## Welcome

### **Howard Frankland Bridge Industry Forum**





## Howard Frankland Bridge Industry Forum September 17, 2018

#### I-275 Howard Frankland Bridge from North of SR 687 (4th St. N.) to South of SR 60

Pinellas and Hillsborough Counties, Florida

Financial Project Numbers: 422904-2, 422904-4, 444184-1 & 422904-9

Contract Number: E7R10

#### **David Gwynn, P.E.** FDOT District Seven Secretary

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#### **Industry Forum Agenda**

- ► Tampa Bay Next Overview
- Project Benefits
- Team Introductions
- Support Services
- Project Information
- Procurement



## **The New Approach:**



More than just interstate highways

A program with a big emphasis on public involvement and a genuine two-way flow of information

Looking for ways to enhance the community through transportation improvements

Collaborative, integrated, flexible and multimodal



#### **Input Leads to Action**

# We've been doing a lot of public involvement

"I don't feel safe biking or walking."

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"I'm sick of daily traffic backups. Fix the bottlenecks."



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## **HFB Project Benefits**

- Improves incident management and hurricane evacuation
- Replaces aging infrastructure, adding safety, capacity and mobility
- Includes bicycle/pedestrian trail
- Construction sequence minimizes impacts to public, cost and construction duration
- Accommodates future demand
- Accommodates future transit

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## **Team Introductions**

**Design Project Manager** 

Marshall Hampton, P.E., Project Manager

**Construction Project Manager** Tom Lay, CCEI Project Manager

**Contract Compliance Manager** 

**FDOT Supportive Services** 

**CEI Team, Atkins N.A.** 

Mary Blasewitz, District Compliance Manager

Jill Cappadoro, Thomas Huggins III, Tom Quinn

Marianne Brinson, P.E., Ben Molenaar



#### **FDOT Technical Review Committee**

- Megan Arasteh, P.E.Assistant District Construction EngineerGreg Deese, P.E.CCEI Resident EngineerGautom Dey, P.E.District Structures Design EngineerSam Joseph, P.E.District Materials And Research EngineerTom LayCCEI Project Manager
- \* TRC members subject to change



#### **Assisting Contractors with Workforce Solutions**

#### **FDOT Supportive Services Programs**

#### **Jill Cappadoro**



#### **FDOT On-the-Job Training Supportive Services**



A statewide initiative of the Florida Department of Transportation Central Office to help contractors recruit capable workers for road and bridge construction projects



## How does this program help contractors?

- No cost to contractors or job candidates
- Recruit experienced and entry-level workforce
- Customized recruitment and career fairs
- ► Identify open positions and future needs
- Mentoring for resume development, application support, interview skills





## **Support Developing and Hiring Qualified Workers**



#### Building a pipeline of workforce

- ► Life skills for construction careers
- ► Basic math, reading, grammar
- Road construction terminology
- Safety practices and procedures
- Resume/application preparation
- Job interview preparation

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#### Recruiting skilled & entry level workers

- An extension of your firm's efforts
- ► Job fairs, high school seniors
- ► Construction Career Days events
- ► Pre-screening for skills readiness
- ► Diversity, women and veterans

## So, how can you get started?

#### We're here to serve you.

- Website: OnBoard4Jobs.com
- Email: OnBoard4Jobs@QCAusa.com

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Phone: 866-662-6273 (x3)

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#### **Assisting Small and Disadvantaged Businesses**

#### **FDOT Supportive Services Programs**

#### **Thomas Huggins III**



## **FDOT Supportive Services Programs**

- Construction Management Development Program/ Bond Guarantee Program (state funded)
- Disadvantaged Business Enterprise (DBE)/ Supportive Services Program (FHWA funded)
- Specialized Development Program (SDP) (state funded)





## **Specialized Development Program**

Program was created by FDOT in 2012

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- Designed to assist prime contractors on major projects (\$50 million +) and identify qualified DBEs to take advantage of subcontracting opportunities
- Currently the program is assisting 22 prime contractors on 46 projects worth almost \$10 billion
- Has assisted DBEs that have received over \$400 million in contracts
- Provider: Florida State Minority Supplier Development Council (FSMSDC) and Ariel Business Group



## **Specialized Development Program**

- Assistance to Primes to meet their DBE goals on large projects
- ► Technical Assistance Referrals
- ► DBE Capacity Assessments
- Bonding and Financing Referrals
- Administers the Bridging the Gap Pilot Program





## **Specialized Development Program Process**

- Identification of Interested and Qualified DBEs
- Pre-proposal meeting
- Shortlist announced
- Specialized development program DBE pre-bid forum
- Participate in construction project meetings





## **Specialized Development Program Process**

#### **Contact info:**

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Thomas Huggins III Bonnie Oliver Mark Jackel 813.207.0003 813.207.0003 407.474.8556

Project Director Project Consultant Project Consultant

Toll Free: 855-422-3368 Website: www.FDOTDBEServices.com



#### **Assisting Small and Disadvantaged Businesses**

#### **FDOT Supportive Services Programs**

#### **Tom Quinn**





# Your Road to Working with FDOT



#### Construction Management Development Program / Bond Guarantee Program

- Classroom and Online Training for DBEs and SBEs
- Business Management
- Construction Accounting
- Construction Math and Estimating
- Contracts, Specifications and Law
- Scheduling for FDOT
- Plan Reading for FDOT
- On-the-job-training (technical assistance)
- Bonding





#### Disadvantaged Business Enterprise (DBE) Support Services Program

- ► Certification assistance
- New DBE orientations
- Basic needs assessments
- General matchmaking assistance
- Outreach and recruiting
- Bid matching assistance









## Capability Statement Program









Tom Quinn 407-394-8684 Jackie DelRio 941-822-9415 Main Office 800-423-7058

#### www.CMDP-BGP.com www.FDOTdbesupportservices.com





# **Project Overview**

Marshall Hampton, P.E. Special Projects Administrator Project Manager



#### **Coordination with Adjacent Projects**

	2017	2018	2019	2020	2021	2022	2023	2024
Howard Frankland Bridge			NTP 12/2019			*CONSTRUC COMPLETE 0		JCTION 07/2024
Gateway Expressway	NTP 8/21/2017					*CONSTRUCTION COMPLETE 12/2021		
I-275 Operational Improvements		NTP 02/2019			*CONSTRUCTI COMPLETE 12	'ION 2/2020		
4th St. Bridges over Big Island Gap					NTP 01/2022	*C CON	ONSTRUCTION IPLETE 01/2024	

NTP = Notice to Proceed

\* Anticipated dates - subject to change

![](_page_28_Picture_4.jpeg)

#### 2020 Bridge

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![](_page_29_Figure_1.jpeg)

#### Accommodating Future Light Rail Transit

![](_page_30_Figure_1.jpeg)

![](_page_31_Picture_0.jpeg)

![](_page_32_Picture_0.jpeg)

![](_page_33_Picture_0.jpeg)

![](_page_34_Picture_0.jpeg)

![](_page_35_Picture_0.jpeg)






## PD&E Commitments & Environmental Permitting Ginger Creighton District Environmental Permits Coordinator

## **PD&E and Permitting**

- Type II Categorical Exclusion Approved May 2018
- PD&E Commitments (total of 14)
- Permitting Status



## **Environmental Permitting**

Agency	SWFWMD	USACE	USCG
Application No	771694	SAJ 2018-01907 (SP-RLT)	16591/2996
Submittal Date	9/10/2018	7/2/2018	7/10/2018



## **Seagrass Mitigation**

- The Department will provide the mitigation to offset the proposed seagrass impacts identified in the Howard Frankland Bridge Concept Plans
  - Mitigation credits will be obtained from the Old Tampa Bay Water Quality Improvement Project (439206-1) which is currently under construction
- ► Any additional seagrass impacts will be the Design-Build Firm's responsibility
- Old Tampa Bay Water Quality Improvement Project will also provide compensatory treatment for stormwater runoff so no treatment will be necessary within the HFB project



## **Vessel Restrictions**

- Vessel cautionary zones have been established to protect remaining seagrass beds adjacent to the construction limits (NW of corridor)
  - No mooring of vessels shall occur in these areas overnight
  - Brief use in these areas during high water levels/tides are anticipated and use is at the Design-Build Firm's risk
- Mooring of vessels shall be done within the Department's existing right of way unless additional approvals from FDEP, Port Tampa Bay, and USCG are obtained



## **Nighttime In-Water Work**

- The Department has reentered into consultation with the NMFS to define 'no nighttime in-water work' as:
  - "work below the water's surface such as pile driving and sheet pile driving"
  - If accepted, the movement of materials on the water or other barge and vessel operations will not be restricted







## Hydroacoustic Noise

#### Legend

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Bridge Length = 15,893 ft (3.01 mi)

- Assumed Bent Distance 143 ft
  - Combined Behavioral Disturbance Radius Pile Driving Operation

~3,000 ft Behavioral Disturbance Distance (anticipated) for four work areas (1,037 ft radius per operation)

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Low noise gap must be at least 4,000 linear feet

Noise source (pile driving location)



## **Seawalls and Riprap**

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- Proposed seawalls should be designed to account for scour
  - Riprap has been minimized/eliminated to reduce/avoid seagrass impacts
- Any changes to the proposed seawall locations and riprap limits will require an ATC
- Each team must submit a proposed causeway widening and seawall construction sequence for approval through the ATC process



## **Wetlands and Surface Waters**

- There shall be no dredge and fill in wetlands or surface waters associated with the bike/ped path (including upland cut ditches) east of MM 0.500
- Use of boardwalk may be required for bike/ped path construction

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## **Materials Disposal**

- Design-Build Firm's options for disposal of demolished materials from the 1960 Bridge:
  - Port Tampa Bay needs material to fight erosion issues associated with a spoil island
  - The Department is evaluating filling dredge holes for seagrass mitigation
  - Artificial Reef
  - Other



# **Project Information**

Marshall Hampton, P.E. Special Projects Administrator Project Manager

## **Concept Plans – Estimated Quantities**

Asphalt – 130,000 TN Embankment – 768,000 CY Seawall – 100,000 SF Riprap – 45,000 TN Barrier Wall – 142,500 LF MSE Wall – 64,000 SF





## **Pinellas Causeway Typical Section**





### Pinellas Causeway Fly-through – SEE ADDITIONAL FILE



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## Hillsborough Causeway-

#### **I-275 Operational Improvements Interface**



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### **Hillsborough Causeway Typical Section**



### Hillsborough Causeway Fly-through – SEE ADDITIONAL FILE



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## Bike/Pedestrian Path Typical Sections Causeways

#### **Bike/Ped Bridge Approaches**

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## **Temporary Traffic Control Plan**

- Vast majority of work is expected to be conducted without traffic impacts
- Lane closure restrictions between 6:00 a.m. and 9:00 p.m.
- Tolling: Traffic will not be placed on express lanes until tolls are ready





## **Emergency Access Gates**

- ► Sliding barrier (~5 locations)
- On-site and remote operation capability
- Requires power and communications





# Structures

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## **Bridge Typical**



## **LRT Design Criteria**

- Future LRT shall use a non-ballasted deck with a booted tie block system and rails anchored to concrete ties
- Dead Loads
  - Track rails 200 plf/track
  - Tie-Block System 2500 plf/track
  - Utilities 450 plf/track
- Live Load

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- Shall be based on Articulated Low-Floor Diesel LRT (no freight)
- Electrical isolation/stray current protection of bridge rebar is under consideration



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## **New Bridge Profile**

- ► 2 percent maximum grade
- ► Match or exceed navigation clearance of 1990 bridge
- ► Low member elevation at or above wave height criteria
- ► ATC is required for modifications to the I-275 CDP vertical geometry that:
  - Lowers the profile
  - Raises the profile by 2-ft or more



## Maximum Wave Height Computed by Coupled ADCIRC/SWAN Simulation



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## **Wave Height Criteria**

Summary of 100-year Design Elevations

Component	Elevation	
Storm Surge	10.3 ft - NAVD88	
Wave Height	7.2 ft	
Freeboard	1.0 ft	
TOTAL	18.5 ft - NAVD88	

## **Pier Configurations**

- Pier configurations to be consistent with the 1990 bridge
  - Low level: multi-column pier



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## **Structure Related ATCs**

- The span lengths for the new bridge shall match the span lengths of the adjacent 1990 bridge unless an alternate span arrangement is approved through the ATC process
- All Prefabricated Bridge Elements and Systems (PBES) shall be submitted to the Department for approval through the ATC process





## **Vessel Collision Design Criteria**

The Department is currently evaluating vessel collision design parameters and additional information will be provided in a future Draft RFP



## **Bridge Overlooks**

- ► 4 locations
  - Size to accommodate potential amenities
  - Loading criteria to be provided in RFP —



1'-10"

## **ITS Maintenance Platforms**

- ► ~ 6 ITS Maintenance Platforms
- ► To be located off north fascia coping
- Size to accommodate equipment and maintenance access
- Bullet railing to gap at the platforms






# **Navigation Fender System**

- All existing fender system to be removed
- New fender system to be installed with 75' minimum horizontal clearance

#### Pinellas Causeway – Bike/Ped Bridge





#### Hillsborough Causeway – Bike/Ped Bridge





# **1990 Bridge Rehab**

- Retrofit existing lighting with LED fixtures
- Replacement of selected finger joints
- ► New pavement marking
- Work to be performed after southbound traffic is shifted to new bridge





### **Miscellaneous Structures**

- Permanent MSE and Sheet Pile Walls
- ▶ 8 Cantilever Signs (1 on new bridge)
- ► 28 Span Signs (7 on new bridge)
- ► 2 Non-Accessible Toll Gantries
- ► 2 Toll Buildings



# Geotechnical Terry Puckett, P.E.

**District Materials Geotechnical Engineer** 

Kisan Patel, P.E. District Pavement Evaluation Engineer

#### **Geotechnical Data**

- Available Geotech Reference information has been included on the District Seven DB FTP site
- R004 Geotech Data
  - R004.01 1990 Test Pile Drilled Shaft Data
  - R004.02 Geotechnical Report 2018 Data
  - R004.03 Load Test Papers 1995
  - R004.04 Bridge 150210 Geotech



# R004.01 1990 Test Pile and Drilled Shaft Data

- ► General Site Layout
- Description of Soils Encountered
- ► Four Loaded (Static) Test Sites
  - 24 inch and 30 inch Driven Piles
  - 36 inch Drilled Shaft
- ► 15 Unloaded (Dynamic) Test Sites
  - 24 inch and 30 inch Driven Piles



# **R004.02 Geotechnical Report – 2018 Data**

- ► 28 Bridge Standard Penetration Test (SPT) borings
  - 10 Locations with Rock Cores
- Seawall SPT Borings
  - 14 Hillsborough Side
  - 16 Pinellas Side
- Boring Locations by Professional Surveyor
- Rotating Erosion Testing Apparatus (RETA) Data
- Geophysical Data Marine Seismic Refraction Survey



### **Boring Locations**

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## **Boring Locations**





## **Boring Locations**





# Marine Seismic Refraction Survey

- ► 3 Parallel Lines
  - 20,000 Linear Feet
  - 85 Feet apart
- Compression (P-wave) Velocity
- Tomographic Model
  - Bathymetric Data
- Quality of Data

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Compared with the Preliminary Boring Data











#### **Geophysical Survey Compared to SPT Borings**





## **R004.03 Load Test Papers – 1995**

 Published papers presented based on load tests and pile driving data



### R004.04 Bridge 150210 Geotech Data

- SPT Borings from Both Existing Structures
- ► Pile Logs from Southbound Structure
- Excel Spreadsheet Summarizing the Pile Tip Elevations



#### HOWARD FRANKLAND PILE TIP ELEVATION



**PIER NUMBER** 

#### **Geotechnical Conditions**

Variable geotechnical conditions will not be considered differing site conditions by the Department



# ITS

# Intelligent Transportation Systems Marshall Hampton, P.E. Special Projects Administrator Project Manager

# ITS

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- ► ~ 12.4 miles of 144-count fiber optic cable
  - A portion of the ITS Project Limits include fiber installed on both sides of I-275
  - Maintenance of Communication Plan
  - Coordinate with Gateway project regarding location of splice vault
  - Coordinate with I-275 Operational Improvement project to determine location of fiber optic cable along northbound I-275



# ITS



#### Includes

- ► 2 Freeway DMSs
- ► 5 Express Lane DMSs
- ► 6 Lane Status DMSs
- ► 12 Toll Amount DMSs
- ▶ 1 Arterial DMS 4th Street N
- ► ~56 MVDSs

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- ½ mile spacing for General Purpose Lanes
- ¼ mile spacing for Express Lanes

- ~14 PTZ CCTV cameras for incident management
  - <sup>3</sup>⁄<sub>4</sub> mile spacing
- ~18 Fixed Position CCTV cameras for DMS confirmation
- ► 1 RWIS

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# Tolling



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## **Express Lanes and Tolls**

- Florida Turnpike Enterprise (FTE) manages tolling
- 2018 General Tolling Requirements (GTR)
- Design-Build Firm to work with FDOT District 7 on tolling



FLORIDA'S TURNPIKE



# Toll Site - Pinellas Northbound Express Lane Entrance





# Toll Site - Hillsborough Southbound Express Lane Entrance







# Additional Coordination & Utilities

## **St. Pete Monument**

- Monument located within limits of the project improvements
- Coordinating with City of St. Petersburg







- Only known utilities are power service feeds
- ► Existing utility providers are:
  - Duke Energy (Pinellas)
  - TECO (Hillsborough)



# District Construction & Procurement

# **Contract Duration**

► Department's anticipated contract duration is **55 Months** 

- No intermediate milestones are anticipated
- Contract duration includes 1990 bridge rehab and demolition of the 1960 bridge
- Schedule takes into consideration the current environmental permit related work constraints



# Procurement

#### **Two Phase Adjusted Score**

- Phase I = 20 points (Letter of Interest)
  - Past Performance Evaluations, Design-Build Project Experience, Organization, and Staffing (0-7 Total Points)
  - Design-Build Project Requirements and Critical Issues (0-13 Total Points)

 Phase II = 80 points (Technical Proposal Score)

ltem	Value
Design	30
Construction	30
Value Added	5
Innovation	5
Environmental	10
Sensitivity	



### **Procurement**

- Final Adjusted Score = Bid Price Proposal/Technical Score
- ► 4 Shortlisted Teams (more in case of a tie)
- ► Stipend Amount: \$1,531,995
- Disadvantaged Business Enterprise Goal
  - 10.65% DBE Aspirational Goal
  - 3% Non-DBE Small Business Aspirational Goal



## **Procurement Schedule**

**Official Advertisement** Letters of Interest Due Post Shortlist Mandatory Pre-proposal Meeting **Technical Proposals Deadline for Questions Responses to Questions Price Proposals Selection Meeting/Final Posting Anticipated Award Date** Notice to Proceed

December 10, 2018 January 11, 2019 February 18, 2019 March 7, 2019 August 6, 2019 September 5, 2019 September 12, 2019 October 8, 2019 October 15, 2019 November 8, 2019 December 10, 2019

Schedule accommodates 4 ATC meetings


### **Resources available on FDOT Website**



https://ftp.fdot.gov/file/d/Procurement/DB/E7R10/Industry\_Forum/



## Technical Review Committee (TRC) & FDOT DBE Supportive Services

Florida Department of Transportation, District Seven Headquarters 11201 N. McKinley Drive, Tampa, FL 33612

#### Auditorium

TRC scheduled meetings begin at 12:30 p.m. 40 minute meetings with TRC and Design Build Teams

#### **Executive Conference Room**

Design Build Teams and FDOT DBE Supportive Services



# QUESTIONS

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