

EXHIBIT A



SCOPE OF SERVICES

FOR

**US 41B/N. TAMPA ST. & N. FLORIDA AVE.
FROM FLORIBRASKA & PALM TO MLK BLVD.**

Financial Project ID: 440511-2-32-01

FAP: D723-033-B

FDOT District 7

HILLSBOROUGH

Revised: 03/14/2023
03/06/2023

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SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES

HIGHWAY AND BRIDGE/STRUCTURAL DESIGN

This Exhibit forms an integral part of the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT or FDOT) and **[Consultant Name or leave blank until CONSULTANT is selected]** (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project ID: 440511-2-32-01

Related Financial Project ID(s): N/A

Federal Aid Project No.: D723-033-B

Roadways:

Roadway Id	Begin milepost	End milepost
10020101	0.788	1.546
10020000	1.009	2.336

Project Description: **US 41B/N. TAMPA ST. & N. FLORIDA AVE. FROM FLORIBRASKA & PALM TO MLK BLVD.**

Bridge No(s).: N/A

Railroad Crossing No.: N/A

Context Classification:

- ***C4-Urban General Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.***

1 PURPOSE

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the DEPARTMENT in connection with the design and preparation of a complete set of construction contract documents and incidental engineering services, as necessary, for improvements to the transportation facility described herein.

- Major work mix includes:
 - ***8150 - URBAN CORRIDOR IMPROVEMENTS***
- Major work groups include:
 - ***3.2 - Major Highway Design***
- Minor work groups include:
 - ***4.1.1 - Miscellaneous Structures***
 - ***6.1 - Traffic Engineering Studies***

- ***7.1 - Signing, Pavement Marking and Channelization***
- ***7.2 - Lighting***
- ***7.3 - Signalization***
- ***8.1 - Control Surveying***
- ***8.2 - Design, Right of Way & Construction Surveying***

Known alternative contracting methods include: *N/A*

The following work groups listed above are to be considered Optional Services: 6.1, 8.1, and 8.2

The general objective is for the CONSULTANT to prepare a set of contract documents including plans, specifications, supporting engineering analysis, calculations and other technical documents in accordance with FDOT policy, procedures and requirements. These Contract documents will be used by the contractor to build the project and test the project components. These Contract documents will be used by the DEPARTMENT or its Construction Engineering Inspection (CEI) representatives for inspection and final acceptance of the project. The CONSULTANT shall follow a systems engineering process to ensure that all required project components are included in the development of the Contract documents and the project can be built as designed and to specifications.

The Scope of Services establishes which items of work in the FDOT Design Manual and other pertinent manuals are specifically prescribed to accomplish the work included in this contract, and also indicate which items of work will be the responsibility of the CONSULTANT and/or the DEPARTMENT.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original concepts may be required. The CONSULTANT shall incorporate these refinements into the design and consider such refinements to be an anticipated and integral part of the work. This shall not be a basis for any supplemental fee request(s).

The CONSULTANT shall demonstrate good project management practices while working on this project. These include communication with the DEPARTMENT and others as necessary, management of time and resources, and documentation. The CONSULTANT shall set up and maintain throughout the design of the project a contract file in accordance with DEPARTMENT procedures. CONSULTANTS are expected to know the laws and rules governing their professions and are expected to provide services in accordance with current regulations, codes and ordinances and recognized standards applicable to such professional services. The CONSULTANT shall provide qualified technical and professional personnel to perform to Department standards and procedures, the duties and responsibilities assigned under the terms of this agreement. The CONSULTANT shall minimize to the maximum extent possible the DEPARTMENT's need to apply its own resources to assignments authorized by the Department.

The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and preparation of contract

documents, including Construction documents. The DEPARTMENT's technical reviews are for high-level conformance and are not meant to be comprehensive reviews. The CONSULTANT shall be fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide job-specific information and/or functions as outlined in this contract, if favorable.

2 PROJECT DESCRIPTION

The CONSULTANT shall investigate the status of the project and become familiar with concepts and commitments (typical sections, alignments, etc.) developed from prior studies and/or activities. If a Preliminary Engineering Report is available from a prior or current Project Development and Environment (PD&E) study, the CONSULTANT shall use the approved concepts as a basis for the design unless otherwise directed by the DEPARTMENT.

Prior studies referenced above include, but are not limited to, documents located at <http://fdot7studies.com>.

US 41B/N. TAMPA ST. & N. FLORIDA AVE. FROM FLORIBRASKA & PALM TO MLK BLVD.

USB 41/N. Tampa St. & N. Florida Ave. is an urban minor arterial that requires extensive drainage improvements with pavement reconstruction in the proximity of downtown Tampa. N Tampa St. has limits from Floribraska Ave. to Dr MLK Jr. Blvd. consisting of a one-way roadway with travel lanes moving southbound, N. Florida Ave. has limits from Palm Ave. to Dr. MLK Jr. Blvd. which accommodates traffic traveling in the northbound direction. Both facilities are freight corridors. Columbus Dr. is the adjacent road between the N. Tampa St. and N. Florida Ave. that will also have drainage improvements while reconstructing the roadway. Ultimately, the goal for the freight corridors is to reconstruct the roadway while providing a footprint that can be efficiently modified for BRT at a later date (by others). Due to the nature of the proposed work and narrow right of way, the roadway will be reconstructed and TTCP will require multiple detours and public awareness. Other improvements include providing wider sidewalks for bicyclists and pedestrians, ADA improvements for sidewalk and driveways, with milling and resurfacing at the connections.

The CONSULTANT shall coordinate design and/or construction with adjacent project FP ID 440511-8-32-01 US 41B/SR 685/N. Tampa Street from E. Tyler Street to E. Floribraska Avenue and N. Florida Avenue from E. Tyler Street to E. Palm Ave.

At the option of the CONSULTANT with the approval of the DEPARTMENT Project Manager, this project may be designed and delivered using a DEPARTMENT supported Autodesk CADD Platform or Bentley CADD Platform shown at the following link: <https://www.fdot.gov/cadd/main/version/currentversions.shtm> In either case, the project shall be designed, delivered and signed and sealed in compliance with the DEPARTMENT's CADD Manual. The DEPARTMENT provides a "State Kit" for both

Autodesk and Bentley products that can be downloaded from <https://www.fdot.gov/cadd/downloads/software/software.shtm>.

The CONSULTANT shall deliver a Three-Dimensional (3D) Model of the design project in accordance with the specifications/criteria defined within the CADD Manual, specifically in Chapter 5 (Section 5.16).

2.1 Project General and Roadway (Activities 3, 4, and 5)

Public Involvement:

CAP Level: 2

The project's initial Community Awareness Plan is provided by the DEPARTMENT and located at [https://www.ftf.fdot.gov/file/d/FTP/FDOT%20LTS/D7/Development/ProjMgmt/Project Intelligence/ 440511-2/PublicInv-CAP/](https://www.ftf.fdot.gov/file/d/FTP/FDOT%20LTS/D7/Development/ProjMgmt/Project%20Intelligence/440511-2/PublicInv-CAP/). See Section 3.1 for implementation of the Plan and other Public Involvement aspects of the project, including which entity is responsible for each such aspect.

Other Agency Presentations/Meetings:

Agency	Number of Meetings
City of Tampa	2

Joint Project Agreements: N/A

Specifications Package Preparation:

The CONSULTANT shall prepare the specifications package. The effort is considered normal.

Estimated Quantities Report Preparation:

The CONSULTANT shall prepare the estimated quantities report. The effort is considered normal.

Value Engineering: N/A

Risk Assessment Workshop: N/A

Plan Type:

The roadway plans shall be prepared in a Plan format. Profile sheets shall be provided, if necessary, to show the vertical controls that are needed for the construction of these projects. The plan (and profile) sheets shall be plotted at a horizontal scale of 1" = 40'.

Limits: US 41B/N. Tampa St. from E. Floribaska Ave. to MLK Blvd. (MP 0.788) to (MP 1.546)(Roadway ID 10 020 000) & N. Florida Ave. from E. Palm Ave. to MLK Blvd. (MP 1.009) to (MP 2.336)(Roadway ID 10 020 101). Project Length = 2.085 miles.

Typical Section:

Number of Typical Sections: *Eight typical sections anticipated.**

N. Florida Ave. NB:

1. Three lane urban, one-way northbound with 11-foot travel lanes, 1.5-foot buffer adjacent to curb and 6.33-foot sidewalks (7-foot min preferred) on both sides.

2. Three lane urban, one-way northbound with 8 to 9-foot on-street parking, 11-foot travel lanes, 1.5-foot buffer adjacent to curb and 7 to 12-foot sidewalks on both sides.

Tampa St. SB:

1. Three lane urban, one-way southbound with 11-foot travel lanes, 1.5-foot buffer with curb and 7 to 12-foot sidewalks on both sides.

Columbus Dr. from Tampa St. to N. Florida Ave:

1. Two-lane two-way 10-foot travel lanes with 10-foot paved left turn lanes (each direction) with curb and 7 to 12-foot sidewalks on both sides.

** The CONSULTANT shall prepare proposed and future typical sections for approval. The proposed sections will be provided for the design of the proposed roadway footprint to be constructed with this project. The future sections will facilitate future BRT with 10 to 11-foot travel lanes including an 11-foot min. transit lane and traffic separator.*

***The CONSULTANT shall coordinate with the City of Tampa regarding salvaging granite curbs and brick pavers.*

Pavement Designs:

Number of Pavement Designs: *Four pavement design anticipated.*

Pavement Type Selection Report(s): *N/A*

Cross-Slope Correction:

Out of tolerance cross slopes should be corrected, when possible, where accidents occur in milling and resurfacing areas. If it is not clear that accidents are due to insufficient cross slope, the CONSULTANT shall document the cross slope with a variation.

Access Management Classification:

- *Access Class 7*

Transit Route Features:

On an existing or planned (adopted) bus route roadway, coordinate with the transit agency and design as requested their proposed engineering and right-of-way-feasible, ADA-compliant bus landing pads, rider shelter pads and incidental universal sidewalk connections, etc. All transit agency contact shall be coordinated in advance with the DEPARTMENT's Public Transit Coordinator.

Freight:

There are two freight corridors within the project, N. Florida Ave. and N. Tampa St. # 10020101 and 10020000. The CONSULTANT shall coordinate with the District Freight Coordinator.

Major Intersections and Interchanges:

Number of Major Intersections and Interchanges: **10**

N. Florida Ave:

E. Palm Ave.

E. Columbus Dr.

E. Floribaska Ave.

E. 26th Ave.

E. Lake Ave.

E. Indiana Ave.

Dr. MLK Jr. Blvd.

N. Tampa St:

E. Floribaska Ave.

E. Woodlawn Ave.

Dr. MLK Jr. Blvd.

Roadway Alternative Analysis: ***Prepare a sidewalk study to maximize sidewalk in the corridor for pedestrians and bicyclists while accommodating design footprint of future BRT.***

Level of Temporary Traffic Control Plan (TTCP): **3**

Phasing and detours are anticipated for the reconstruction of the roadways.

Temporary Lighting: **N/A**

Temporary Signals: **N/A**

Temporary Drainage:

Some activities proposed by this project will necessitate temporary drainage. Temporary drainage design shall be performed to ensure the project site drains adequately during all phases of construction, with special consideration given to pedestrians and bicyclists. The placement of temporary traffic control devices shall be reviewed to ensure that conveyance of runoff is not impeded.

Design Variations:

- ***Clear Zone***
- ***American with Disabilities Act (ADA)***
- ***Lane width***
- ***ADA driveway***
- ***Cross slope***

- ***Bike lane***

Design variation requests shall be prepared for any situations not meeting current DEPARTMENT requirements, as appropriate. The CONSULTANT shall prepare design Variation reports for the purpose of estimating design and construction needs based on initial observations. The CONSULTANT shall recommend, to the DEPARTMENT, either correction of any deficiencies, or obtaining the appropriate design variations, including applicable benefit-cost analyses, in accordance with DEPARTMENT procedures. Variations suspected: Cross slope, lane width, bike lane, ADA for driveway, clear zone, border

Design Exceptions: *To be determined.*

Design exception requests shall be prepared for any situations not meeting current FHWA requirements, as appropriate. The CONSULTANT shall prepare design Exception reports for the purpose of estimating design and construction needs based on initial observations. The CONSULTANT shall recommend, to the DEPARTMENT, either correction of any deficiencies, or obtaining the appropriate design Exceptions, including applicable benefit-cost analyses, in accordance with DEPARTMENT procedures.

Back of Sidewalk Profiles:

Number of Back of Sidewalk Profiles: 6

Provide back of sidewalk profiles through Phase III Plans or as directed by the DEPARTMENT.

Selective Clearing and Grubbing: N/A

2.2 Drainage (Activities 6a and 6b)

Drainage System Type:

The existing drainage system is a closed system with curb inlets. The project consists of urban corridor improvements, ADA improvements, drainage improvements, roadway reconstruction, and milling and resurfacing. Where possible, ADA issues shall be addressed without relocation of existing structures. Environmental Resource Permit No. 28606.000 was issued by the Southwest Florida Water Management District (SWFWMD) in March 2005.

The CONSULTANT shall provide a complete closed drainage system in accordance with the "Draft Conceptual Drainage Analysis for The Heights Mobility PD&E" dated March 2020 and "The Heights South Regional Outfall Design/Build RFP Support Draft Conceptual Drainage Analysis" dated July 2022.

The project site is located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) numbers 12057C0352J and 12057C0354J dated October 7, 2021. The FIRMs do not show floodplains within the project limits. Determination of floodplain impacts shall be the responsibility of the CONSULTANT. A search of the DEPARTMENT'S District 7 Flood Data Inventory did not identify any active drainage complaints within the project limits.

Number of stormwater management facility sites: *N/A*

Number of cross drains: *N/A*

The CONSULTANT shall notify the DEPARTMENT if video inspection of the storm sewer system is recommended. Video inspection services will be performed by others under the DEPARTMENT's Districtwide video inspection contract. Within three weeks following the Notice-To-Proceed, the CONSULTANT shall provide to the DEPARTMENT figures showing the locations of the pipes to be inspected, and shall quantify the length and pipe sizes for the required work. Prior to the first phase submittal of plans, the CONSULTANT shall review the inspection report and provide to the DEPARTMENT recommendations and construction cost estimates for any pipe repair. The design implementation of any approved recommendations not included in this Scope of Services may be added to the Agreement as an Optional Service.

2.3 Utilities Coordination (Activity 7)

The CONSULTANT is responsible to certify that all necessary arrangements for utility work on this project have been made and will not conflict with the physical construction schedule. The CONSULTANT should coordinate with DEPARTMENT personnel to coordinate transmittals to Utility Companies and meet production schedules.

The CONSULTANT shall ensure FDOT standards, policies, procedures, practices, and design criteria are followed concerning utility coordination.

The CONSULTANT may employ more than one individual or utility engineering consultant to provide utility coordination and engineering design expertise. The CONSULTANT shall identify a dedicated person responsible for managing all utility coordination activities. This person shall be contractually referred to as the Utility Coordination Manager and shall be identified in the CONSULTANT proposal. The Utility Coordination Manager shall be required to satisfactorily demonstrate to the FDOT District Utilities Administrator that they have the following knowledge, skills, and expertise:

- A minimum of 4 years of experience performing utility coordination in accordance with FDOT, Federal Highway Administration (FHWA), and American Association of State Highway and Transportation Officials (AASHTO) standards, policies, and procedures.
- A thorough knowledge of the FDOT plans production process and District utility coordination process.
- A thorough knowledge of FDOT agreements, standards, policies, and procedures.

The Utility Coordination Manager shall be responsible for managing all utility coordination, including the following:

- Assuring that Utility Coordination and accommodation is in accordance to the FDOT, FHWA, and AASHTO standards, policies, procedures, and design criteria.
- Assisting the engineer of record in identifying all existing utilities and coordinating any new installations. Assisting the Engineer of Record with resolving utility conflicts.

- Scheduling and performing utility coordination meetings, keeping and distribution of minutes/action items of all utility meetings, and ensuring expedient follow-up on all unresolved issues.
- Distributing all plans, conflict matrixes and changes to affected utility owners and making sure this information is properly coordinated and documented.
- Identifying and coordinating the completion of any FDOT or utility owner agreement that is required for reimbursement, or accommodation of the utility facilities associated with the project.
- Review and certify to the District Utilities Administrator that all Utility Work Schedules are correct and in accordance with the DEPARTMENT's standards, policies, and procedures.
- Prepare, review and process all utility related reimbursable paperwork inclusive of betterment and salvage determination.

The CONSULTANT's utility coordination work shall be performed and directed by the Utility Coordination Manager that was identified and approved by FDOT's Project Manager. Any proposed change of the approved Utility Coordination Manager shall be subject to review and approval by FDOT's Project Manager prior to any change being made in this contract.

Expected Utilities:

- *(13 UAOs) AT&T, CenturyLink, City of Tampa Wastewater, City of Tampa Water, Crown Castle, FiberLight, Frontier Florida, MCI / Verizon Business, Spectrum Sunshine, Tampa Electric, TECO Peoples Gas, Uniti Fiber, Zayo*

The DEPARTMENT's Utility Permit search found the UAOs listed above. The Sunshine 811 design ticket was used for reference, with the DEPARTMENT's Permit search used as a control for coordination. Other controls include field review, phone contacts and as-built plans for previous projects.

In coordination with the Utility Coordinator, the CONSULTANT EOR(s) shall develop a utility conflict matrix for each phase submittal to the potentially affected Utility Agency Owners. If the EOR chooses to have the Utility Coordinator develop the conflict matrix, the EOR shall review and become familiar with the spreadsheet.

The EORs for all disciplines that have the potential to affect utility facilities shall meet prior to any scheduled Utility Design Meeting to ensure that the potential conflicts are understood by the Utility Coordinator, that changes to the plans from the last submittal/Utility Design Meeting are understood, and that the project schedule and critical dates are adequately provided to the Utility Coordinator. [Note to Scope Developer: For simple projects, this could be noted on the staff-hours as a teleconference. For more complex projects, a face-to-face meeting is recommended; include hours in the estimate for this.]

The CONSULTANT EOR shall review the draft Utility Work Schedules submitted to the Utility Coordinator prior to sending to the DEPARTMENT for review. The EOR

shall sign all of the Utility Work Schedules. [Retain the following sentence only on appropriate projects.] The EORs of all disciplines affecting utility facilities shall meet with representatives from the District Utility Office and District Construction Office for a constructability and utility work schedule review meeting prior to the Phase IV submittal.

For projects with SUE:

The EORs of all disciplines that have the potential to affect underground utility facilities shall meet with the SUE provider's team as well as the Utility Coordinator as soon as possible after the Notice-To-Proceed is issued to discuss the strategy for gathering SUE in a timely, efficient, and calculated manner.

See Section 27.10 for the timing of obtaining designation on utility facilities, as well as when the EOR shall incorporate the information in the plans. The EOR shall begin using the Quality Level B information in the design as soon as it is available, in order to avoid conflicts with utility facilities to the extent practicable.

The SUE provider shall be invited to the utility design meetings [If the SUE provider needs to be invited to the preliminary utility meeting or field meetings based on project needs, state that here as well; be sure to include hours for the meetings in the SUE estimate in Activity 27b).

The Utility Coordination Manager shall document, in Project Suite, all plans, conflict matrices, utility work schedules, and design changes sent to affected utility owners.

Identify the Utility Coordination Manager in the CONSULTANT proposal using an approved classification in the FDOT Negotiation Handbook for Professional Services Contracts.

2.4 Environmental Permits and Environmental Clearances (Activity 8)

Expected Permits:

- *Southwest Florida Water Management District (SWFWMD) Individual Permit*

The DEPARTMENT will provide compensatory wetland mitigation in accordance with Section 373.4137, Florida Statutes.

The project is anticipated to require a SWFWMD ERP modification of the recently issued 440511-8 project permit. A FDEP Section 404 permit is not required. Wetland mitigation is not anticipated.

2.5 Structures (Activities 9 - 18)

Retaining Walls:

No.	Location	Temp Type	Temp Length	Perm Type	Perm Length
1	US 41B/N. TAMPA ST. & N. FLORIDA AVE. FROM FLORIBRASKA & PALM TO MLK BLVD.	Sheet Pile	10000 LF	[Type]	[Length]

Miscellaneous Structures:

- *Mast Arms*

2.6 Signing and Pavement Markings (Activities 19 & 20)

No Sign Structures included in this project.

Upgrade signing and pavement markings per latest standards including school zones and Wrong Way Driving mitigation per FDM. Provide special emphasis crosswalks throughout the project. Replace ground mounted sign panels, single post, and multi-post, older than 5 years. Replace the sign supports if they are impacted by construction, damaged or functionally obsolete. Install R10-15a signs at all signalized intersection approaches if missing, per latest Traffic Engineering Manual guideline.

Install advance street name signs for the following signalized intersections:

Along USB 41/SR 685/N. Florida Ave: E. Columbus Dr, E. Floribaska Ave, E. Indiana Ave/E Lake Ave, Dr. MLK Jr. Blvd

Along USB 41/SR 685/N. Tampa St: E. Floribaska Ave

2.7 Signalization (Activities 21 & 22)

Intersections:

USB 41/SR 685/N. Florida Ave:

E. Columbus Dr., E. Floribaska Ave. and E. Lake Ave.: Replace existing signals with new mast arm signal system to accommodate the proposed lane geometry and operation. The signal system shall include new controller, UPS, full pedestrian features, LED internally illuminated street name signs, vehicle detection system (per maintaining agency requirements), and emergency preemption system.

SR 574/Dr. MLK Jr. Blvd.: Modify existing signal heads to accommodate proposed lane configuration on northbound approach. Update pedestrian features to accommodate proposed modifications to the curb returns and to meet ADA. Replace existing internally illuminated street name signs. Update pedestrian and vehicle clearance timings as necessary.

E 26th Ave: Install new mid-block pedestrian crossing with overhead RRFB system.

USB 41/SR 685/N. Tampa St.:

E. Floribruska Ave.: Replace existing signals with new mast arm signal system to accommodate the proposed lane geometry and operation. The signal system shall include new controller, UPS, full pedestrian features, LED internally illuminated street name signs, vehicle detection system (per maintaining agency requirements), and emergency preemption system.

Woodlawn Ave. and Indiana Ave.: Install new mid-block pedestrian crossings with overhead RRFB system.

Design a fiber optic backbone along USB 41/N. Florida Ave. and N. Tampa St. within the project limits to interconnect all the signalized intersections. The CONSULTANT shall design drop cables at each signal and coordinate with project FPID 440511-8-52-01 for appropriate connections at the south end of the project to establish a fully functioning system.

The CONSULTANT shall coordinate with the DEPARTMENT Project Manager to confirm that the local government with jurisdiction will commit to maintaining or funding the maintenance of the additional highway lighting provided by this project, and to confirm the required number of load centers in advance of initiating plans preparation. Such confirmation must come directly from the local government, not from a private power company. If the CONSULTANT fails to perform this coordination in a timely manner, any necessary re-design and plans revisions resulting therefrom shall be prepared by the CONSULTANT without additional compensation or extensions of schedule milestones.

Traffic Data Collection:

The CONSULTANT shall collect all data necessary to conduct an Engineering Study for the proposed mid-block pedestrian crossings at E. 26th Ave. on USB 41/SR 683/N. Tampa St. and at Woodlawn Ave. and Indiana Ave. on USB 41/SR 683/N. Florida Ave.

Traffic Studies:

The CONSULTANT shall conduct an Engineering Study to document the proposed mid-block pedestrian crossings at E. 26th Ave. on USB 41/SR 683/N. Tampa St. and at Woodlawn Ave. and Indiana Ave. on USB 41/SR 683/N. Florida Ave.

Count Stations: N/A

Traffic Monitoring Sites:

USB 41/SR 683/N. Florida Ave. :

Site Number : 105329 at M.P. 1.187

Site Number : 105330 at M.P. 1.458

Site Number : 105291 at M.P. 1.969

USB 41/SR 683/N. Tampa St. :

Site Number : 105292 at M.P. 0.900

The CONSULTANT shall coordinate with the District Traffic Counts Coordinator for exact locations and configuration of the Traffic Monitoring Sites.

2.8 Lighting (Activities 23 & 24)

Limits and Proposed Type of Lighting:

Type	Limit
Pedestrian	Signalized Intersections and mid-block crosswalks
Corridor	US 41B/N. Tampa St & N. Florida Ave. from Floribraska & Palm to MLK Blvd.

The CONSULTANT shall develop a Lighting Design Analysis Report (LDAR) and design lighting system within the project limits. The lighting shall include corridor lighting and pedestrian lighting at signalized intersections and mid-block crosswalk locations. The lighting to be installed and maintained by Tampa Electric Company (TECO). The CONSULTANT shall coordinate with the City of Tampa and TECO to determine appropriate lighting parameters such as fixture type, mounting heights, arm lengths, etc. to be used in the design.

The CONSULTANT shall coordinate with the DEPARTMENT Project Manager to confirm that the local government with jurisdiction will commit to maintaining or funding the maintenance of the additional highway lighting provided by this project, and to confirm the required number of load centers in advance of initiating plans preparation. Such confirmation must come directly from the local government, not from a private power company. If the CONSULTANT fails to perform this coordination in a timely manner, any necessary re-design and plans revisions resulting therefrom shall be prepared by the CONSULTANT without additional compensation or extensions of schedule milestones.

2.9 Landscape (Activities 25 & 26) (N/A)

2.10 Survey (Activity 27)

Design Survey: N/A

Subsurface Utility Exploration:

Provided by Utility Support Person (also provide Activity 27.10 SUE estimate as applicable; See note to developer in Section 2.3.

Right of Way Survey: N/A

Vegetation Survey: *N/A*

2.11 Photogrammetry (Activity 28) (N/A)

2.12 Mapping (Activity 29) (N/A)

2.13 Terrestrial Mobile LiDAR (Activity 30) (N/A)

2.14 Architecture (Activity 31) (N/A)

2.15 Noise Barriers (Activity 32) (N/A)

2.16 Intelligent Transportation Systems (Activities 33 & 34) (N/A)

2.17 Geotechnical (Activity 35) (N/A)

The DEPARTMENT will provide all necessary Geotechnical and Pavement Evaluation services for this project.

The CONSULTANT shall request from the DEPARTMENT in writing all Geotechnical data and recommendations necessary for this project by such time as will support the DEPARTMENT's original project schedule or any subsequent DEPARTMENT-approved revisions thereto.

Within ten (10) days after receiving the Notice-to-Proceed, the CONSULTANT shall submit a Pavement Coring and Condition Evaluation request to the DEPARTMENT through the District 1 and 7 Materials and Research Office (DMRO) SharePoint Site.

2.18 3D Modeling (Activity 36)

The CONSULTANT shall provide a 3D model and deliverables per phase as per CADD Manual and FDM.

2.19 Project Schedule

Within ten (10) days after the Notice-To-Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall provide a detailed project activity/event schedule for DEPARTMENT and CONSULTANT scheduled activities required to meet the current DEPARTMENT Production Date. The schedule shall be based upon the *current anticipated "Production Date" which is subject to change*. The current production date is *December 04, 2024*. The schedule shall be accompanied by an anticipated payout and fiscal progress curve. For the purpose of scheduling, the CONSULTANT shall allow for a *four* week review time for each phase submittal and any other submittals as appropriate.

The schedule shall indicate all required submittals.

All fees and price proposals are to be based on the negotiated schedule of [Number] months for final construction contract documents. However, the contract deadline is [Number] months from the Notice to Proceed.

Periodically, throughout the life of the contract, the project schedule and payout and fiscal progress curves shall be reviewed and, with the approval of the DEPARTMENT, adjusted as necessary to incorporate changes in the Scope of Services and progress to date.

The approved schedule and schedule status report, along with progress and payout curves, shall be submitted with the monthly progress report.

The schedule shall be submitted in an FDOT system-compatible format.

The above schedule submittal shall reflect project-specific input from each affected DEPARTMENT discipline, including Permits, Utilities, Right-of-Way, and Modal Planning and Development (noise walls, etc.). The CONSULTANT shall be responsible for ensuring that such input is received and reviewed with the DEPARTMENT Project Manager in advance.

2.20 Submittals

The CONSULTANT shall furnish construction contract documents as required by the DEPARTMENT to adequately control, coordinate, and approve the work concepts. The CONSULTANT shall distribute submittals as directed by the DEPARTMENT. The DEPARTMENT will determine the specific number of copies required prior to each submittal.

All plans and specifications deliverables provided for herein shall support a fully electronic advertisement, bidding and letting process for the construction contract in a manner acceptable to the DEPARTMENT, including compliance with Section 131 of the FDOT Design Manual and with the FDOT CADD Manual. In addition to any required hard copies, the CONSULTANT shall provide .pdf files for all plans phase submittals thru Phase III. Beginning with the Phase IV submittal, the CONSULTANT shall provide the electronic CADD files. In addition to any required hard-copies, all other documents that require DEPARTMENT review shall be submitted in an electronic medium acceptable to the DEPARTMENT Project Manager, including processing through the Department's Electronic Review and Comment system (ERC).

The CONSULTANT shall provide a Constructability and Bidability review of the design with the Phase III or other designated plans submittal. The CONSULTANT's comments and responses developed from this review shall be forwarded to the DEPARTMENT's Construction Services Unit.

All documentation for QA/QC and independent peer review, including check prints, design calculations, etc., shall be submitted in electronic format with each deliverable and kept on file until construction of the project is complete at a minimum.

The DEPARTMENT reserves the right to visit the premises of the CONSULTANT at any time to review the project's status, upon one-hours' notice.

2.21 Provisions for Work

The services performed by the CONSULTANT must comply with all applicable DEPARTMENT's manuals, procedure, policies, and guidelines. Specifically, the CONSULTANT must comply with DEPARTMENT's Project Development and Environmental (PD&E) Manual, FDOT Design Manual (FDM), Structures Manual, and Computer Aided Design and Drafting (CADD) Manual. The DEPARTMENT's manuals and guidelines incorporate, by requirement or reference, all applicable federal and state laws, regulations, and Executive Orders. The CONSULTANT will use the latest editions of the manuals, procedures, and guidelines to perform work for this project.

All work shall be prepared with English units (unless otherwise specified) in accordance with the latest editions of standards and requirements utilized by the DEPARTMENT.

2.22 Services to be Performed by the DEPARTMENT

When appropriate or available, the DEPARTMENT will provide project data including:

- *All information that may come to the DEPARTMENT pertaining to future improvements*
- *All future information that may come to the DEPARTMENT pertaining to subdivision plans so that the CONSULTANT may take advantage of additional areas that can be utilized as part of the existing right of way*
- *All approved utility relocations*
- *PD&E Documents*
- *All certifications necessary for project letting*
- *Preliminary Horizontal Network Control*
- *Letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT in accordance with F.S. 337.274*
- *Phase reviews of plans and engineering documents*
- *Building Construction Permit Coordination (Turnpike)*
- *Systems traffic for Projected Design Year, with K, D, and T factors*
- *Existing cross-slope data for all RRR projects*
- *Engineering standards review services*
- *Available traffic and planning data*
- *Previously constructed Highway Beautification or Landscape Construction Plans*
- *Project utility certification to the DEPARTMENT's Central Office*
- *All Department agreements with Utility Agency Owner (UAO)*
- *Design Reports*
- *Existing pavement evaluation report for all RRR projects*
- *Existing right of way maps*
- *Access for the CONSULTANT to utilize the DEPARTMENT's Information Technology Resources*
- *All available information in the possession of the DEPARTMENT pertaining to utility companies whose facilities may be affected by the proposed construction*

- *All future information that may come to the DEPARTMENT during the term of the CONSULTANT's Agreement, which in the opinion of the DEPARTMENT is necessary for the prosecution of the work*
- *Numbers for field books*
- *Landscape Opportunity Plan(s)*
- *Any necessary title searches*
- *Regarding Environmental Permitting Services:*
 - *Approval of all contacts with environmental agencies*
 - *General philosophies and guidelines of the DEPARTMENT to be used in the fulfillment of this contract. Objectives, constraints, budgetary limitations, and time constraints will be completely defined by the Project Manager.*
 - *Appropriate signatures on application forms*
 - *Approved Permit Document when available*

3 PROJECT COMMON AND PROJECT GENERAL TASKS

Project Common Tasks

Project Common Tasks, as listed below, are work efforts that are applicable to many project activities, 4 (Roadway Analysis) through 36 (3D Modeling). These tasks are to be included in the project scope in each applicable activity when the described work is to be performed by the CONSULTANT.

Cost Estimates: The CONSULTANT is responsible for producing a construction cost estimate and reviewing and updating the cost estimate when scope changes occur and/or at milestones of the project. Prior to Phase II plans or completion of quantities, the DEPARTMENT's Long-Range Estimate (LRE) system will be used to produce a conceptual estimate, according to District policy. Once the quantities have been developed (beginning at Phase II plans and no later than Phase III plans) the CONSULTANT shall be responsible for inputting the category information, pay items and quantities into AASHTOWare Project Preconstruction through the use of the DEPARTMENT's Designer Interface.

Technical Special Provisions: The CONSULTANT shall provide Technical Special Provisions for all items of work not covered by the Standard Specifications for Road and Bridge Construction and the workbook of implemented modifications.

A Technical Special Provision shall not modify the Standard Specifications and implemented modifications in any way.

The Technical Special Provisions shall provide a description of work, materials, equipment and specific requirements, method of measurement and basis of payment. Proposed Technical Special Provisions will be submitted to the District Specifications Office for initial review at the time of the Phase III plans review submission to the DEPARTMENT's Project Manager. This timing will allow for adequate processing time prior to final submittal. The Technical Special Provisions will be reviewed for suitability in accordance with the Handbook for Preparation of Specification Packages. The District Specifications Office will forward the Technical Special Provisions to the District Legal Office for their review and

comment. All comments will be returned to the CONSULTANT for correction and resolution. Final Technical Special Provisions shall be digitally signed and sealed in accordance with applicable Florida Statutes.

The CONSULTANT shall contact the appropriate District Specifications Office for details of the current format to be used before starting preparations of Technical Special Provisions.

Modified Special Provisions: The CONSULTANT shall provide Modified Special Provisions as required by the project. Modified Special Provisions are defined in the Specifications Handbook.

A Modified Special Provision shall not modify the first nine sections of the Standard Specifications and implemented modifications in any way. All modifications to other sections must be justified to the appropriate District and Central Specifications Offices to be included in the project's specifications package.

Field Reviews: The CONSULTANT shall make as many trips to the project site as required to obtain necessary data for all elements of the project.

Technical Meetings: The CONSULTANT shall attend all technical meetings necessary to execute the Scope of Services of this contract. This includes meetings with DEPARTMENT and/or Agency staff, between disciplines and subconsultants, such as access management meetings, pavement design meetings, local governments, railroads, airports, progress review meetings (phase review), and miscellaneous meetings. The CONSULTANT shall prepare, and submit to the DEPARTMENT's Project Manager for review, the meeting minutes for all meetings attended by them. The meeting minutes are due within five (5) working days of attending the meeting.

Quality Assurance/Quality Control: It is the intention of the DEPARTMENT that design CONSULTANTS, including their subconsultant(s), are held responsible for their work, including plans review. The purpose of CONSULTANT plan reviews is to ensure that CONSULTANT plans follow the plan preparation procedures outlined in the FDOT Design Manual, that state and federal design criteria are followed with the DEPARTMENT concept, and that the CONSULTANT submittals are complete. All subconsultant document submittals shall be submitted by the subconsultant directly to the CONSULTANT for their independent Quality Assurance/Quality Control review and subsequent submittal to the DEPARTMENT.

It is the CONSULTANT'S responsibility to independently and continually QC their plans and other deliverables. The CONSULTANT should regularly communicate with the DEPARTMENT's Design Project Manager to discuss and resolve issues or solicit opinions from those within designated areas of expertise.

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of all surveys, designs, drawings, specifications and other services furnished by the CONSULTANT and their subconsultant(s) under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all maps, design drawings, specifications, and other documentation prepared as a part of the contract. The CONSULTANT shall

describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan shall be one specifically designed for this project. The CONSULTANT shall submit a Quality Control Plan for approval within twenty (20) business days of the written Notice to Proceed and it shall be signed by the CONSULTANT's Project Manager and the CONSULTANT QC Manager. The Quality Control Plan shall include the names of the CONSULTANT's staff that will perform the quality control reviews. The Quality Control reviewer shall be a Florida Licensed Professional Engineer fully prequalified under F.A.C. 14-75 in the work type being reviewed. A marked up set of prints from a Quality Control Review indicating the reviewers for each component (structures, roadway, drainage, signals, geotechnical, signing and marking, lighting, landscape, surveys, etc.) and a written resolution of comments on a point-by-point basis will be required, if requested by the DEPARTMENT, with each phase submittal. The responsible Professional Engineer, Landscape Architect, or Professional Surveyor & Mapper that performed the Quality Control review will sign a statement certifying that the review was conducted and found to meet required specifications.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the designs, maps, drawings, specifications and/or other products and services.

Independent Peer Review: When directed by the DEPARTMENT, a subconsultant may perform Independent Peer Reviews.

Independent Peer Review and a Constructability/Bidability Review for design Phase Plans document submittals are required on this project. These separate reviews shall be completed by someone who has not worked on the plan component that is being reviewed. These could include but are not limited to a separate office under the Prime's umbrella, a subconsultant that is qualified in the work group being reviewed, or a CEI. It does not include persons who have knowledge of the day to day design efforts. The Constructability/Bidability Review shall be performed by a person with experience working on Department construction projects (CEI, Contractor, etc.).

The Independent Peer Review for design Phase Plans submittals shall ensure the plans meet the FDM, Standard Plans and FDOT CADD Manual. The Constructability/Bidability Review shall ensure the project can be constructed and paid for as designed. Constructability/Bidability Reviews should be conducted prior to the Phase III and Phase IV submittals, using the Phase Review Checklist (Guidance Document 1-1-A) from the Construction Project Administration Manual (CPAM) as a minimum guideline. The CONSULTANT shall submit this checklist, as well as the "marked-up" set of plans during this review, and review comments and comment responses from any previous Constructability/Bidability reviews. These items will be reviewed by District Design and District Construction.

Supervision: The CONSULTANT shall supervise all technical design activities.

Coordination: The CONSULTANT shall coordinate with all disciplines of the project to produce a final set of construction documents.

The cost estimate mandated above shall include the Engineer's Estimate and LRE or AASTOWare Project Preconstruction Estimate.

In addition to the cost estimate reviews and updates mandated above, the CONSULTANT shall review and update the cost estimates within twenty-one (21) days after Notice to Proceed, for the annual Work Program Update Cycle, and when directed by the DEPARTMENT project manager.

During the same time period the CONSULTANT inputs the pay items into AASHTOWare Project Preconstruction, the CONSULTANT shall also complete the Estimated Quantities Report. Each Engineer's Estimate and LRE/AASHTOWare submittal shall be accompanied by an equal number of copies of the Preliminary Project Report (PPR) updated by the CONSULTANT in the District standard format, including the updated Record Page.

Signing and sealing of the Technical Special Provisions shall be digital.

The CONSULTANT shall coordinate with the DEPARTMENT Project Manager to arrange a Local Government Coordination Meeting for discussion of the plans and solicitation of local government input. The meeting shall coincide with a Plans Phase Submittal or other submittal as directed by the DEPARTMENT's Project Manager. As a minimum, attendees shall include the Project Manager, local government representatives (preferably Director of Public Works/Municipal Engineer level) and the CONSULTANT. The CONSULTANT, via the DEPARTMENT's Project Manager, shall give adequate advance notification to the DEPARTMENT's District Public Information Office of the meeting's time, date, place and participants, so that local elected officials are aware of the meeting. The CONSULTANT shall prepare timely meeting minutes for attendee approval, so that all parties are aware of project expectations and limitations.

Project General Tasks

Project General Tasks, described in Sections 3.1 through 3.7 below, represent work efforts that are applicable to the project as a whole and not to any one or more specific project activity. The work described in these tasks shall be performed by the CONSULTANT when included in the project scope.

3.1 Public Involvement

Public involvement includes communicating to all interested persons, groups, and government organizations information regarding the development of the project. The CONSULTANT shall provide to the DEPARTMENT drafts of all Public Involvement documents (e.g., newsletters, property owner letters, advertisements, etc.) associated with the following tasks for review and approval at least *five* business days prior to printing and / or distribution.

In accordance with F.S. 335.199, if the project is on the State Highway System and will divide a highway, erect median barriers that modify currently available vehicle turning movements, or have the effect of closing or modifying an existing access to an abutting

property owner, then 1) all affected property owners and local governments shall be so notified at least 180 days before the project design is finalized, 2) the applicable local government shall be consulted with regarding the final project design in a manner that allows such government to present alternatives to relieve impacts to commercial business properties, and 3) at least one advertised and recorded public hearing shall be held to determine how the project will affect access to businesses and the potential economic impact of the project on the local business community. All comments from such public hearing shall be taken into consideration in the final design of the project. The CONSULTANT shall support the DEPARTMENT in implementing the above activities.

In accordance with the Community Awareness Plan provided by the DEPARTMENT in Section 2.1, the CONSULTANT shall prepare and mail notification letters and necessary graphics to abutting property owners along those portions of the project where construction activity is proposed outside of the existing roadway pavement and no right-of-way will be acquired. The letters shall inform the owners about the proposed construction and the DEPARTMENT's intent to utilize the existing right-of-way, including border areas, to the fullest extent possible, notwithstanding any existing amenities, such as parking, landscaping, walls, etc. The letter format shall be reviewed and approved by the DEPARTMENT prior to the mailings.

3.1.1 Community Awareness Plan

Prepare a Community Awareness Plan (CAP) for review and approval by the DEPARTMENT within 30 calendar days after receiving Notice to Proceed. The objective of the plan is to notify local governments, affected property owners, tenants, and the public of the DEPARTMENT'S proposed construction and the anticipated impact of that construction. The CAP shall address timeframes for each review and shall include tentative dates for each public involvement requirement for the project. The CAP will also document all public involvement activities conducted throughout the project's duration. In addition to the benefits of advance notification, the process should allow the DEPARTMENT to resolve controversial issues during the design phase. This item shall be reviewed and updated periodically as directed by the DEPARTMENT throughout the life of the project.

The project's initial Community Awareness Plan has been prepared by the DEPARTMENT and is provided via link in the text of Section 2.1 of this Scope of Services. The CONSULTANT does not need to prepare the initial Plan, although the Plan shall be reviewed and updated periodically by the CONSULTANT throughout the life of the project as directed by the DEPARTMENT. The following Section 3.1 subsections cover implementation of the Community Awareness Plan and other aspects of Public Involvement, including which entity is responsible for each such aspect.

3.1.2 Notifications

In addition to public involvement data collection, the CONSULTANT shall assist the DEPARTMENT or prepare notifications, flyers, and/or letters to elected officials and

other public officials, private property owners, and tenants at intervals during plans production as identified by the DEPARTMENT. All letters and notices shall be reviewed by the **DEPARTMENT** to ensure that they are addressed to the correct and current public officials.

3.1.3 Preparing Mailing Lists

At the beginning of the project, The CONSULTANT shall identify all impacted property owners and tenants (within a minimum of 300 feet of the project corridor). The CONSULTANT shall prepare a mailing list of all such entities and shall update the mailing list as needed during the life of the project.

3.1.4 Median Modification Letters (N/A)

3.1.5 Driveway Modification Letters

The CONSULTANT shall prepare a driveway modification letter to be sent to property owners along the corridor. In addition, the CONSULTANT shall prepare a sketch of each proposed driveway modification for inclusion in the letter. The letters will be sent on DEPARTMENT letterhead.

The CONSULTANT shall send the letters upon approval of the DEPARTMENT.

3.1.6 Newsletters

The CONSULTANT shall prepare newsletters for distribution to elected officials, public officials, property owners along the corridor and other interested parties. The letters will be sent by the CONSULTANT.

3.1.7 Renderings and Fly-Throughs

The CONSULTANT shall prepare renderings and fly-throughs for use in public meetings.

3.1.8 PowerPoint Presentations

The CONSULTANT shall prepare PowerPoint presentations for use in public meetings.

3.1.9 Public Meeting Preparations

The CONSULTANT shall prepare the necessary materials for use in public meetings.

The CONSULTANT will investigate potential meeting sites to advise the DEPARTMENT on their suitability. The **DEPARTMENT** will pay all costs for meeting site rents and insurance. No DEPARTMENT meetings will be held on public school system properties.

3.1.10 Public Meeting Attendance and Follow-up

The CONSULTANT shall attend public meeting(s), assist with meeting setup and take down. The CONSULTANT shall also prepare a summary of the public meeting that includes all copies of all materials shown or provided at the public meeting. The summary shall also include a listing of all written comments made during or after the meeting and responses to those written comments.

The CONSULTANT will attend the meetings with an appropriate number of personnel to assist the DEPARTMENT'S Project Manager.

It is estimated for this project there will be *one* Public meetings during the design.

3.1.11 Other Agency Meetings

In addition to scheduled public meetings the CONSULTANT may be required to participate in meetings with local governing authorities and/or Metropolitan Planning Organization (MPO). The CONSULTANT's participation may include, but not be limited to, presentations during the meeting, note taking, and summarizing the meeting in a memo to the file. It is estimated for this project there will be *4* meetings (as indicated in Section 2.1 above) with local governing authorities and/or MPOs during the design.

3.1.12 Web Site (N/A)

3.2 Joint Project Agreements

When the Joint Project Agreement (JPA) deliverable is not prepared by the CONSULTANT, services may include all coordination, meetings, etc., required to ensure compatibility, include JPA documents in the contract plans package and include the JPA documents in the digital delivery package.

3.3 Specifications & Estimates

3.3.1 Specifications Package Preparation

The CONSULTANT shall prepare and provide a specifications package in accordance with the DEPARTMENT'S Procedure Topic No. 630-010-005 Specifications Package Preparation and the Specifications Handbook. The CONSULTANT shall provide the DEPARTMENT names of at least two team members who have successfully completed the Specifications Package Preparation Training and will be responsible for preparing the Specifications Package for the project. The Specifications Package shall be prepared using the DEPARTMENT's Specs on the Web application. The CONSULTANT shall be able to document that the procedure defined in the Handbook for the Preparation of Specifications Packages is followed, which includes the quality assurance/quality control procedures. The specifications package shall address all items and areas of work and include any Mandatory Specifications, Modified Special Provisions, and Technical Special Provisions.

The specifications package must be submitted for review to the District Specifications Office at least 30 days prior to the contract package to Tallahassee or District due

date, or sooner if required by the District Specifications Office. This submittal does not require signing and sealing and shall be coordinated through the District's Project Manager. The CONSULTANT shall coordinate with the DEPARTMENT on the submittal requirements, but at a minimum shall consist of (1) the complete specifications package, (2) a copy of the marked-up workbook used to prepare the package, and (3) a copy of the final project plans.

Final submittal of the specifications package must occur at least 10 working days prior to the contract package to Tallahassee due date. This submittal shall be digitally signed, dated, and sealed in accordance with applicable Florida Statutes.

3.3.2 Estimated Quantities Report Preparation

The CONSULTANT shall prepare an Estimated Quantities (EQ) Report in accordance with FDM 902. Includes loading category information, pay items, and quantities into Designer Interface for AASHTOWare Project Preconstruction (PrP), QA/QC efforts associated with AASHTOWare PrP and the EQ Report.

The CONSULTANT shall prepare an Estimated Quantities (EQ) Report in accordance with FDM 902. Includes loading quantities into Designer Interface for AASHTOWare Project Preconstruction (PrP), QA/QC efforts associated with AASHTOWare PrP and the EQ Report.

3.4 Contract Maintenance and Project Documentation

Contract maintenance includes project management effort for complete setup and maintenance of files, electronic folders and documents, developing technical monthly progress reports and schedule updates. Project documentation includes the compilation and delivery of final documents, reports or calculations that support the development of the contract plans; includes uploading files to Electronic Document Management System (EDMS) or Project Suite Enterprise Edition (PSEE).

3.5 Value Engineering (Multi-Discipline Team) Review (N/A)

3.6 Prime Consultant Project Manager Meetings

Includes only the Prime Consultant Project Manager's time for travel and attendance at Activity Technical Meetings and other meetings listed in the meeting summary for Task 3.6 on tab 3 Project General Task of the staff hour forms. Staff hours for other personnel attending Activity Technical Meetings are included in the meeting task for that specific Activity.

3.7 Plans Update

The effort needed for Plans Update services will vary from project to project, depending on size and complexity of the project, as well as the duration of time spent "on the shelf".

Specific services will be negotiated as necessary as a contract amendment.

Optional Services

3.8 Post-Design Services

Post-Design Services may include, but not limited to, meetings, construction assistance, plans revisions, shop drawing review, survey services, as-built drawings, and load ratings. Specific services will be negotiated as necessary as a contract amendment.

Post-Design Services are not intended for instances of CONSULTANT errors or omissions.

Post Design Services shall be deemed to begin after the construction contract advertisement and may also include expert witness testimony.

3.9 Digital Delivery

The CONSULTANT shall deliver final contract plans and documents in digital format. The final contract plans and documents shall be digitally signed and sealed files delivered to the DEPARTMENT on acceptable electronic media, as determined by the DEPARTMENT.

3.10 Risk Assessment Workshop (N/A)

3.11 Railroad, Transit and/or Airport Coordination

The CONSULTANT shall coordinate with the DEPARTMENT transit, freight and aviation coordinator.

3.11.1 Aeronautical Evaluation

The Consultant shall be responsible for complying with the requirements of Title 14 of the Code of Federal Regulations Part 77 (14 CFR Part 77), and for determining whether it is necessary to file any Notice of Proposed Construction or Alteration (FAA Form 7460-1) with the Federal Aviation Administration (FAA), utilizing the FAA Notice Criteria Tool. Place a copy of all pertinent documentation in the Project Documentation folder structure; e.g., Notice Criteria Tool inquiries and responses; FAA Form 7460-1 filed with the FAA; Letters of Determination (along with the records demonstrating compliance with the conditions and deadlines). Report any Letters of Determination, designated other than "Does Not Exceed", to the Central Office (Aviation Office, Airspace and Land Use Manager).

All such CONSULTANT correspondence with the FAA or Central Office shall be coordinated in advance with the DEPARTMENT's District Aviation Office.

3.12 Landscape and Existing Vegetation Coordination

Coordinate to ensure preservation and protection of existing vegetation. Relocation of existing vegetation may be necessary in some cases. Space for proposed landscape should be preserved and conflicts with drainage, utilities, ITS, and signage should be minimized. Coordination with the District Landscape Architect may be necessary as defined in 4.12. Additionally, coordination with the Florida Scenic Highways program should be included to ensure any requirements of the FSH program are met.

N/A

3.13 Other Project General Tasks (N/A)

4 ROADWAY ANALYSIS

The CONSULTANT shall analyze and document Roadway Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

4.1 Typical Section Package

The CONSULTANT shall prepare a Typical Section Package.

4.2 Pavement Type Selection Report (N/A)

4.3 Pavement Design Package

The CONSULTANT shall prepare a Pavement Design Package.

Prior to the start of pavement design, the Pavement Design Package EOR shall meet with the District Seven Pavement Design Engineer, along with all CONSULTANT personnel directly involved with the pavement design. The meeting may be in person, however, a virtual meeting with screen sharing capabilities is preferred.

4.4 Cross-Slope Correction

The CONSULTANT shall coordinate with the DEPARTMENT to obtain existing cross slope data, determine roadway limits where cross slope is potentially out of tolerance and determine a resolution.

4.5 Horizontal/Vertical Master Design Files

The CONSULTANT shall design the geometrics using the Standard Plans that are most appropriate with proper consideration given to the design traffic volumes, design speed, capacity and levels of service, functional classification, adjacent land use, design consistency and driver expectancy, aesthetics, existing vegetation to be preserved, pedestrian and bicycle concerns, ADA requirements, Safe Mobility For Life Program, access management, PD&E documents and scope of work. The CONSULTANT shall also develop utility conflict information to be provided to project Utility Coordinator in the format requested by the DEPARTMENT.

Note: When the project includes a 3D Model deliverable, also include Activity 36 3D Modeling.

4.6 Access Management

The CONSULTANT shall incorporate access management standards for each project in coordination with DEPARTMENT staff. The CONSULTANT shall review adopted access management standards and the existing access conditions (interchange spacing, signalized intersection spacing, median opening spacing, and connection spacing).

Median openings that will be closed, relocated, or substantially altered shall be shown on plan sheets and submitted with supporting documentation for review with the first plans submittal.

The DEPARTMENT shall provide access management classification information and information derived from PD&E studies and public hearings to be used by the CONSULTANT.

4.7 Roundabout Final Design Analysis (N/A)

4.8 Cross Section Design Files (N/A)

See Activity 36.

4.9 Temporary Traffic Control Plan (TTCP) Analysis

The CONSULTANT shall design a safe and effective TTCP to move vehicular and pedestrian traffic during all phases of construction. The design shall include construction phasing of roadways ingress and egress to existing property owners and businesses, routing, signing and pavement markings, and detour quantity tabulations, roadway pavement, drainage structures, ditches, front slopes, back slopes, drop offs within clear zone, transit stops, and traffic monitoring sites. Special consideration shall be given to the construction of the drainage system when developing the construction phases. Positive drainage must be maintained at all times. The design shall include construction phasing of roadways to accommodate the construction or relocation of utilities when the contract includes Joint Project Agreements (JPAs).

The CONSULTANT shall investigate the need for temporary traffic signals, temporary highway lighting, detours, diversions, lane shifts, and the use of materials such as sheet piling in the analysis. The Traffic Control Plan shall be prepared by a certified designer who has completed training as required by the DEPARTMENT. Before proceeding with the TTCP, the CONSULTANT shall meet with the appropriate DEPARTMENT personnel. The purpose of this meeting is to provide information to the CONSULTANT that will better coordinate the Preliminary and Final TTCP efforts.

The CONSULTANT shall consider the local impact of any lane closures or alternate routes. When the need to close a road is identified during this analysis, the CONSULTANT shall notify the DEPARTMENT's Project Manager as soon as possible. Proposed road closings must be reviewed and approved by the DEPARTMENT. Diligence shall be used to minimize negative impacts by appropriate specifications, recommendations or plans development. Local impacts to consider will be local events, holidays, peak seasons, detour route deterioration and other eventualities. CONSULTANT shall be responsible to obtain local authorities permission for use of detour routes not on state highways.

The CONSULTANT may need to provide a temporary drainage design.

The design shall also include construction phasing of roadways when the contract includes Utility Work by Highway Contractor (UWHC).

Investigation of the need for temporary traffic signals shall include temporary timings and temporary signal detection.

Every effort shall be made to maintain signal detection throughout the life of the construction. The type of detection and the location shall be included in the TTCP.

Local impacts to consider also shall include emergency vehicle response time and transit agency routes and features.

Affected transit agencies shall be notified in advance about bus route lane closures and detours via the DEPARTMENT. The DEPARTMENT's Construction Services Unit will provide the lane closure calculations to the CONSULTANT.

4.10 Master TTCP Design Files

The CONSULTANT shall develop master TTCP files showing each phase of the TTCP. This includes all work necessary for designing lane configurations, diversions, lane shifts, signing and pavement markings, temporary traffic control devices, and temporary pedestrian ways.

4.11 Selective Clearing and Grubbing (N/A)

4.12 Tree Disposition Plans (N/A)

4.13 Design Variations and Exceptions

The CONSULTANT shall prepare the documentation necessary to gain DEPARTMENT approval of all appropriate Design Variation Memorandums, Formal Design Variations and/or Design Exceptions.

A Project Design Variation Memorandum (FDM Form 122-B) shall be prepared to document all non-controlling design elements for a project that do not meet Department criteria. Those elements requiring a more detailed analysis, as per FDM Section 122.2, shall be submitted as Formal Design Variations or Design Exceptions.

4.14 Design Report

The CONSULTANT shall prepare all applicable report(s) as listed in the Project Description section of this scope. Reports are to be delivered as a signed and sealed pdf file.

4.15 Roadway Quantities for EQ Report

The CONSULTANT shall determine roadway pay items and quantities and the supporting documentation.

4.16 TTCP Quantities for EQ Report

The CONSULTANT shall determine temporary traffic control pay items and quantities and the supporting documentation.

4.17 Cost Estimate**4.18 Technical Special Provisions and Modified Special Provisions****4.19 Other Roadway Analyses (N/A)****4.20 Field Reviews****4.21 Monitor Existing Structures**

The CONSULTANT shall perform field observations to visually identify existing structures within the project limits which may require settlement, vibration or groundwater monitoring by the contractor during construction in accordance with FDM Chapter 117. The CONSULTANT shall identify the necessary pay items to be included in the bid documents to monitor existing structures.

Optional Services (may be negotiated at a later date if needed): The CONSULTANT shall coordinate with and assist the geotechnical engineer and/or structural engineer to develop mitigation strategies (when applicable).

4.22 Technical Meetings**4.23 Quality Assurance/Quality Control****4.24 Independent Peer Review (N/A)****4.25 Supervision****4.26 Coordination****5 ROADWAY PLANS**

The CONSULTANT shall prepare Roadway, TTCP, Utility Adjustment Sheets, plan sheets, notes, and details. The plans shall include the following sheets necessary to convey the intent and scope of the project for the purposes of construction.

5.1 Key Sheet**5.2 Typical Section Sheets****5.2.1 Typical Sections****5.2.2 Typical Section Details****5.3 General Notes/Pay Item Notes****5.4 Project Layout****5.5 Plan/Profile Sheet (N/A)****5.6 Profile Sheet****5.7 Plan Sheet**

The CONSULTANT shall depict all lane lines for the entire plan portion of the roadway plans to include all intersections with directional arrows preceding and following the intersection proper. In addition, directional arrows should be indicated at the beginning and end of each sheet to provide ease of reviewing. A note shall be added to the first plan sheet stating that these lane lines and directional arrows are for informational purposes only. All phase submittals shall include this information except for the final contract documents.

5.8 Special Profile (N/A)

5.9 Back-of-Sidewalk Profile Sheet

5.10 Interchange Layout Sheet (N/A)

5.11 Ramp Terminal Details (Plan View) (N/A)

5.12 Intersection Layout Details

5.13 Special Details

5.14 Cross-Section Pattern Sheets (N/A)

5.15 Roadway Soil Survey Sheets

5.16 Cross Sections

5.17 Temporary Traffic Control Plan Sheets

5.18 Temporary Traffic Control Cross Section Sheets

5.19 Temporary Traffic Control Detail Sheets

5.20 Utility Adjustment Sheets

5.21 Selective Clearing and Grubbing Sheets (N/A)

5.22 Tree Disposition Plan Sheets (N/A)

5.23 Project Control Sheets

5.24 Environmental Detail Sheets (N/A)

5.25 Utility Verification Sheets (SUE Data)

5.26 Quality Assurance/Quality Control

5.27 Supervision

6a DRAINAGE ANALYSIS

The CONSULTANT shall analyze and document Drainage Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall be responsible for designing a drainage and stormwater management system. All design work shall comply with the requirements of the appropriate regulatory agencies and the DEPARTMENT's Drainage Manual.

The CONSULTANT shall coordinate fully with the appropriate permitting agencies and the DEPARTMENT's staff. All activities and submittals should be coordinated through the DEPARTMENT's Project Manager. The work will include the engineering analyses for any or all of the following:

6a.1 Drainage Map Hydrology

Create a (pre- and/or post-condition) working drainage basin map to be used in defining the system hydrology. This map shall incorporate drainage basin boundaries, existing survey and/or LiDAR and field observations, as necessary, to define the system. Basin delineations shall also include any existing collection systems in a logical manner to aid in the development of the hydraulic model. Include coordination hours needed to convey drainage hydrologic features onto produced drainage maps.

6a.2 Base Clearance Calculations

Analyze, determine, and document high water elevations per basin which will be used to set roadway profile grade and roadway materials. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent stormwater ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters. Document findings in a Base Clearance Report.

6a.3 Pond Siting Analysis and Report (N/A)

6a.4 Design of Cross Drains (N/A)

6a.5 Design of Ditches (N/A)

6a.6 Design of Stormwater Management Facility (Offsite or Infield Pond) (N/A)

6a.7 Design of Stormwater Management Facility (Roadside Treatment Swales and Linear Ponds) (N/A)

6a.8 Design of Floodplain Compensation (N/A)

6a.9 Design of Storm Drains

Delineate contributing drainage areas, determine runoff, inlet locations, and spread. Calculate hydraulic losses (friction, utility conflict and, if necessary, minor losses). Determine design tailwater and, if necessary, outlet scour protection.

6a.10 Optional Culvert Material

Determine acceptable options for pipe materials using the Culvert Service Life Estimator.

6a.11 French Drain Systems (N/A)**6a.12 Drainage Wells (N/A)****6a.13 Drainage Design Documentation Report**

Compile drainage design documentation into report format. Include documentation for all the drainage design tasks and associated meetings and decisions, except for stand-alone reports, such as the Pond Siting Analysis Report and Bridge Hydraulics Report.

The report shall include, in an appendix, a copy of the project scope, negotiated staff-hours and the Long Range Estimate (LRE).

6a.14 Bridge Hydraulic Report (N/A)**6a.15 Temporary Drainage Analysis**

Evaluate and address drainage to adequately drain the road and maintain existing offsite drainage during all construction phases. Provide documentation.

6a.16 Drainage Quantities for EQ Report

The CONSULTANT shall determine drainage pay items and quantities and the supporting documentation.

6a.17 Cost Estimate

Prepare cost estimates for the drainage components, except bridges and earthwork for stormwater management and flood compensation sites.

6a.18 Technical Special Provisions / Modified Special Provisions (N/A)**6a.19 Hydroplaning Analysis (N/A)****6a.20 Existing Permit Analysis**

Data gathering including desktop analysis of local, state and federal Drainage permits.

6a.21 Other Drainage Analysis

Includes all efforts for a drainage task not covered by an existing defined task.

Optional Services**6a.22 Noise Barrier Evaluation (N/A)****6a.23 Erosion Control Plan**

Includes analysis and design of the Erosion Control Plan. Includes creating the design file.

6a.24 Field Reviews

6a.25 Technical Meetings

Meetings with Department staff, regulatory agencies, local governments such as meetings with District Drainage Engineer, the Water Management District, FDEP, etc.

6a.26 Environmental Look-Around Meetings (N/A)

6a.27 Quality Assurance/Quality Control

6a.28 Independent Peer Review (N/A)

6a.29 Supervision

6a.30 Coordination

6b DRAINAGE PLANS

The CONSULTANT shall prepare Drainage plan sheets, notes, and details. The plans shall include the following sheets necessary to convey the intent and scope of the project for the purposes of construction.

6b.1 Drainage Map (Including Interchanges)

6b.2 Bridge Hydraulics Recommendation Sheets (N/A)

6b.3 Drainage Structures

6b.4 Lateral Ditch Plan/Profile & Cross Sections (N/A)

6b.5 Retention/Detention/Floodplain Compensation Pond Details & Cross Sections (N/A)

6b.6 Erosion Control Plan

6b.7 SWPPP

6b.8 Quality Assurance/Quality Control

6b.9 Supervision

7 UTILITIES

The CONSULTANT shall identify utility facilities and secure agreements, utility work schedules, and plans from the Utility Agency Owners (UAO) ensuring all conflicts that exist between utility facilities and the DEPARTMENT's construction project are addressed. The CONSULTANT shall certify all utility negotiations have been completed and that arrangements have been made for utility work to be undertaken.

7.1 Utility Kickoff Meeting

Before any contact with the UAO(s), the CONSULTANT shall meet with the District Utility Office (DUO) to receive guidance, as may be required, to assure that all necessary coordination will be accomplished in accordance with DEPARTMENT procedures. CONSULTANT shall bring a copy of the design project work schedule reflecting utility activities. The Consultant shall be prepared to discuss the projects applied utility schedule logic and current UAO contact information.

7.2 Identify Existing Utility Agency Owner(s)

The Consultant shall identify all Utility Agency Owners (UAOs) in the corridor and within and adjacent to the project limits that may be impacted by the project. Identification shall include the updates UAO contact information. The Consultant shall contact Sunshine 811, perform a field visit, and review prior FDOT utility permits, reports, existing plans, and surveys provided.

7.3 Make Utility Contacts

First Contact: The CONSULTANT shall send letters and plans to each Utility Agency Owner (UAO), one set for the utility office, and one set to the DEPARTMENT Offices as required by the District. Includes contact by phone for meeting coordination. Request type, size, location, easements, and cost for relocation if reimbursement is claimed. Request the voltage level for power lines in the project area. Send UAO requests for reimbursement to FDOT for a legal opinion. Include the meeting schedule (if applicable) and the design schedule. Include typical meeting agenda. If scheduling a meeting, give a 4-week notice.

Second Contact: At a minimum of 4 weeks prior to the meeting, the CONSULTANT shall transmit Phase II plans and the utility conflict information (when applicable and in the format requested by the DEPARTMENT) to each UAO having facilities located within the project limits, and one set to the DEPARTMENT Offices as required by the District.

Third Contact: Identify agreements and assemble packages. The CONSULTANT shall send agreements, letters, the utility conflict information (when applicable and in the format requested by the DEPARTMENT) and plans to the UAO(s) including all component sets, one set for the utility office, one set to construction and maintenance if required. Include the design schedule.

Not all projects will have all contacts as described above.

During the First Contact mentioned above, the CONSULTANT shall also send an electronic set of plans (both pdf and dgn files), to each utility. Hard copies of plans shall be sent upon request of a utility.

During the Second Contact mentioned above, The Phase II plans sent to the UAOs shall be electronic (both pdf and .dgn file) Also, send a List of Plan Changes since the first contact. Hard copies of plans shall be sent upon request of a utility.

7.4 Exception Processing (N/A)

7.5 Preliminary Utility Meeting

The CONSULTANT shall schedule (time and place), notify participants, and conduct a preliminary utility meeting with all UAO(s) having facilities located within the project limits for the purpose of presenting the project, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable property rights from the FDOT Legal Office, discuss the utility work by highway contractor option with each utility, and discuss any future design issues that may impact utilities. This is also an opportunity for the UAO(s) to present proposed facilities. The CONSULTANT shall keep accurate minutes and distribute a copy to all attendees.

7.6 Individual/Field Meetings

The CONSULTANT shall meet with each UAO as necessary, separately or together, throughout the project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, standard or selective clearing and grubbing work, and assist in the development of the UAO(s) marked/RGB plans and work schedules. The CONSULTANT is responsible for motivating the UAO to complete and return the necessary documents after each Utility Contact or Meeting.

This includes any negotiated phase review office and field meetings.

7.7 Collect and Review Plans and Data from UAO(s)

The CONSULTANT shall review UAO marked plans and data individually as they are received for content, accuracy, utility type, material, and size. Provide to the EOR (designer) for inclusion in the plans. Forward all requests for UAO reimbursement and supporting documentation to the DUO.

The above review shall ensure compliance with the information requested.

7.8 Subordination of Easements Coordination (N/A)

The District Right of Way Office will handle processing of all Subordinations of Easements. The CONSULTANT shall refer all UAOs to the District Right of Way Office

7.9 Utility Design Meeting

The CONSULTANT shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s). The CONSULTANT shall be prepared to discuss impacts to existing trees/vegetation and proposed landscape, drainage, traffic signalization, temporary traffic control plans (TTCP) (construction phasing), review the current design schedule and letting date, evaluate the utility information collected,

provide follow-up information on compensable property rights from FDOT Legal Office, discuss with each UAO the utility work by highway contractor option, discuss any future design issues that may impact utilities, etc., to the extent that they may have an effect on existing or proposed utility facilities with particular emphasis on drainage and TTCP with each UAO. The intent of this meeting shall be to assist the UAOs in identifying and resolving conflicts between utilities and proposed construction before completion of the plans, including utility adjustment details. Also, to work with the UAOs to recommend potential resolution between known utility conflicts with proposed construction plans as may be deemed practical by the UAO. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees within 3 days. See Task 4.5 (Horizontal/Vertical Master Design File) and Task 4.8 (Cross Section Design Files) for utility conflict location identification and adjustments.

The CONSULTANT shall be prepared to discuss all findings from Utility Designating and Locating efforts, and the possible need for additional verification.

7.10 Review Utility Markups & Work Schedules and Processing of Schedules & Agreements

The CONSULTANT shall review utility marked up plans and work schedules as they are received for content and coordinate review with the designer. Send color markups and schedules to the appropriate DEPARTMENT office(s) such as survey, geotechnical, drainage, structures, lighting, roadway, signals, utilities, landscape architecture, municipalities, maintaining agency, and District Traffic Operations for review and comment if required by the District. Coordinate with the District for execution. Distribute Executed Final Documents. Prepare Work Order for UAO(s). The CONSULTANT shall coordinate with the DUO the programming of necessary Work Program funds.

7.11 Utility Coordination/Follow-up

The CONSULTANT shall provide utility coordination and follow up. This includes follow-up, interpreting plans, and assisting the UAOs with completion of their work schedules and agreements. Includes phone calls, face-to-face meetings, etc., to motivate and ensure the UAO(s) complete and return the required documents in accordance with the project schedule. Ensure the resolution of all identified conflicts. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees. This task can be applied to all phases of the project.

7.12 Utility Constructability Review

The CONSULTANT shall review utility schedules against construction contract time, and phasing for compatibility. Coordinate with and obtain written concurrence from the construction office. See Task 4.5 (Horizontal/Vertical Master Design File) and Task 4.8 (Cross Section Design Files) for utility conflict identification and adjustments.

7.13 Additional Utility Services

The CONSULTANT shall provide additional utility services. Additional services will be determined when the services are required and requested. This item is not usually

included in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified.

The activities in this section are to be considered Optional Services.

7.14 Processing Utility Work by Highway Contractor (UWHC)

This includes coordination of utility design effort between the DEPARTMENT and the UAO(s). The CONSULTANT shall conduct additional coordination meetings, prepare and process the agreements, review tabulation of quantities, perform UWHC constructability and bidability review, review pay items, cost estimates and Technical Special Provisions (TSP) or Modified Special Provision (MSP) prepared by the UAO. This does not include the utility design effort. This item is not usually included in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified. Effort for the EOR is not included in this task, see Roadway Analysis Task Group 4.

7.15 Contract Plans to UAO(s)

If requested by the District, the CONSULTANT shall transmit the contract plans as processed for letting to the UAO(s). Transmittals to UAO(s) via electronic delivery or another agreeable format.

The District Utility Office will be copied in this transmittal of Contract Plans to UAO

7.16 Certification/Close-Out

This includes hours for transmitting utility files to the DUO and preparation of the Utility Certification Letter. The CONSULTANT shall certify to the appropriate DEPARTMENT representative the following:

All utility negotiations (Full execution of each agreement, approved Utility Work Schedules, Technical Special Provisions or Modified Special Provisions written, etc.) have been completed with arrangements made for utility work to be undertaken and completed as required for proper coordination with the physical construction schedule.

OR

An on-site inspection was made and no utility work will be involved.

OR

Plans were sent to the Utility Companies/Agencies and no utility work is required.

7.17 Other Utilities

The CONSULTANT shall provide other utility services. This includes all efforts for a utility task not covered by an existing defined task. Required work will be defined in the scope and negotiated on a case-by-case basis.

May include assisting EOR with Utility Permit Reviews.

8 ENVIRONMENTAL PERMITS and ENVIRONMENTAL CLEARANCES

The CONSULTANT shall notify the DEPARTMENT Project Manager, Environmental Permit Coordinator, and other appropriate DEPARTMENT personnel in advance of all scheduled meetings with the regulatory agencies to allow a DEPARTMENT representative to attend. The CONSULTANT shall copy in the Project Manager and the Environmental Permit Coordinator on all permit related correspondence and meetings. The Consultant shall use current regulatory guidelines and policies for all permits required as identified in Section 2.4.

8.1 Preliminary Project Research

The CONSULTANT shall perform preliminary project research and shall be responsible for regulatory agency coordination to assure that design efforts are properly directed toward permit requirements. The research shall include but should not be limited to a review of the project's PD&E documents including the Environmental Document, Natural Resources Evaluation Report, and Cultural Resources Assessment Survey Report.

The CONSULTANT shall research any existing easements or other restrictions that may exist both within or adjacent to the proposed project boundary. Project research may include but should not be limited to review of available: District Right of Way files and databases; federal, state, and local permit files and databases; and local government information including county and property appraiser data. The CONSULTANT shall determine if any Sovereign Submerged Lands easements need to be modified or acquired. Any applicable information will be shown on the plans as appropriate.

8.2 Field Work

8.2.1 Pond Site Alternatives: (N/A)

8.2.2 Establish Wetland Jurisdictional Lines and Assessments:

The CONSULTANT shall be responsible for, but not limited to, the following activities:

- Determine landward extent of wetlands and other surface waters as detailed in Rule Chapter 62-340, F.A.C., as ratified in Section 373.4211, F.S.; United States Army Corps of Engineers (USACE) Wetland Delineation Manual (Technical Report Y-87-1); Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (ERD/EL TR-10-20).
- Collect all data and information necessary to determine the jurisdictional boundaries of wetlands and other surface waters as defined by the rules or regulations of each permitting agency processing a DEPARTMENT permit application for the project.
- Set seasonal high-water levels in adjacent wetlands with biological indicators
- Obtain a jurisdictional determination as defined by the rules or regulations of each permitting agency processing a DEPARTMENT permit application for the project.

- Prepare aerial maps showing the jurisdictional boundaries of wetlands and other surface waters. Aerial maps shall be reproducible, of a scale of 1"=400' or more detailed and be recent photography. The maps shall show the jurisdictional boundaries of each agency. Photocopies of aerials are not acceptable. When necessary, a wetland specific survey will be prepared by a registered surveyor and mapper. All surveyed jurisdictional boundaries are to be tied to the project's baseline of survey.
- Prepare a written assessment of the current condition and functional value of the wetlands and other surface waters. Prepare data in tabular form which includes the ID number for each wetland (and other surface water, if necessary) impacted, size of wetland to be impacted, type of impact, and identify any wetland (by ID number and size) within the project limits that will not be impacted by the project.
- Prepare appropriate agency forms to obtain required permits. Forms may include but are not limited to the USACE "Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region"; the USACE "Request for Corps Jurisdictional Determination"; Uniform Mitigation Assessment Method forms and/or project specific data forms.

The CONSULTANT shall provide the following at the time of the first plans submittal:

- ***Surveyed and approved jurisdictional boundaries on plan sheets.***
- ***Detailed estimate of wetland impacts, including, but not limited to, the acreage and type of impact. This shall be provided in writing to the District Environmental Permit Coordinator based on the approved jurisdictional boundaries.***
- ***For projects with one or more acres of wetland impact, WRAP or UMAM assessments (whichever is appropriate based on coordination with the agencies) shall be provided to District Environmental Permit Coordinator for submittal to SWFWMD.***

8.2.3 Species Surveys:

The CONSULTANT shall conduct wildlife surveys as defined by rules or regulations of any permitting agency, or commenting agency that is processing a DEPARTMENT permit.

8.3 Agency Verification of Wetland Data

The CONSULTANT shall be responsible for verification of wetland and other surface water data identified in Section 8.2 and coordinating regulatory agency field reviews, including finalization of assessments and jurisdictional determinations with applicable agencies.

8.4 Complete and Submit All Required Permit Applications

The CONSULTANT shall collect the data and information necessary to prepare the permit applications and obtain the environmental permits required to construct the project

as identified in the Project Description and as described in 8.4.1, 8.4.2, and 8.15 (Other Environmental Permits). The CONSULTANT shall prepare each permit application in accordance with the rules and/or regulations of the regulatory agency responsible for issuing a specific permit and/or authorization to perform work. The permit application packages must be approved by the DEPARTMENT prior to submittal to regulatory agencies.

The CONSULTANT will submit all permit applications, as directed by the DEPARTMENT, and be responsible for payment of all permit and public noticing fees, unless directed otherwise by the DEPARTMENT.

The CONSULTANT shall be responsible for the payment of all fees for permit applications and legal notices.

8.4.1 Complete and Submit all Required Wetland Permit Applications:

The CONSULTANT shall prepare, complete, and submit required wetland permit (i.e., ERP, Section 404) application packages to the appropriate regulatory agencies. This includes, but is not limited to, applications submitted to WMDs and/or DEP, and USACE. The application package may include but is not limited to attachments (e.g., project location map, aerials, affidavit of ownership, pictures, additional technical analysis, etc.), a cover letter with project description as well as completion of applicable agency forms. The CONSULTANT shall prepare and respond to agency Requests for Additional Information (RAIs), including necessary revisions to the application package. All responses and completed application packages must be approved by the District Permit Coordinator prior to submittal to the regulatory agencies. Geotechnical permitting should also be prepared, submitted, and obtained.

8.4.2 Complete and Submit all Required Species Permit Applications:

The CONSULTANT shall prepare, complete and submit required species permit applications to the appropriate agencies. This includes federal and state protected species permit application packages as required. The work includes completion of application package (e.g., project location map, aerials, affidavit of ownership, pictures, additional technical analysis, etc.), and cover letter with project description as well as completion of applicable forms. The CONSULTANT shall respond to agency RAIs, including necessary revisions to the application package. All responses and completed applications must be approved by the District Permit Coordinator prior to submittal to the regulatory agency.

Evaluate the need for using a Special Provision when the project includes an Outstanding Florida Water (OFW), Surface Water, or listed species.

8.5 Coordinate and Review Dredge and Fill Sketches

The CONSULTANT shall review Dredge and Fill Detail sheets to ensure information on the sketch(es) meet the requirements of the regulatory agencies and are appropriate for environmental permit application submittal and acquisition. The CONSULTANT will also provide environmental data/information as needed to support the preparation of the Dredge and Fill sketches.

8.6 Complete and Submit Documentation for Coordination and/or USCG Bridge Permit Application (N/A)

8.7 Prepare Water Management District or Local Water Control District Right of Way Occupancy Permit Application (N/A)

8.8 Prepare Coastal Construction Control Line (CCCL) Permit Application (N/A)

8.9 Prepare USACE Section 408 Application to Alter a Civil Works Project (N/A)

8.10 Compensatory Mitigation Plan

If impacts cannot be avoided, the CONSULTANT shall prepare a mitigation plan to be included as a part of the application(s).

Prior to the development of mitigation alternatives, the CONSULTANT shall meet with the Project Manager and Environmental Permit Coordinator to determine the DEPARTMENT's policies in proposing mitigation. The CONSULTANT shall develop a mitigation plan based upon the general guidelines provided by the DEPARTMENT.

The CONSULTANT will be directed by the DEPARTMENT to investigate the mitigation options that meet federal and state requirements in accordance with section 373.4137, F.S. Below are mitigation options:

- Purchase of mitigation credits from a mitigation bank
- Payment to DEP/WMD for mitigation services
- Monetary participation in offsite regional mitigation plans
- Creation/restoration of wetlands

In the event that physical creation or restoration is the only feasible alternative to offset wetland impacts, the CONSULTANT shall collect all of the data and information necessary to prepare mitigation plans acceptable to all permitting agencies and commenting agencies who are processing or reviewing a permit application for a DEPARTMENT project.

Prior to selection of a final creation/restoration mitigation site, the CONSULTANT will provide the following services in the development of a mitigation plan:

- Preliminary jurisdictional determination for each proposed site
- Selection of alternative sites
- Coordination of alternative sites with the DEPARTMENT/all environmental agencies
- Written narrative listing potential sites with justifications for both recommended and non-recommended sites.

8.11 Mitigation Coordination and Meetings

The CONSULTANT shall coordinate with DEPARTMENT personnel prior to approaching any environmental permitting or commenting agencies. Once a mitigation plan has been reviewed and approved by the DEPARTMENT, the CONSULTANT will be responsible for coordinating the proposed mitigation plan with the environmental

agencies. The CONSULTANT will provide mitigation information needed to update the FDOT Environmental Impact Inventory.

8.12 Regulatory Agency Support

The CONSULTANT shall provide regulatory agency support which may include but is not limited to preparing: a Statement of Findings or Memorandum for the Record; Public Notice; Findings of Fact; and Biological Opinion.

8.13 Technical Support to the DEPARTMENT for Environmental Clearances and Re-evaluations (use when CONSULTANT provides technical support only) (N/A)

8.14 Preparation of Environmental Clearances and Re-evaluations (use when CONSULTANT prepares all documents associated with a re-evaluation) (N/A)

8.15 Other Environmental Permits (N/A)

8.16 Contamination Impact Analysis (N/A)

The DEPARTMENT will provide all such necessary services.

8.17 Asbestos Survey (N/A)

The DEPARTMENT will provide all such necessary services.

8.18 Technical Meetings (N/A)

8.19 Quality Assurance/Quality Control (N/A)

8.20 Supervision (N/A)

8.21 Coordination (N/A)

9 STRUCTURES - SUMMARY AND MISCELLANEOUS TASKS AND DRAWINGS

The CONSULTANT shall analyze, design, and develop contract documents for all structures in accordance with applicable provisions as defined in Section 2.19, Provisions for Work. Individual tasks identified in Sections 9 through 18 are defined in the Staff Hour Estimation Handbook and within the provision defined in Section 2. 20, Provisions for Work. Contract documents shall display economical solutions for the given conditions.

The CONSULTANT shall provide Design Documentation to the DEPARTMENT with each submittal consisting of structural design calculations and other supporting documentation developed during the development of the plans. The design calculations submitted shall adequately address the complete design of all structural elements. These calculations shall be neatly and logically presented on digital media or, at the DEPARTMENT's request, on 8 ½"x11" paper and all sheets shall be numbered. The final design calculations shall be signed and sealed by a Florida-licensed professional engineer. A cover sheet indexing the contents of the calculations shall be included and the engineer shall sign and seal that sheet. All

computer programs and parameters used in the design calculations shall include sufficient backup information to facilitate the review task.

9.1 Key Sheet and Index of Drawings (N/A)

9.2 Project Layout (N/A)

9.3 General Notes and Bid Item Notes (N/A)

9.4 Miscellaneous Common Details (N/A)

9.5 Incorporate Report of Core Borings

9.6 Standard Plans- Bridges (N/A)

9.7 Existing Bridge Plans (N/A)

9.8 Structures Quantities for EQ Report

9.9 Cost Estimate

9.10 Technical Special Provisions and Modified Special Provisions (N/A)

9.11 Field Reviews

9.12 Technical Meetings

9.13 Quality Assurance/Quality Control

9.14 Independent Peer Review

9.15 Supervision

9.16 Coordination

10 STRUCTURES - BRIDGE DEVELOPMENT REPORT (N/A)

11 STRUCTURES - TEMPORARY BRIDGE (N/A)

12 STRUCTURES - SHORT SPAN CONCRETE BRIDGE (N/A)

13 STRUCTURES - MEDIUM SPAN CONCRETE BRIDGE (N/A)

14 STRUCTURES - STRUCTURAL STEEL BRIDGE (N/A)

15 STRUCTURES - SEGMENTAL CONCRETE BRIDGE (N/A)

16 STRUCTURES - MOVABLE SPAN (N/A)

17 STRUCTURES - RETAINING WALLS

The CONSULTANT shall prepare plans for Retaining Wall(s) as specified in Section 2.5.

General Requirements

17.1 Key Sheet

17.2 Horizontal Wall Geometry

Permanent Proprietary Walls

17.3 Vertical Wall Geometry (N/A)

17.4 Semi-Standard Drawings (N/A)

17.5 Wall Plan and Elevations (Control Drawings) (N/A)

17.6 Details (N/A)

Temporary Proprietary Walls

17.7 Vertical Wall Geometry (N/A)

17.8 Semi-Standard Drawings (N/A)

17.9 Wall Plan and Elevations (Control Drawings) (N/A)

17.10 Details (N/A)

Cast-In-Place Retaining Walls

17.11 Design (N/A)

17.12 Vertical Wall Geometry (N/A)

17.13 General Notes (N/A)

17.14 Wall Plan and Elevations (Control Drawings) (N/A)

17.15 Sections and Details (N/A)

17.16 Reinforcing Bar List (N/A)

Other Retaining Walls and Bulkheads

17.17 Design

17.18 Vertical Wall Geometry

17.19 General Notes, Tables and Miscellaneous Details

17.20 Wall Plan and Elevations

17.21 Details

18 STRUCTURES - MISCELLANEOUS

The CONSULTANT shall prepare plans for Miscellaneous Structure(s) as specified in Section 2.5.

Concrete Box Culverts

18.1 Concrete Box Culverts (N/A)

18.2 Concrete Box Culverts Extensions (N/A)

18.3 Concrete Box Culvert Data Table Plan Sheets (N/A)

18.4 Concrete Box Culvert Special Details Plan Sheets (N/A)

Strain Poles

18.5 Steel Strain Poles (N/A)

18.6 Concrete Strain Poles (N/A)

18.7 Strain Pole Data Table Plan Sheets (N/A)

18.8 Strain Pole Special Details Plan Sheets

Mast Arms

18.9 Mast Arms

18.10 Mast Arms Data Table Plan Sheets

18.11 Mast Arms Special Details Plan Sheets (N/A)

Overhead/Cantilever Sign Structure

18.12 Cantilever Sign Structures (N/A)

18.13 Overhead Span Sign Structures (N/A)

18.14 Special (Long Span) Overhead Sign Structures (N/A)

18.15 Monotube Overhead Sign Structure (N/A)

18.16 Bridge Mounted Signs (Attached to Superstructure) (N/A)

18.17 Overhead/Cantilever Sign Structures Data Table Plan Sheets (N/A)

18.18 Overhead/Cantilever Sign Structures Special Details Plan Sheets (N/A)

High Mast Lighting

18.19 Non-Standard High Mast Lighting Structures (N/A)

18.20 High Mast Lighting Special Details Plan Sheets (N/A)

Noise Barrier Walls (Ground Mount)

18.21 Horizontal Wall Geometry (N/A)

18.22 Vertical Wall Geometry (N/A)

18.23 Summary of Quantities - Aesthetic Requirements (N/A)

18.24 Control Drawings (N/A)

18.25 Design of Noise Barrier Walls Covered by Standards (N/A)

18.26 Design of Noise Barrier Walls not Covered by Standards (N/A)

18.27 Aesthetic Details (N/A)

Special Structures

18.28 Fender System (N/A)

18.29 Fender System Access (N/A)

18.30 Special Structures

18.31 Other Structures (N/A)

18.32 Condition Evaluation of Signal and Sign Structures, and High Mast Light Poles (N/A)

18.33 Condition Evaluation of Signal and Sign Structures, and High Mast Light Poles (No As built or Design Plans Available) (N/A)

18.34 Analytical Evaluation of Signal and Sign Structures, and High Mast Light Poles (N/A)

18.35 Ancillary Structures Report (N/A)

19 SIGNING AND PAVEMENT MARKING ANALYSIS

The CONSULTANT shall analyze and document Signing and Pavement Markings Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

19.1 Traffic Data Analysis

The CONSULTANT shall review the approved preliminary engineering report, typical section package, traffic technical memorandum and proposed geometric design alignment to identify proposed sign placements and roadway markings. Perform queue analysis.

19.2 No Passing Zone Study (N/A)

19.3 Signing and Pavement Marking Master Design File

The CONSULTANT shall prepare the Signing & Marking Design file to include all necessary design elements and all associated reference files.

19.4 Multi-Post Sign Support Calculations (N/A)

19.5 Sign Panel Design Analysis

Establish sign layout, letter size and series for non-standard signs.

19.6 Sign Lighting/Electrical Calculations (N/A)

19.7 S&PM Quantities for EQ Report

The CONSULTANT shall determine signing and pavement marking pay items and quantities and the supporting documentation.

This shall be done at phases III, IV, and final for the signing and pavement-marking component of the entire project.

19.8 Cost Estimate

The CONSULTANT shall be responsible for producing an accurate engineer's construction cost estimate for the signing and pavement marking component at phases III, IV and final.

19.9 Technical Special Provisions and Modified Special Provisions (N/A)

19.10 Other Signing and Pavement Marking Analysis (N/A)

19.11 Field Reviews

The CONSULTANT shall conduct field reviews of the project. This includes all trips required to obtain necessary data for all elements of the project.

19.12 Technical Meetings

The CONSULTANT shall attend phase review meetings for the plan submittal phases of the project with a representative from the District Traffic Design Engineer's office to resolve technical issues during the design process.

19.13 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by CONSULTANT under the contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control

Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project. The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings. The responsible Professional Engineer that performed the Quality Control review shall sign a statement certifying that the review was conducted.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the designs, maps, drawings, specifications and/or other services.

19.14 Independent Peer Review (N/A)

19.15 Supervision

The CONSULTANT shall provide all efforts required to supervise all technical design activities including the work of the subconsultants.

19.16 Coordination

The CONSULTANT shall provide all efforts to coordinate with all disciplines of the project to produce a final set of construction documents and to ensure high degree of accuracy for the design plans is achieved.

20 SIGNING AND PAVEMENT MARKING PLANS

The CONSULTANT shall prepare a set of Signing and Pavement Marking Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums that includes the following.

20.1 Key Sheet & Signature Sheet

20.2 General Notes/Pay Item Notes

The CONSULTANT shall include all pertinent general notes and pay item notes as deemed fit and as established by the District Traffic Design Engineer's office.

20.3 Project Layout

20.4 Plan Sheet

The CONSULTANT shall prepare the Signing & Marking plan sheets utilizing the Design file to include all necessary information related to the project design elements and all associated reference files. All traffic plans shall be prepared at a scale of 1" = 40'.

20.5 Special Details

20.6 Service Point Details (N/A)

20.7 Guide Sign Data

The CONSULTANT shall prepare Guide Sign Work Sheets for the advanced street name signs approaching the signalized intersections utilizing the District's Traffic

Design Guidelines. The CONSULTANT shall utilize the guide sign design software approved by the DEPARTMENT.

20.8 Cross Sections (Sign Installations)

20.9 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications and other services prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project.

The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings in addition to the QC effort described in the analysis section.

20.10 Supervision

The CONSULTANT shall provide all efforts required to supervise all technical design activities including the work of the sub-consultants.

21 SIGNALIZATION ANALYSIS

The CONSULTANT shall analyze and document Signalization Analysis Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

21.1 Traffic Data Collection

The CONSULTANT shall perform all effort required for traffic data collection, including crash reports, 24 hr. machine counts, 8 hr. turning movement counts, 7 day machine counts, and speed & delay studies.

21.2 Traffic Data Analysis

The CONSULTANT shall determine signal operation plan, intersection geometry, local signal timings, pre-emption phasing & timings, forecasting traffic, and intersection analysis run.

21.3 Signal Warrant Study

Optional Services

21.4 Systems Timings (N/A)

21.5 Reference and Master Signalization Design File

The CONSULTANT shall prepare the Signalization Design file to include all necessary design elements and all associated reference files.

21.6 Reference and Master Interconnect Communication Design File

The CONSULTANT shall prepare the Interconnect Communication Design file to include all necessary design elements and all associated reference files.

21.7 Overhead Street Name Sign Design

The CONSULTANT shall design Signal Mounted Overhead Street Name signs.

21.8 Pole Elevation Analysis**21.9 Traffic Signal Operation Report (N/A)****21.10 Signalization Quantities for EQ Report**

The CONSULTANT shall determine signalization pay items and quantities and the supporting documentation.

The CONSULTANT shall determine pay items and quantities and the supporting documentation for the project at phases III, IV and final for the signalization component of the entire project.

21.11 Cost Estimate

The CONSULTANT shall be responsible for producing an accurate engineer's construction cost estimate for the signalization component at phase III, IV and final.

21.12 Technical Special Provisions and Modified Special Provisions

The CONSULTANT shall prepare Technical Special Provisions as necessary for any pay items that are not covered by the Florida Department of Transportation Standard Specifications for Road and Bridge Construction or by Special Provisions.

21.13 Other Signalization Analysis (N/A)**21.14 Field Reviews**

The CONSULTANT shall collect information from the maintaining agencies and conduct a field review. The review should include, but is not limited to, the following:

- Existing Signal and Pedestrian Phasing
- Controller Make, Model, Capabilities and Condition/Age
- Condition of Signal Structure(s)
- Type of Detection as Compared with Current District Standards
- Interconnect Media
- Controller Timing Data

21.15 Technical Meetings

The CONSULTANT shall attend phase review meetings for the plan submittal phases of the project with a representative from the District Traffic Design Engineer's office to resolve technical issues during the design process.

21.16 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications and other services prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project.

The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings. The responsible Professional Engineer that performed the Quality Control review shall sign a statement certifying that the review was conducted.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the designs, maps, drawings, specifications and/or other services.

21.17 Independent Peer Review (N/A)**21.18 Supervision****21.19 Coordination****22 SIGNALIZATION PLANS**

The CONSULTANT shall prepare a set of Signalization Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums, which includes the following:

22.1 Key Sheet & Signature Sheet**22.2 General Notes/Pay Item Notes**

The CONSULTANT shall include all pertinent general notes and pay item notes as deemed fit and as established by the District Traffic Design Engineer's office.

22.3 Signalization Plan Sheets**22.4 Interconnect Plans****22.5 Traffic Monitoring Site**

22.6 Guide Sign Data**22.7 Special Details****22.8 Service Point Details****22.9 Mast Arm/Monotube Tabulation Sheet****22.10 Strain Pole Schedule (N/A)****22.11 TTCP Signal (N/A)****22.12 Temporary Detection Sheet****22.13 Quality Assurance/Quality Control**

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications and other services prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project.

The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings in addition to the QC effort described in the analysis section.

22.14 Supervision

The CONSULTANT shall provide all efforts required to supervise all technical design activities including the work of the subconsultants.

23 LIGHTING ANALYSIS

The CONSULTANT shall analyze and document Lighting Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

23.1 Lighting Justification Report (N/A)**23.2 Lighting Design Analysis Report (LDAR)**

The CONSULTANT shall prepare a Preliminary Lighting Design Analysis Report in accordance with the requirements of the FDOT Design Manual. The report shall be submitted under a separate cover with the Phase II plans submittal. After approval of the preliminary report, the CONSULTANT shall submit a revised report for each submittal.

23.3 Voltage Drop Calculations (N/A)

23.4 FDEP Coordination and Report (N/A)**23.5 Reference and Master Design Files**

The CONSULTANT shall prepare the Lighting Design file to include all necessary design elements and all associated reference files.

23.6 Temporary Highway Lighting (N/A)**23.7 Design Documentation**

The CONSULTANT shall submit a Design Documentation with each plans submittal under a separate cover and not part of the roadway documentation book. At a minimum, the design documentation shall include:

- Phase submittal checklist.
- Structural calculations for special conventional pole concrete foundations.
- Correspondence with the power company concerning new electrical service.

23.8 Lighting Quantities for EQ Report

The CONSULTANT shall determine lighting pay items and quantities and the supporting documentation.

The CONSULTANT shall determine pay items and quantities and the supporting documentation for the project at phases III, IV and final for the lighting component of the entire project.

23.9 Cost Estimate

The CONSULTANT shall be responsible for producing an accurate engineer's construction cost estimate for the lighting component at phases III, IV and final.

23.10 Technical Special Provisions and Modified Special Provisions (N/A)**23.11 Other Lighting Analysis (N/A)****23.12 Field Reviews**

The CONSULTANT shall collect information from the maintaining agencies and conduct a field review. The review should include but is not limited to the following:

- Existing Lighting Equipment
- Load Center, Capabilities and Condition/Age
- Condition of Lighting Structure(s)
- Verification of horizontal clearances
- Verification of breakaway requirements

23.13 Technical Meetings

The CONSULTANT shall attend phase review meetings for the plan submittal phases of the project with a representative from the District Traffic Design Engineer's office to resolve technical issues during the design process.

23.14 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check and review all design drawings, specifications and documentation prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operations, or it may be one specifically designed for this project. The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings. The responsible Professional Engineer that performed the Quality Control review shall sign a statement certifying that the review was conducted.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the design, maps, drawings, specifications and/or other services.

23.15 Independent Peer Review (N/A)**23.16 Supervision****23.17 Coordination****24 LIGHTING PLANS**

The CONSULTANT shall prepare a set of Lighting Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

24.1 Key Sheet & Signature Sheet**24.2 General Notes/Pay Item Notes**

The CONSULTANT shall include all pertinent general notes and pay item notes as deemed fit and as established by the District Traffic Design Engineer's Office.

24.3 Pole Data, Legend & Criteria

The CONSULTANT shall complete the Pole Data and Legend Criteria sheets in the standard format as necessary to provide a complete lighting design.

24.4 Project Layout**24.5 Plan Sheets**

The CONSULTANT shall prepare the Roadway Lighting plan sheets utilizing the Design file to include all necessary information related to the project design elements and all associated reference files. The roadway lighting plan sheet scale shall be 1"=40'.

24.6 Special Details (N/A)**24.7 Service Point Details (N/A)****24.8 Temporary Highway Lighting Plan Sheets (N/A)****24.9 Quality Assurance/Quality Control**

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications and other services prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project.

The CONSULTANT shall utilize the District's quality control checklist for traffic design drawings in addition to the QC effort described in the analysis section.

24.10 Supervision**25 LANDSCAPE ANALYSIS (N/A)**

N/A

26 LANDSCAPE PLANS (N/A)

N/A

27 SURVEY

The CONSULTANT shall perform survey tasks in accordance with all applicable statutes, manuals, guidelines, standards, handbooks, procedures, and current design memoranda.

The CONSULTANT shall submit all survey notes and computations to document the surveys. All field survey work shall be recorded in approved media and submitted to the DEPARTMENT. Field books submitted to the DEPARTMENT must be of an approved type. The field books shall be certified by the surveyor in responsible charge of work being performed before the final product is submitted.

The survey notes shall include documentation of decisions reached from meetings, telephone conversations or site visits. All like work (such as bench lines, reference points, etc.) shall be recorded contiguously. The DEPARTMENT may not accept field survey radial locations of section corners, platted subdivision lot and block corners, alignment control points, alignment control reference points and certified section corner references. The DEPARTMENT may instead require that these points be surveyed by true line, traverse or parallel offset.

27.1 Horizontal Project Control (HPC)

Establish or recover HPC, for the purpose of establishing horizontal control on the Florida State Plane Coordinate System or datum approved by the District Surveyor (DS) or District Location Surveyor (DLS); may include primary or secondary control points. Includes analysis and processing of all field collected data, and preparation of forms.

Optional Services**27.2 Vertical Project Control (VPC)**

Establish or recover VPC, for the purpose of establishing vertical control on datum approved by the District Surveyor (DS) or the District Location Surveyor (DLS).; may include primary or secondary vertical control points. Includes analysis and processing of all field collected data, and preparation of forms.

Optional Services**27.3 Alignment and/or Existing Right of Way (R/W) Lines**

Establish, recover or re-establish project alignment. Also includes analysis and processing of all field collected data, existing maps, and/or reports for identifying mainline, ramp, offset, or secondary alignments. Depict alignment and/or existing R/W lines (in required format) per DEPARTMENT R/W Maps, platted or dedicated rights of way.

Optional Services**27.4 Aerial Targets**

Place, locate, and maintain required aerial targets and/or photo identifiable points. Includes analysis and processing of all field collected data, existing maps, and/or reports. Placement of the targets will be at the discretion of the aerial firm.

Optional Services**27.5 Reference Points**

Reference Horizontal Project Control (HPC) points, project alignment, vertical control points, section, ¼ section, center of section corners and General Land Office (G.L.O.) corners as required.

Optional Services**27.6 Topography/Digital Terrain Model (DTM) (3D)**

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of creating a DTM with sufficient density. Shoot all break lines, high and low points. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

*Optional Services***27.7 Planimetric (2D)**

Locate all above ground features and improvements. Deliver in appropriate electronic format. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

*Optional Services***27.8 Roadway Cross Sections/Profiles**

Perform cross sections or profiles. May include analysis and processing of all field-collected data for comparison with DTM.

*Optional Services***27.9 Side Street Surveys**

Refer to tasks of this document as applicable.

*Optional Services***27.10 Underground Utilities**

Designation includes 2-dimensional collection of existing utilities and selected 3-dimensional verification as needed for designation. Location includes non-destructive excavation to determine size, type and location of existing utility, as necessary for final 3-dimensional verification. Survey includes collection of data on points as needed for designates and locates. Includes analysis and processing of all field collected data, and delivery of all appropriate electronic files.

Soil removed for obtaining locates on utility lines shall be placed back in the excavation in a way that does not disturb or damage the utility. Locates through asphalt pavement shall be finished with cold pack asphalt to at least the same thickness as the base and asphalt that was removed. Locates through concrete pavement, sidewalks, etc. shall be finished using a high strength concrete mix to the same depth as what was removed. The cuts made in asphalt and concrete for locates shall be made in a manner that provides a patch with regular sides that will be level with no protruding or jagged edges.

27.11 Outfall Survey

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of a DTM. Survey with sufficient density of shots. Shoot all break lines, high and low points. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

*Optional Services***27.12 Drainage Survey**

Locate underground data (XYZ, pipe size, type, condition and flow line) that relates to above ground data. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

Optional Services

27.13 Bridge Survey (Minor/Major)

Locate required above ground features and improvements for the limits of the bridge. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

Optional Services

27.14 Channel Survey

Locate all topographic features and improvements for the limits of the project by collecting the required data. Includes field edits, analysis and processing of all field collected data, maps, and/or reports.

Optional Services

27.15 Pond Site Survey

Refer to tasks of this document as applicable.

Optional Services

27.16 Mitigation Survey

Refer to tasks of this document as applicable.

Optional Services

27.17 Jurisdiction Line Survey

Perform field location (2-dimensional) of jurisdiction limits as defined by respective authorities, also includes field edits, analysis and processing of all field collected data, preparation of reports.

Optional Services

27.18 Geotechnical Support

Perform 3-dimensional (X,Y,Z) field location, or stakeout, of boring sites established by geotechnical engineer. Includes field edits, analysis and processing of all field collected data and/or reports.

Optional Services

27.19 Sectional/Grant Survey

Perform field location/placement of section corners, 1/4 section corners, and fractional corners where pertinent. Includes analysis and processing of all field-collected data and/or reports.

Optional Services

27.20 Subdivision Location

Survey all existing recorded subdivision/condominium boundaries, tracts, units, phases, blocks, street R/W lines, common areas. Includes analysis and processing of all field collected data and/or reports. If unrecorded subdivision is on file in the public records of the subject county, tie existing monumentation of the beginning and end of unrecorded subdivision.

Optional Services

27.21 Maintained R/W

Perform field location (2-dimensional) of maintained R/W limits as defined by respective authorities, if needed. Also includes field edits, analysis and processing of all field collected data, preparation of reports.

Optional Services

27.22 Boundary Survey

Perform boundary survey as defined by DEPARTMENT standards. Includes analysis and processing of all field-collected data, preparation of reports.

Optional Services

27.23 Water Boundary Survey

Perform Mean High Water, Ordinary High Water and Safe Upland Line surveys as required by DEPARTMENT standards.

Optional Services

27.24 Right of Way Staking, Parcel / Right of Way Line

Perform field staking and calculations of existing/proposed R/W lines for on-site review purposes.

Optional Services

27.25 Right of Way Monumentation

Set R/W monumentation as depicted on final R/W maps for corridor and water retention areas.

Optional Services

27.26 Line Cutting

Perform all efforts required to clear vegetation from the line of sight.

Optional Services**27.27 Work Zone Safety**

Provide work zone as required by DEPARTMENT standards.

Optional Services**27.28 Vegetation Survey (N/A)****27.29 Tree Survey**

Locate individual trees or palms within the project limits.

Optional Services**27.30 Miscellaneous Surveys**

Refer to tasks of this document, as applicable, to perform surveys not described herein. The percent for Supplemental will be determined at negotiations. This item can only be used if authorized in writing by the District Surveyor (DS), District Location Surveyor (DLS) or their representative.

Optional Services**27.31 Supplemental Surveys (N/A)****27.32 Document Research**

Perform research of documentation to support field and office efforts involving surveying and mapping.

Optional Services**27.33 Field Review**

Perform verification of the field conditions as related to the collected survey data.

Optional Services**27.34 Technical Meetings**

Attend meetings as required and negotiated by the Surveying and Mapping Department.

Optional Services**27.35 Quality Assurance/Quality Control (QA/QC)**

Establish and implement a QA/QC plan. Also includes subconsultant review, response to comments and any resolution meetings if required, preparation of submittals for review, etc.

Optional Services

27.36 Supervision

Perform all activities required to supervise and coordinate project. These activities must be performed by the project supervisor, a Florida P.S.M. or their delegate as approved by the District Surveying Office.

Optional Services

27.37 Coordination

Coordinate survey activities with other disciplines. These activities must be performed by the project supervisor, a Florida P.S.M. or their delegate as approved by the District Surveying Office.

Optional Services

28 PHOTOGRAMMETRY (N/A)

29 MAPPING (N/A)

30 TERRESTRIAL MOBILE LiDAR (N/A)

31 ARCHITECTURE DEVELOPMENT (N/A)

32 NOISE BARRIERS IMPACT DESIGN ASSESSMENT IN THE DESIGN PHASE (N/A)

33 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS (N/A)

34 INTELLIGENT TRANSPORTATION SYSTEMS PLANS (N/A)

35 GEOTECHNICAL

The DEPARTMENT will provide all necessary Geotechnical and Pavement Evaluation services for this project.

The Project Scope and DEPARTMENT Requirements meeting may be waived at the discretion of the District Geotechnical Engineer.

36 3D MODELING

The CONSULTANT shall analyze and document Roadway Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall deliver all master design files, 3D surface design models, and all supporting digital files for the development of plans as required in the FDOT CADD Manual.

The CONSULTANT shall prepare a 3D model using the latest FDOT software in accordance with the FDOT CADD Manual. Includes all efforts required for developing files for 3D deliverables supporting automated machine guidance for design models. This includes importing survey data and creation of existing 3D surface features and models, and developing proposed corridor models with necessary detail of features to depict the proposed project in 3D to comply with the FDOT CADD Manual.

The CONSULTANT shall add detail to the corridor and design model for 3D design. Includes many elements that contribute to this including but not limited to slope transitions, typical section transitions, changes in pavement depth, berms, swales/ditches, and other feature transitions. Extra corridor structure leads to extra assemblies, extra targeting, etc.

The CONSULTANT shall create an accurate roadway design model which includes modeling the intersections.

The CONSULTANT shall submit .dgn files associated with the 3D Model and their respective components.

36.1 Phase I 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase I 3D interactive model, comprised of, but not limited to: Existing features (pavement, shoulders, sidewalk, curb/gutter, utilities-if required per scope, drainage - if required per scope) and proposed corridor(s).

36.2 Phase II 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase II 3D model, comprised of, but not limited to: Modification of the Phase I model to update the model to comply with changes based on the Phase I review comments and to include the addition of ponds, floodplain compensation sites, retaining walls, barrier walls, guardrail terminals, cross overs, gore areas, side street connections, roundabouts, and driveways.

36.3 Phase III 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase III 3D model and 3D deliverables files for review, comprised of, but not limited to: Modification of the Phase II model to update the model to comply with changes based on the Phase II review comments and to further refine areas of transition

between templates, detailed grading areas, bridge approaches and end bents, median noses, shoulder transition areas, retaining walls, barrier walls and guardrail.

36.4 Final 3D Model Design

The CONSULTANT shall prepare for review by DEPARTMENT, the Phase IV 3D model and deliverables, comprised of, but not limited to: Modification of the Phase III model to update the model to comply with changes based on the phase III review comments and to accurately generate, export and otherwise prepare the final 3D deliverable files as described in the FDOT CADD Manual.

36.5 Cross Section Design Files

The CONSULTANT shall establish and develop cross section design files in accordance with the FDOT CADD manual and FDOT Design Manual. Includes all work required to establish and utilize intelligent/automated methods for creating cross sections including determining the locations for which all cross sections will be shown, existing and proposed features, cross section refinement, placement of utilities and drainage, soil boxes, R/W lines, earthwork calculations, and other required labeling.

36.6 Template and Assembly Development (Optional) (N/A)

36.7 Quality Assurance/Quality Control

36.8 Supervision

36.9 Coordination

37 PROJECT REQUIREMENTS

37.1 Liaison Office

The DEPARTMENT and the CONSULTANT will designate a Liaison Office and a Project Manager who shall be the representative of their respective organizations for the Project. While it is expected the CONSULTANT shall seek and receive advice from various state, regional, and local agencies, the final direction on all matters of this project remain with the DEPARTMENT Project Manager.

37.2 Key Personnel

The CONSULTANT's work shall be performed and directed by the key personnel identified in the proposal presentations by the CONSULTANT. Any changes in the indicated personnel shall be subject to review and approval by DEPARTMENT.

37.3 Progress Reporting

The CONSULTANT shall meet with the DEPARTMENT as required and shall provide a written monthly progress report with approved schedule, schedule status, and payout curve or by using the earned value method that describe the work performed on each task. The report will include assessing project risk through monthly documentation of identifying and updating the risk category and approach for monitoring those tasks.

Invoices shall be submitted after the DEPARTMENT approves the monthly progress report and the payout curve or with earned value analysis. The Project Manager will make judgment on whether work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

37.4 Correspondence

Copies of all written correspondence between the CONSULTANT and any party pertaining specifically to this contract shall be provided to the DEPARTMENT for their records within one (1) week of the receipt or mailing of said correspondence.

37.5 Professional Endorsement

The CONSULTANT shall have a Licensed Professional Engineer in the State of Florida sign and seal all reports, documents, Technical Special Provisions and Modified Special Provisions, and plans as required by DEPARTMENT standards.

37.6 Computer Automation

The project will be developed utilizing Computer Aided Drafting and Design (CADD) systems. The DEPARTMENT makes available software to help assure quality and conformance with policy and procedures regarding CADD. It is the responsibility of the CONSULTANT to meet the requirements in the FDOT CADD Manual. The CONSULTANT shall submit final documents and files as described therein.

It is also the responsibility of the CONSULTANT to meet the requirements in the DEPARTMENT's CADD Production Criteria Handbook (including the minimum 95% compliance threshold for all design files).

37.7 Coordination with Other Consultants

The CONSULTANT is to coordinate his work with any and all adjacent and integral consultants so as to effect complete and homogenous plans and specifications for the project(s) described herein.

37.8 Optional Services

At the DEPARTMENT's option, the CONSULTANT may be requested to provide optional services. The fee for these services shall be negotiated in accordance with the terms detailed in Exhibit B, Method of Compensation, for a fair, competitive and reasonable cost, considering the scope and complexity of the project(s). Additional services may be authorized by supplemental amendment in accordance with paragraph 2.00 of the Standard Consultant Agreement. The additional services may include Construction Assistance, Review of Shop Drawings, Final Bridge Load Rating, update (Category II) bridge plans electronically (CADD) for the Final "As-Built" conditions, based on documents provided by the DEPARTMENT (CADD Services Only) or other Services as required.

The additional services may also include, but are not limited to, Plans Update and Expert Witness Testimony.

38 INVOICING LIMITS

Payment for the work accomplished shall be in accordance with Method of Compensation of this contract. Invoices shall be submitted to the DEPARTMENT, in a format prescribed by the DEPARTMENT. The DEPARTMENT Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to ensure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the DEPARTMENT.

The CONSULTANT shall provide a list of key events and the associated total percentage of work considered to be complete at each event. This list shall be used to control invoicing. Payments will not be made that exceed the percentage of work for any event until those events have actually occurred and the results are acceptable to the DEPARTMENT.

Each invoice shall be accompanied by a certification by the CONSULTANT's Project Manager, Engineer-of-Record or Project Principal that the invoicing is consistent with the project's progress and Prima Vera schedule.

For projects with lump sum invoicing for Basic Services, a 100% complete payout will not be approved before the date of the construction contract advertisement.