and VI.C, respectively.

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Execution of this MOA by the FHWA, FDOT, Pinellas County, and Florida SHPO, and implementation of its terms, provides evidence that the FHWA has taken into account the effects of the Project on historic properties, and FHWA has satisfied the requirements of Section 106 of the National Historic Preservation Act [16 U.S.C. 470 (f)].

Federal Highway Administration

By:  Date: 1/15/15
James Christian, P.E.
Division Administrator


Florida State Historic Preservation Officer

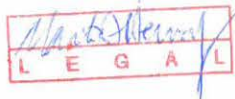
By:  Date: 1/29/15
Robert F. Bendus
State Historic Preservation Officer

Pinellas County


By:  Date: 12/5/14
Mark S. Woodard
~~Interim~~ County Administrator

Florida Department of Transportation

By:  Date: 01/10/15
Paul J. Steinman, P.E.
District Seven Secretary



Approved as to Form:

By: 
Office of County Attorney