

EXHIBIT A



**SCOPE OF SERVICES  
FOR  
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDIES  
SR 60/NICHOLS RD FROM N OF CR676(NICHOLS) TO JENKINS RD  
SR60/MOSAIC FROM BONNIE MINE RD TO MOSAIC ENTRANCE RD  
FDOT District 1  
Polk County**

This Scope of Services is an attachment which is incorporated into the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT or FDOT) and [Consultant Name] (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

**Financial Project ID:** 446402-1-22-01; 446387-1-22-01

**Federal Aid Project No.:**

**ETDM No.:**

**County Section No.:** 16110000

**Bridge No.:** NA

**Railroad Crossing No.:** 624525T; 908367H

**Project Type:** Highway

**Lead Agency:** FL Department of Transportation

**Federal Funding:** Yes

**Anticipated Class of Action:** Type 2 Categorical Exclusion

## Table of Contents

## 1.0 SCOPE OF SERVICES PURPOSE

The Scope of Services describes the responsibilities of the CONSULTANT and the Florida Department of Transportation (FDOT or DEPARTMENT) when conducting Feasibility Studies necessary to comply with DEPARTMENT procedures and underlying laws and regulations and to obtain FL Department of Transportation approval of the Study.

All activities encompassed by this Scope of Services include:

- Major work groups include: 2.0
- Minor work groups include: 3.1, 3.2, 4.1.1, 4.1.2, 6.1, 8.1, 8.2, 9.1

The Project development process and all tasks identified in this Scope of Services must follow the guidance provided in the DEPARTMENT's current version of the **PD&E Manual** and **FDOT Design Manual (FDM)**. As discussed in **Part 1, Chapter 1**, of the **PD&E Manual**, the **PD&E Manual** satisfies state and federal processes and incorporates the requirements of the National Environmental Policy Act (NEPA); federal law, regulations, and Executive Orders included in the FHWA Federal-Aid Policy Guide; and applicable state laws and regulations including Section 339.155 of the Florida Statutes and Rule Chapter 14 of the Florida Administrative Code. As such, Project documents prepared by the CONSULTANT must comply with all applicable state and federal laws, regulations, and Executive Orders.

The Scope of Services defines the Project tasks to be performed consistent with the **PD&E Manual** and other pertinent manuals as specifically prescribed in Section 2. The Scope of Services also outlines work activities that will be the responsibility of the CONSULTANT and / or the DEPARTMENT.

The CONSULTANT must demonstrate good project management practices while working on this Project, including effective communication with the DEPARTMENT and others as necessary, effective management of time and resources, and quality of documentation. Throughout the Feasibility Study, the CONSULTANT shall set up and maintain a contract file in accordance with DEPARTMENT procedures. The CONSULTANT and any subconsultants are expected to know the laws and rules governing their profession and are expected to provide professional services in accordance with current and applicable regulations, codes, ordinances, and standards.

The DEPARTMENT will provide contract administration and management, as well as technical reviews of all work associated with the development of this Project and performed under this Scope of Services. The DEPARTMENT's technical reviews will focus on high-level conformance and are not meant to substitute CONSULTANT quality reviews of deliverables. The CONSULTANT is fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide task-specific information as outlined in this Scope of Services.

## 2.0 PROJECT DESCRIPTION AND OBJECTIVES

Feasibility studies to determine constructability of grade separation over CSX railroad tracks 624525T, on the west side of Mulberry, and 908367H, on the east side of Mulberry.

Based on FDOT District One's Highway-Rail Grade Separation: GIS Suitability Model (Phase II) Final Report (2019), the SR 60/Nichols crossing is the number 3 priority rail crossing location in District One, and SR 60/Mosaic is number 5.

Crossing 624525T is located at the western limits of the City of Mulberry in Polk County at a rail switch yard near the intersection of SR 60 and Nichols Road. The crossing is located within the Mulberry Freight Activity Center and SR 60 is designated as a Regional Facility. To the east of the crossing are a number of industrial and light industrial uses including several agricultural processing facilities.

The high score in the report is due to the high percent of truck traffic, roadway speed, and SR 60's designation as a SIS facility, evacuation route, and a freight corridor. This section of SR 60 provides an important link between the Tampa Bay Region; the US 17, US 27, and Florida Turnpike corridors; and Florida's east coast. Traffic incidents at this location are associated with operational delays due to trains blocking the crossing and vehicles bypassing the gates and disregarding signals. Recent improvements include the addition of concrete roadway approach slabs and median reconstruction.

Crossing 908367H is located between the cities of Bartow and Mulberry in Polk County near the intersection of SR 60 and the Mosaic Company phosphate facility. The crossing is located within the SR 60 (Mosaic37) Freight Activity Center and SR 60 is designated as a Regional Facility.

The high score in the report is due to the high roadway speed, and SR 60's designation as a SIS facility, evacuation route, and a freight corridor. This section of SR 60 provides an important link between the Tampa Bay Region; the US 17, US 27, and Florida Turnpike corridors; and Florida's east coast. Traffic incidents identified at this location are associated with operational delays due to trains blocking the crossing.

## **2.1 PROJECT OBJECTIVES**

The CONSULTANT will analyze and assess the Project's impact on the social, economic, cultural, natural, and physical environment, in order to develop the Study of the Project in accordance with FDOT policy, procedures, and requirements.

The CONSULTANT shall review and become familiar with Project documents and materials that have been prepared prior to the Study. The CONSULTANT will review the Efficient Transportation Decision Making Process (ETDM) Area of Interest (AOI). The CONSULTANT shall also review concepts and reports (e.g., typical sections, alignments, planning reports) developed from prior planning studies. If a feasible alternative is identified, the project may advance to the Project Development and Environment or Design phase. The feasibility study will comply with requirements of the **PD&E Manual** so that rework will not be required. Each location will have separate documentation. Public involvement efforts may be combined.

## 2.2 PROJECT REQUIREMENTS AND PROVISIONS FOR WORK

The CONSULTANT will conduct the appropriate level of engineering and environmental analyses related to the anticipated Class of Action for this Project, as outlined in the **PD&E Manual**, the **FDM**, and directed by the Project objectives. The level of analysis depends on complexity of the Project, level of controversy, potential for significant impacts, and degree and quality of information / data available. If the Class of Action for the Project was not determined during ETDM screening, the Lead Agency will determine it after completion of the environmental analyses.

The CONSULTANT upon direction from DEPARTMENT will assist with updating data, technical studies or Environmental Document to ensure compliance with NEPA, other federal laws, regulations and Executive Orders.

The CONSULTANT will maximize the use of existing information available from State, regional, local agencies, private sources, and its own files. Examples include the Programming Screen Summary Report, Concept Reports, previously completed planning products, listed species reports, Florida Department of Environmental Protection OCULUS Electronic Document Management System, and other sources as appropriate.

The DEPARTMENT will allow the CONSULTANT to use the DEPARTMENT's computer facilities upon proper authorization as described in DEPARTMENT **Procedure No. 325-060-401**; Planning studies relevant to this project which the CONSULTANT is required to review include:

- FDOT District One's Highway-Rail Grade Separation: GIS Suitability Model (Phase II) Final Report (2019)

### 2.2.1 Governing Regulations

Services performed by the CONSULTANT must comply with all applicable DEPARTMENT Manuals and Guidelines. The CONSULTANT will use the latest editions of the following Manuals and Guidelines to perform work for this Project.

- Florida Statutes
- Florida Administrative Codes
- Applicable Federal Regulations, U.S. Codes, and Technical Advisories
- PD&E Manual
- ETDM Manual
- SocioCultural Effects Evaluation Handbook
- Public Involvement Handbook
- FDOT Design Manual (FDM)
- Interchange Access Request User's Guide
- Highway Capacity Manual (HCM)
- Manual on Uniform Traffic Studies (MUTS)
- Manual of Uniform Traffic Control Devices (MUTCD)
- Minimum Standards for Design, Construction, and Maintenance Streets and Highways (Florida Greenbook)
- A Policy on Geometric Design of Highways and Streets

- AASHTO Guide for the Development of Bicycle Facilities
- AASHTO Guide for the Development of Pedestrian Facilities
- Highway Safety Manual (HSM)
- Right of Way Mapping Handbook
- Right of Way Procedures Manual
- Survey and Mapping Handbook
- Soils and Foundation Handbook
- Electronic Field Book (EFB) User Handbook
- Drainage Manual
- FDOT Drainage Design Guide
- Structures Manual
- CADD Manual
- [\*\*FDOT Transportation Technology Geographic Information Systems \(GIS\) Manual\*\*](#)
- Quality / Level of Service Handbook
- Project Traffic Forecasting Handbook & Project Traffic Forecasting Procedure No. 525-030-120
- Traffic Analysis Handbook
- Florida Highway Landscape Guide
- Basis of Estimates Manual
- Federal Transit Administration (FTA) and Federal Rail Administration (FRA) Program Guidance
- Project Management Handbook
- FDOT Traffic Engineering Manual

### **2.2.2 Liaison Office**

The DEPARTMENT and the CONSULTANT will designate their respective Liaison Offices for this Project.

### **2.2.3 Personnel**

The DEPARTMENT will designate a Project Manager to represent the DEPARTMENT for this Project. The DEPARTMENT Project Manager shall be responsible for coordination with the CONSULTANT pertaining to all contractual matters, invoicing and reporting. The DEPARTMENT Project Manager shall also be responsible for approval of any additional staffing to be provided (approval must be coordinated with the Procurement Office), and shall give approval of all products and services. The CONSULTANT will assign a Project Manager who will communicate regularly with the DEPARTMENT Project Manager regarding development of this Project. Final direction on all matters of this Project remains with the DEPARTMENT Project Manager.

The CONSULTANT must maintain staffing levels and personnel qualifications necessary to complete the required activities for this Scope of Services. The CONSULTANT's work must be performed to DEPARTMENT standards and procedures by personnel identified in the contract. Any changes in the identified

personnel will be subject to review and approval by the DEPARTMENT. To the extent possible, the CONSULTANT must minimize the DEPARTMENT's need to apply its own resources to the Scope of Services activities unless otherwise identified.

The CONSULTANT shall assign only competent technical and professional personnel qualified by the necessary experience and education to perform assigned work. The CONSULTANT is responsible for ensuring that staff assigned to work under this Agreement has the training established by the DEPARTMENT as a prerequisite for CONSULTANT staff to perform work. If the required training is such that it can be applied by the trainee to work on other contracts, (regardless of whether or not the trainee would work on other agreements), the cost of the trainee's time and expenses associated with the training is not directly billable to the DEPARTMENT on this contract, and shall only be recoverable through overhead for the CONSULTANT firm.

The CONSULTANT must request approval from the DEPARTMENT's Project Manager for any modifications or additions to the list of available staff prior to the initiation of any work by that individual. If applicable, new job classifications may be added to the contract via contract amendment and must be approved by Procurement. The CONSULTANT shall submit a copy of the resume and payroll register before new staff can be added.

The CONSULTANT must have a Licensed Professional Engineer in the State of Florida to sign and seal all engineering reports, documents, technical special provisions, and plans as required by DEPARTMENT standards.

The CONSULTANT and its employees, agents, representatives, or subconsultants are not employees of the DEPARTMENT and are not entitled to the benefits of State of Florida employees. Except to the extent expressly authorized herein, CONSULTANT and its employees, agents, representatives, or subconsultants are not agents of the DEPARTMENT or the State for any purpose or authority such as to bind or represent the interests thereof, and shall not represent that it is an agent or that it is acting on the behalf of the DEPARTMENT or the State. The DEPARTMENT shall not be bound by any unauthorized acts or conduct of CONSULTANT.

#### **2.2.4 Subconsultant**

Services assigned to any subconsultants must be approved in writing and in advance by the DEPARTMENT Project Manager, Procurement Office, and the CONSULTANT Project Manager in accordance with this Scope of Services. All subconsultants must be technically qualified by the DEPARTMENT to perform all work assigned to them. Additional subconsultants with specialized areas of expertise may be required to complete specific assignments. Any subconsultants to be hired and all work assignments to be performed, and all rates of compensation shall be agreed to by the DEPARTMENT Project Manager, Procurement Office and the CONSULTANT Project Manager and documented in the contract file prior to any work being performed by the subconsultants.

### **2.2.5 Lead Agency, Cooperating Agencies and Participating Agencies**

The CONSULTANT Project Manager will support The DEPARTMENT Project Manager in coordination with the Lead Agency, Cooperating Agencies and Participating Agencies.

The Lead Agency for this Project is FL Department of Transportation.

### **2.2.6 Meetings and Presentations**

Led by the DEPARTMENT Project Manager, the CONSULTANT will attend the Notice to Proceed Meeting, where DEPARTMENT representatives will outline relevant contract and Project information provided by the DEPARTMENT Project Manager.

The CONSULTANT shall attend meetings necessary to undertake the activities of this Scope of Services. This includes meetings with DEPARTMENT staff and /or resources agency staff, other consultants, or other miscellaneous meetings. It is anticipated that 14 progress and miscellaneous review meetings will be needed.

The CONSULTANT will attend meetings or make presentations at the request of the DEPARTMENT with at least five (5) business days' notice. The CONSULTANT will prepare meeting notes for all meetings identified in this Exhibit and submit within five (5) working days to the DEPARTMENT's Project Manager for review.

### **2.2.7 Communication**

The DEPARTMENT Project Manager will be the representative of the DEPARTMENT for the Project. The CONSULTANT must regularly communicate with the DEPARTMENT Project Manager to discuss and resolve issues or solicit opinions regarding this Project. The CONSULTANT must include the DEPARTMENT when seeking and receiving advice from various State, regional, local agencies, and citizen groups. The final direction on all matters for this Project remains with the DEPARTMENT Project Manager.

All written correspondence between the CONSULTANT and any party pertaining specifically to this Project must be reviewed and approved by the DEPARTMENT. The CONSULTANT must respond to information requests relative to the Feasibility Study from third parties at the direction, and with the approval, of the DEPARTMENT. The CONSULTANT will assist the DEPARTMENT in preparing the content of the letters from DEPARTMENT personnel to other agencies, public officials, and others as needed or requested.

### **2.2.8 Quality Control**

The DEPARTMENT requires that all Project documents, technical studies, calculations, maps, reports, conceptual plans, design, and the Environmental Document are correct and complete, appropriate for the intended purposes, and conform to requirements of this Scope of Services. The CONSULTANT, is responsible for the quality of all (including the subconsultants) deliverables. The



CONSULTANT will independently and continually review deliverables for accuracy and completeness. The CONSULTANT must develop and follow an internal Quality Control (QC) process. The QC process is intended to ensure that quality is achieved through checking, reviewing, and verifying work activities and deliverables by qualified individuals who were not directly responsible for performing the initial work.

Within twenty (20) business days from the Notice to Proceed, the CONSULTANT must submit its QC Plan to the DEPARTMENT Project Manager for approval. The QC Plan will identify the deliverables, the personnel to perform the reviews, and the method of documentation. The QC Plan will be signed by the CONSULTANT Project Manager and the CONSULTANT QC Manager.

The CONSULTANT must include document reviews and written resolution of comments with each submittal or deliverable to show the QC process was followed. At a minimum, a quality review checklist must be provided and should include letters, exhibits, technical studies, reports, design calculations, Environmental Document or any documents used or referenced in the QC Plan. The CONSULTANT must maintain documentation which show the QC Plan process was followed. The DEPARTMENT Project Manager may request from the CONSULTANT document reviews and written resolution of comments at any time during the PD&E Study.

### **2.2.9 Schedule**

Within ten (10) business days after the Notice to Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall submit a detailed Project activity / event schedule to the DEPARTMENT. The schedule must indicate all required submittals, critical path activities, and key project milestones / activity codes. When applicable, the CONSULTANT Project Manager will receive a Statewide Acceleration and Transformation (SWAT) preliminary Project schedule from the DEPARTMENT Project Manager during the Notice to Proceed meeting. The Project schedule shall contain at a minimum, the following information for each schedule activity: project FPID, project description, FDOT activity id with correct Project Schedule Management (PSM) codes, activity description, original duration, remaining duration, start date, finish date, activity percent complete and total float. Only two open-ended activities (the first and the last) are allowed. The project schedule must include a column displaying each activity's Predecessor and Successor. The schedule must be based on the DEPARTMENT's expected production date and must be approved by the DEPARTMENT. The schedule must be based upon consideration of the Project's environmental issues (social, cultural, natural and physical resources) and regulatory requirements, and in coordination with the DEPARTMENT's District Environmental Management Office (DEMO).

The schedule must be accompanied by an anticipated payout and fiscal progress curve. For the purpose of scheduling, the CONSULTANT shall allow for a review period of at least 2 weeks for each draft technical report or memorandum submitted for District reviews.

In developing the schedule for this Project, the CONSULTANT, in coordination with the DEPARTMENT, must include adequate time to meet regulatory reviews and formal consultations timeframes.

Periodically throughout the life of the contract, the CONSULTANT must review the project schedule, payout, and fiscal progress curves to monitor the progress of the project. The CONSULTANT shall submit monthly progress reports with the approved schedule and schedule status report, which includes critical-path review and progress and payout curves, to the Department Project Manager. Any adjustments or changes to the approved schedule must be approved by the DEPARTMENT Project Manager.

#### **2.2.10 Submittals**

The CONSULTANT will compile and transmit draft documents identified in this Scope of Services to the DEPARTMENT for review. For each submittal, the CONSULTANT will include a Transmittal Cover Letter that includes, at a minimum, the file name and format of each electronic file and the number of hardcopies (if any) as directed by the DEPARTMENT Project Manager.

The DEPARTMENT will review draft submittals and provide the CONSULTANT with review comments. The CONSULTANT will address comments, prepare a matrix of comments and responses as applicable, and submit revised documents. The CONSULTANT will assist the DEPARTMENT in resolving the comments received from the Lead Agency, Cooperating Agencies, resource agencies and the public, including preparation of individual responses.

##### **Provisions for Work:**

- Quality Control Plan
- Project Schedule

##### **Public Involvement:**

- Public Involvement Plan
- Public Involvement Comment Database
- Comment and Coordination Report
- Meeting Agendas, Handouts, Notes, and Summaries
- Agency Coordination Meeting Summaries

##### **Engineering:**

- Project Traffic Analysis Report
- Safety Analysis Memorandum

##### **Environment:**

- GIS Analysis

##### **Other Submittals:**

- Feasibility Report

The CONSULTANT will submit to the DEPARTMENT final reports and other deliverables identified in this section. The CONSULTANT will submit to the DEPARTMENT two (2) sets of CDs/DVDs or other portable storage drives such as flash drives or USB drives containing PDFs of all submittals outlined in this section.

Upon completion of the Project, the CONSULTANT will transfer to the DEPARTMENT, in an organized manner, all project electronic files, data, maps, sketches, worksheets, and other materials used or generated during the PD&E Study in an acceptable portable storage drive.

#### **2.2.11 Computer Automation**

The CONSULTANT shall develop concept plans and alternative designs utilizing Computer Aided Drafting and Design (CADD) systems. The DEPARTMENT makes software available to help assure quality and conformance with the policy and procedures regarding CADD. It is the responsibility of the CONSULTANT to meet the CADD production requirements in the **FDOT CADD Manual**. The CONSULTANT must submit final documents and files as described in the **FDOT CADD Manual**. Additional related information is found in the **FDM**. Concept plans and alternatives designs shall also be displayed using Google Earth-ready KMZ files. The concept plans must have both existing and proposed engineering and environmental features.

Upon DEPARTMENT approval, the CONSULTANT may also use computer tools and software to conduct some of the engineering and environmental analyses. Prior to using these tools, the CONSULTANT must agree to provide original electronic files in a format and standard consistent with the DEPARTMENT's policies and procedures.

All electronic files must be scanned for viruses prior to submitting to the DEPARTMENT. Failure to scan for viruses may result in a lower CONSULTANT work performance evaluation.

#### **2.2.12 Conflict of Interest**

The CONSULTANT or any affiliate is not eligible to pursue advertised work in the CONSULTANT's area of oversight or any project for which the CONSULTANT developed the Scope of Services. Subconsultants are also ineligible to pursue projects where they participated in the development of the Scope of Services, or have an oversight responsibility. The term "affiliate" is defined in **FDOT Procedure No. 375-030-006, Conflict of Interest Procedure for Department Contracts**.

The CONSULTANT and its subconsultants will not enter into another contract during the term of the Contract for this Project which would create or involve a conflict of interest with the services herein. The CONSULTANT and its subconsultants must comply with **FDOT Procedure No. 375-030-006, Conflict of Interest Procedure for Department Contracts**.

### **2.3 COORDINATION WITH OTHER CONSULTANTS AND ENTITIES**

The CONSULTANT will coordinate work activities with any ongoing and / or planned DEPARTMENT projects that may affect this Project. The DEPARTMENT and CONSULTANT shall coordinate with local governmental entities to ensure Project concepts are compatible with local improvements and right of way activities. The CONSULTANT will inform the DEPARTMENT Project Manager of all coordination activities with other agencies or entities prior to holding such activities. The DEPARTMENT Project Manager shall be included in all such coordination activities.

## **2.4 CONTRACT MANAGEMENT**

The CONSULTANT is responsible for maintaining Project files, including copies of submittals and underlying data, calculations, information and supporting project documentation. The CONSULTANT is responsible for preparing monthly progress reports and schedule updates. Progress reports will be delivered to the DEPARTMENT in a format prescribed by the DEPARTMENT Project Manager with the corresponding invoice.

The CONSULTANT will regularly communicate the status of the project with the DEPARTMENT while managing subconsultant efforts and executing subconsultant agreements.

## **2.5 ADDITIONAL SERVICES**

The CONSULTANT will be requested to provide the following additional services for this Project.

### **2.5.1 Alternative Corridor Evaluation**

*Alternative Corridor Evaluation is not required or conducted prior to the PD&E for this project.*

### **2.5.2 Advance Notification**

*Advance Corridor is not required for this project.*

### **2.5.3 Scoping**

*Scoping is not applicable for this project.*

### **2.5.4 Notice of Intent**

*Notice of Intent is not applicable for this project.*

### **2.5.5 Transit Coordination Plan**

*Agency coordination is covered under Section 3.1 of this Exhibit.*

## **2.6 SERVICES TO BE PERFORMED BY THE DEPARTMENT**

The DEPARTMENT will provide the following services and materials:

- Lead and participate in coordination efforts with the Public Transit Office, Office of Environmental Management, Federal Transit Administration, environmental resource and regulatory agencies, the public, and other stakeholders, as appropriate.
- Provide project data currently on file and available from study partners, such as:
  - Travel market analysis or ridership forecasting;
  - Planned new development or redevelopment including Developments of Regional Impact (DRIs) data, Community Reinvestment Act (CRA) plans, streetscape, landscape, road diet, or context sensitive design efforts;
  - ACER, planning studies, environmental evaluations, etc.;
  - Efficient Transportation Decision Making (ETDM) Programming Summary Report;
  - Recently completed roadway studies for the study area including PD&E studies, access management, intersection plans, design files, and capacity improvements;
  - Multimodal or small area studies including freight, interchange, intersection, transit, pedestrian, bicycle, land use, and signal priority, Transportation Management Plan;
  - Traffic analyses for the study area/corridors;
  - Previously conducted transit vision plans, transit feasibility studies, comprehensive operations analyses, transit development plans, etc.;
  - All information in its the possession of the DEPARTMENT pertaining to prior and on-going studies that may affect the project such as existing construction and as-built plans, bridge inspection reports and load ratings, prior environmental studies, existing permit information, existing drainage and geotechnical reports and any agreements with third parties related to the Project corridor
  - 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 is in possession or may become available 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;
  - Advance Notification and all environmental and engineering documents including the Permit Coordination Packages;
  - Coordination with the State Historic Preservation Officer;
  - Existing FDOT right of way maps and information on existing surplus right of way under ownership by the DEPARTMENT or participating local agency (counties and cities partnering with FDOT for the PD&E Study);
  - Existing Horizontal Network Control;
  - FDOT crash data;
  - Available traffic and planning data;
  - Proposed right of way cost data;
  - Construction cost database, as applicable;
  - Project Electronic File Root Directory Structure for delivery of project design files to the DEPARTMENT;

- All applicable DEPARTMENT agreements with Utility Agency Owners;
- Letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT to enter lands, waters, and premises of another in the performance of duties in accordance with **Section 337.274, F.S.**;
- Reviews of technical reports and Environmental Documents;

## **2.7 OPTIONAL SERVICES**

At the DEPARTMENT'S option, the CONSULTANT may be requested to provide professional services not explicitly outlined in this Exhibit. These services may include but are not limited to re-evaluation of previous PD&E Studies, environmental analysis not specifically listed in this Scope of Services, PD&E study services, final design services, expert witness services for right of way acquisition, additional design analysis, and design plan preparation for utilities review. CONSULTANT may also be requested to provide services for Request for Proposal (RFP) development for Design-Build Procurement and / or support the DEPARTMENT in the acquisition of a Design-Build contract. The fee for such 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. A supplemental agreement for the optional services shall be executed in accordance with Section 2 of the Standard Professional Services Agreement Terms.

## **3.0 PUBLIC INVOLVEMENT**

Public involvement includes communicating to and receiving input from all interested and affected persons, groups, business owners, and government organizations regarding the development of the project. The CONSULTANT will coordinate and perform the appropriate level of public involvement for this Project as outlined in **Part 1, Chapter 11**, and **Part 2, Chapter 4** of the **PD&E Manual**, and the **FDOT Public Involvement Handbook**.

The CONSULTANT will provide the DEPARTMENT drafts of all public involvement materials (e.g., newsletters, property owner letters, advertisements, handouts, exhibits) associated with the following tasks for review and approval at least 10 business days prior to printing and / or distribution.

### **3.1 PUBLIC INVOLVEMENT**

#### **3.1.1 Public Involvement Plan**

The CONSULTANT is responsible for creating the PIP using existing work developed by the DEPARTMENT as a starting reference. The PIP must include a public involvement schedule and identify potentially affected stakeholders and communities in the vicinity of the project to establish the appropriate outreach methods. This includes consideration of the demographics of the Study Area and any reasonable accommodations including, but not limited to, disabled, transit-dependent, limited English proficient (LEP), elderly, low income, or minority. The CONSULTANT will review and attach the Sociocultural Data Report (SDR) to the PIP. A sample template for the PIP is located in **Part 1, Chapter 11** of the **PD&E Manual**. At a minimum, the PIP must include the following:

- Project background
- Project goals
- Identification of elected officials and agencies
- Identification of affected communities and stakeholders
- Identification of media (e.g. television, radio, newspaper) for news and/or advertisement
- Proposed involvement activities
- Anticipated schedule of involvement activities
- Methodology for collecting and responding to public comments
- Discussion of public comments will be analyzed and incorporated, as appropriate

As part of the Project's PIP the CONSULTANT will develop public involvement materials using the DEPARTMENT's approved template and submit the information to be uploaded to the DEPARTMENT's project website. The website will be created and maintained by the CONSULTANT and maintained by the DEPARTMENT. The website must meet FDOT requirements.

### **3.1.2 Public Involvement Data Collection**

The CONSULTANT will assist the DEPARTMENT with collecting data specific to the public involvement process and preparing responses to any public inquiries received throughout the Project. The CONSULTANT will maintain and regularly update both an electronic and paper public involvement project file, which will document a record of all public involvement activities for this project.

The CONSULTANT is responsible for identifying and maintaining the Project mailing list that may include officials and interested parties (any person or institution expressing an interest in the project), affected parties, and potential permit and review agencies.

The CONSULTANT will work with the DEPARTMENT to generate or obtain mailing labels of property owners using the ETDM Environmental Screening Tool (EST) or the County Property Appraisers' Offices.

The CONSULTANT will investigate potential meeting locations to advise the DEPARTMENT of their suitability. The DEPARTMENT will ultimately approve the meeting location. The CONSULTANT will pay all costs for meeting location rental and insurance (if required). The CONSULTANT will be responsible for logistics associated with setting up the meeting.

## **3.2 SCHEDULED PUBLIC MEETINGS**

The CONSULTANT will actively support the DEPARTMENT in conducting various public meetings, which may be conducted during weekends or after normal working hours. The CONSULTANT will support the DEPARTMENT in preparation, scheduling, attendance, note taking, documentation, and follow-up services for each meeting, which may include:

- 0 Project Kick-off Meeting(s)

- 1 Presentations to Local MPO's (includes associated technical and citizen committees, as applicable)
- 0 Coordination Meetings with Key Agencies
- 0 Corridor Workshop(s) or Public Informational Meeting(s)
- 1 Alternatives Public Information Meeting(s)
- 0 Additional Coordination and Consensus Building Meeting(s)
- 0 Community / Stakeholder Forum(s)
- 0 Environmental Forum(s)
- 10 Other Public and Agency Meetings (Specify) or informal meetings

For any of the listed meetings, the CONSULTANT will prepare and/or be responsible for the following:

- Agenda
- Presentation scripts
- Handouts
- Graphics for presentation
- Meeting equipment set-up and tear-down
- Display advertisements (The CONSULTANT will pay the cost of publishing)
- Letters for notification of elected and appointed officials, property owners, and other interested parties (the CONSULTANT will pay the cost of first class postage)
- News releases or project fact sheets. The DEPARTMENT must review new releases and fact sheets at least two (2) weeks before the meeting or mail out
- Meeting summaries provided to the DEPARTMENT no later than five (5) business days after the meeting
- Preparation of response letters for DEPARTMENT signature on public comments

Any materials prepared by the CONSULTANT for such meetings as listed above are subject to review and approval by the DEPARTMENT. The CONSULTANT shall provide the DEPARTMENT with a draft of any proposed materials at least two weeks prior to the meeting.

The CONSULTANT will assist the DEPARTMENT when facilitating the public information meeting / workshop to present Project results and obtain comments related to the Project and / or Project alternatives.

The meeting format will be developed by the CONSULTANT and approved by the DEPARTMENT upon review. The CONSULTANT will participate in briefing and debriefing meetings with the DEPARTMENT staff related to the public meeting.

The CONSULTANT will attend the meetings with a suitable number of personnel with appropriate technical expertise (based on project issues), as authorized by the DEPARTMENT Project Manager, to assist the DEPARTMENT in such meetings.

The DEPARTMENT may request the CONSULTANT to identify the effect of the Project to individual properties on aerial maps or plans in response to requests from property owners. The DEPARTMENT may also request the CONSULTANT to meet with individual property owners.



### **3.3 PUBLIC HEARING**

*Public hearing is not required for this project. A public hearing may be required, as an option service, if the project advances to PD&E.*

### **3.4 COMMENTS AND COORDINATION REPORT**

The CONSULTANT will prepare Comments and Coordination Report containing transcript, errata, and signed certification, as well as documentation for all public involvement activities conducted throughout the project in accordance with **Part 1, Chapter 11** of the **PD&E Manual**.

### **3.5 NOTIFICATION OF APPROVED ENVIRONMENTAL DOCUMENT**

The CONSULTANT shall prepare a display advertisement for the notification of the Approved Environmental Document. The CONSULTANT will pay for the cost of publishing. The DEPARTMENT must review and approve the notice prior to publication.

### **3.6 ADDITIONAL PUBLIC INVOLVEMENT REQUIREMENTS**

*There are no additional public involvement requirements for this project.*

## **4.0 ENGINEERING ANALYSES AND CONSIDERATIONS**

CONSULTANT activities to conduct and prepare engineering analyses and reports shall be done under the direction of the DEPARTMENT Project Manager. The CONSULTANT shall perform engineering activities essential to developing and evaluating Project alternatives as outlined in **Part 2, Chapter 3** of the **PD&E Manual** and as specified in this section. The CONSULTANT will gather and review existing data from the DEPARTMENT, such as transportation planning data developed for long range plans or any previously completed technical studies within the project area. The CONSULTANT will collect additional data necessary to supplement existing data.

The CONSULTANT shall develop and analyze conceptual design alternatives to address the Project needs and objectives. Development of the conceptual design alternatives will follow Context Sensitive Solution and Complete Streets approaches. Based on engineering analysis, the public involvement process, and environmental analysis, the DEPARTMENT will recommend a proposed design concept to advance to PD&E or the Design Phase.

### **4.1 REVIEW OF PREVIOUS PLANNING STUDIES**

The CONSULTANT shall review and summarize previous completed (or concurrent) planning studies and other studies that are related to this Project and appropriately incorporate their results in the analysis of the Project as described in the **PD&E Manual**. The following studies were conducted for this Project:

### **4.2 EXISTING CONDITIONS ANALYSIS**

The CONSULTANT will conduct field observations to review existing field conditions, verify desktop data, and obtain additional data required to understand the Project area,

assess Project needs, identify physical and environmental constraints, develop and analyze Project alternatives, and assess constructability issues.

The CONSULTANT will collect data describing existing conditions and characteristics of the Project including roadway geometrics, typical section elements, signalization and other operational features, access features, right of way requirements, and other data applicable to modes and sub-modes of transportation, including walking/pedestrians, bicyclists, public transit users (including transit vehicles and riders), paratransit users (carpools, vanpools, taxis, shuttles, jitneys, school buses, coach buses), and freight (including loading/unloading and parking, emergency response vehicles, service vehicles, and freight handler vehicles).

The CONSULTANT will analyze existing conditions to identify and verify current transportation deficiencies as they relate to the needs and objectives of this Project.

The CONSULTANT will furnish necessary exhibits for use in this Project, such as a Project Location Map, Corridor Maps, and Concept Plans.

### **4.3 SURVEY**

#### **4.3.1 Design Survey**

The CONSULTANT may be required to collect limited surveying information, through means such as spot cross-sections.

#### **4.3.2 Photogrammetry**

N/A

### **4.4 GEOTECHNICAL INVESTIGATION**

The CONSULTANT may be required to conduct geotechnical services associated with design activities related to this Project and appropriate foundation locations and conditions. Before beginning work and after the Notice to Proceed is issued, the CONSULTANT shall submit an investigation plan for approval and meet with the DEPARTMENT's Geotechnical Engineer or representative to review the project scope and DEPARTMENT requirements.

### **4.5 TRAFFIC ANALYSIS**

#### **4.5.1 Traffic Analysis Methodology**

The CONSULTANT will perform traffic analysis in accordance with guidance from the **PD&E Manual**, **Traffic Analysis Handbook**, and **Project Traffic Forecasting Handbook**. The CONSULTANT will prepare a forecast and analysis methodology which must be agreed upon by the DEPARTMENT prior to beginning any analysis. The methodology must state the type of documentation, Project Study Area to be analyzed, and method and assumptions that will be used to analyze existing and future traffic conditions. The development of future forecast data must use the

currently adopted version of the District travel demand model: D1RPM 2.0. The DEPARTMENT will validate the travel demand model at a subarea level.

Capacity analysis will be based on the latest Highway Capacity Manual procedures. Use of microsimulation traffic analysis software such as SimTraffic, CORSIM, and/or VISSIM is not anticipated for this Project. Calibration and validation are required when a microsimulation approach is used. Data should be gathered in accordance with the **Traffic Analysis Handbook**.

Traffic analysis methodology will include an approach or procedure to evaluate safety performance of the project alternatives.

All traffic analysis documentation must be written in plain language and in a format that can be easily followed. The CONSULTANT must submit all traffic analysis files for assumptions, inputs, outputs, network data, calculations, and results to the DEPARTMENT.

#### **4.5.2 Traffic Counts**

The CONSULTANT will collect the following traffic data.

- Current corridor traffic counts
- 72-hour traffic machine counts (approach volumes and departure volumes at 15-minute increments) at the following intersection:
- 4-hour manual vehicle turning movement counts for peak hours at required intersections:
  - SR 60 at CR 676/Nichols Road
  - CR 676/Nichols Road at Old Highway 60
  - SR 60 at Old Highway 60 (East)
  - SR 60 at Seaboard Road
- Traffic counts as necessary for the Project:
  - Rail speeds, frequency, length of gate closures
- Travel patterns or origin-destination data

#### **4.5.3 Vehicle Classification Counts on Roadway Segments and Ramps**

The CONSULTANT will collect the following existing classification data.

- Current corridor traffic counts
- 72-hour traffic machine counts at the following locations:
  - SR 60 west of CR 676/Nichols Road

#### **4.5.4 Pedestrian, Bicycle, and Other Multimodal Data**

The CONSULTANT will collect the following additional existing traffic data.

- Pedestrian Counts
- Bicycle Counts
- Travel patterns or origin-destination (OD) survey
- Transit data
- Freight movement

Pedestrian, Bicycle, and Other Multimodal Data are not required for this project.

#### **4.5.5 Calibration and Validation Data Collection**

*Calibration and Validation Data is not required for this project.*

#### **4.5.6 Existing Traffic Operational Analysis**

The CONSULTANT will conduct an existing (base year) traffic operational analysis and report the operational performance measures as agreed upon in the analysis methodology. The analysis must include bicycle, pedestrian, and transit (if applicable) operations. The manual count data will be used to obtain the existing design hourly volumes using historical and seasonal adjustments as appropriate. All existing design hourly volumes must be balanced before being used in the analysis. Oversaturated conditions and locations with complex geometry or operations might require microsimulation.

#### **4.5.7 Calibration and Validation**

*Calibration and Validation is not required for this project.*

#### **4.5.8 Future Demand Forecasting**

**No Build Volumes:** The CONSULTANT will develop opening year and design year design hourly volumes for the No Build Alternative in accordance with the **Project Traffic Forecasting Procedure, Topic No. 525-030-120**. The need for interim year analysis will be determined in the traffic analysis methodology.

**Build Alternatives Volumes:** The CONSULTANT will develop opening year and design year design hour volumes only for viable or feasible Build Alternatives. The CONSULTANT must make sure the future year turning movement volumes are reasonably balanced at each intersection.

#### **4.5.9 No Build Analysis**

The CONSULTANT will analyze the operational performance of the No Build Alternative for the analysis years to identify deficiencies related to the purpose and need for the project. The CONSULTANT will evaluate the operational effectiveness of the No Build Alternative using agreed upon performance measures of effectiveness (MOEs). The analysis should include multimodal evaluation for pedestrian, bicycle, freight, and transit modes, as appropriate.

#### **4.5.10 Development and Screening of Alternatives**

The CONSULTANT will identify, develop, assess, and screen preliminary potential Project alternatives that would meet the purpose and need for this Project in accordance with **Part 2, Chapter 3** of the **PD&E Manual**. Development of alternatives will consider previously completed planning products.

By considering project goals and objectives and purpose and need, the CONSULTANT in consultation with the DEPARTMENT, will identify and document alternatives to be eliminated from further detailed study. Only viable or feasible alternatives should be carried forward for detailed study.

#### **4.5.11 Operational Evaluation of Build Alternatives**

The CONSULTANT will analyze the operational performance of viable or feasible alternative(s) for opening and design years and any interim years as appropriate. The analysis must include multimodal evaluation for pedestrian, bicycle, and transit modes as appropriate. The analysis will also include evaluation of access management in relation to traffic safety and operational efficiency within the Study Area. The CONSULTANT will evaluate the operational effectiveness of Build Alternatives using agreed upon performance MOEs.

#### **4.5.12 Project Traffic Analysis Report**

As described in **Part 2, Chapters 2 and 3** of the **PD&E Manual**, the CONSULTANT will prepare the Project Traffic Analysis Report to document development of design traffic volumes and results of the traffic analysis for No Build and Build Alternatives, which includes the transit, bicycle, and pedestrian analysis. The results must be shown on diagrams for each alternative and discussed in the report. The Project Traffic Analysis Report will also summarize the comparison of the operational and safety performance of all alternatives evaluated in detail and how they perform against each other.

#### **4.5.13 Interchange Access Request**

*This project does not add new or modify interchange.*

#### **4.5.14 Traffic Data for Noise Study**

The CONSULTANT will provide traffic data required for the noise study and will include the following data for each road segment (i.e., intersection to intersection), ramps, cross streets, and frontage roads, for the existing year, opening year, and the design year for Build and No Build alternatives:

- LOS C directional hourly volumes
- Demand peak hourly volumes (peak and off-peak directions)
- Existing and proposed posted speed
- Percentage of heavy trucks (HT) in the design hour
- Percentage of medium trucks (MT) in the design hour
- Percentage of buses in the design hour
- Percentage of motorcycles (MC) in the design hour

#### **4.5.15 Traffic Data for Air Analysis**

- N/A

#### **4.5.16 Signalization Analysis**

In coordination with the DEPARTMENT's Traffic Operations, the CONSULTANT shall perform signalization analysis and/or signal warrant studies at the intersections in accordance with all applicable manuals, procedures, guidelines, and current design memorandums. The CONSULTANT will propose preliminary signal timing plan and signal operation plan for each intersection that requires signalization on the recommended alternative. The CONSULTANT shall coordinate with the local stakeholders before proposing any new system in their jurisdiction and define their roles and responsibilities in the Concept of Operations (ConOps).

#### **4.6 SIGNAGE**

The CONSULTANT will evaluate existing signing and signage requirements for the project. The CONSULTANT will prepare a Conceptual Signing Plan for this Project.

#### **4.7 TOLLING CONCEPTS**

*Not applicable for this project.*

#### **4.8 SAFETY**

##### **4.8.1 Crash Data**

The CONSULTANT will obtain the most recent five (5) years of available data from the DEPARTMENT's crash database and other local sources for this Project. The crash data will include the number and type of crashes, crash locations, number of fatalities and injuries, and estimates of property damage and economic loss.

##### **4.8.2 Safety Analysis**

The CONSULTANT will perform safety analysis in accordance with **Part 1, Chapter 2** of the **PD&E Manual**. Based on the information obtained from the crash data, the CONSULTANT will identify project safety needs associated with the existing and future conditions. The CONSULTANT will use the Highway Safety Manual (HSM) procedures to estimate the safety performance of the Project alternatives as agreed upon in the Traffic Analysis Methodology. The CONSULTANT will also utilize Federal Railroad Administration's **A New Model for Highway-Rail Grade Crossing Accident Prediction and Severity** to predict crashes at the existing crossing if an overpass were not built.

##### **4.8.3 Documentation of Safety Analysis**

The CONSULTANT will document the results of the safety analysis in a stand alone Safety Analysis Memorandum..

#### **4.9 UTILITIES AND RAILROAD**

The CONSULTANT will obtain information regarding utilities and railroad in accordance with **Part 2, Chapter 21** of the **PD&E Manual**.

##### **4.9.1 Utilities**

Prior to starting utility coordination, the CONSULTANT and the DEPARTMENT Project Manager shall meet with the District Utility Office (DUO) for guidance to ensure that all necessary utility coordination will be accomplished in accordance with DEPARTMENT procedures.

It is anticipated that the following Utility Agency Owners (UAOs) are within or adjacent to the Project, but it is the responsibility of the CONSULTANT to determine the final list of UAOs within the project area: TBD

The CONSULTANT will prepare a Utility Assessment Package. The Utility Assessment Package must contain items specified in **Part 2, Chapter 21** of the **PD&E Manual**. The CONSULTANT will provide a PD&E Request Package to the District Utility Office.

The CONSULTANT will notify the UAOs within the Project area and request existing and planned utility information for major above ground and subsurface facilities within the Project area.

The CONSULTANT, DEPARTMENT Project Manager and DUO will meet with each UAO as necessary, separately or together, to understand utility conflicts and project potential impacts on utilities. The CONSULTANT will evaluate and consider potentially significant utility conflicts as they may affect the chosen corridor and/or alignment. While evaluating potential impacts and recommending mitigation strategies, the CONSULTANT should refrain from making any compensability determinations in any of the documentation/assessments that they create.

#### **4.9.2 Railroads**

The DEPARTMENT Project Manager will initiate coordination with the District Railroad Coordinator (DRC). The DEPARTMENT will coordinate with the Railroad Company and local government regarding highway-railroad grade crossing in accordance with **Part 2, Chapter 21** of the **PD&E Manual**.

The CONSULTANT will address impacts to existing and proposed railroad crossings.

The CONSULTANT will analyze elevated crossings to determine clearance envelopes and intersection constraints. The CONSULTANT will develop generic roadway and transit railroad crossings appropriate for the Project.

### **4.10 ROADWAY ANALYSIS**

#### **4.10.1 Design Controls and Criteria**

The CONSULTANT will prepare design controls and criteria for developing Project alternatives and designing initial geometrics and other roadway elements according to the DEPARTMENT standards.

#### **4.10.2 Typical Section Analysis**

The CONSULTANT will develop conceptual typical sections for the Project alternatives which address transportation needs and context. Development of typical sections must consider Context Sensitive Solutions and Complete Streets approaches and the needs of all Project users.

#### **4.10.3 Geometric Design**

The CONSULTANT will perform geometric design using the established Project design controls and criteria. The CONSULTANT will also use Project traffic data and results of traffic analysis to design appropriate roadway elements. The CONSULTANT will establish both preliminary vertical profile and horizontal alignments of the mainline. The design of Project alternatives must consider environmental constraints, physical constraints, Context Sensitive Solutions, Complete Streets, and any additional information, as required. See **Part 2, Chapter 3** of the **PD&E Manual** for more engineering and design considerations.

For each alternative evaluated in detail, the CONSULTANT shall prepare sketches of plan, profile, and typical sections as appropriate to show existing features, proposed geometry, and location of any environmental and geometric design constraints.

#### **4.10.4 Intersections and Interchange Evaluation**

The CONSULTANT will propose appropriate intersection control based on the results of project traffic analysis to establish an overall intersection/interchange footprint at the following intersections:

The CONSULTANT will perform up to a level 2 intersection control evaluation in accordance with the **FDM**, and **Part 2, Chapter 3** of the **PD&E Manual**. The intersection control evaluation must include evaluation of operation and geometrics with respect to safety, design year traffic, access management, physical and right of way constraints, design vehicle, posted speed limit and transit operations. Intersection control evaluation will be documented in the Intersection Control Evaluation Memorandum. Intersections should only follow this process if signalization is proposed to be added or modified.

The CONSULTANT will develop intersection and interchange concepts/layouts based on the results of traffic operational analysis. The layouts will include turn lanes, ramp, auxiliary lanes, storage lengths, ramp terminals, ramp junctions, and other geometric details.

#### **4.10.5 Access Management**

The CONSULTANT will review the DEPARTMENT'S State Highway System Access Management Classification System and Standards and evaluate their application to the project. The CONSULTANT will recommend the proper access classification and standard to be applied to the Project.



The proposed access management plan will be presented as part of the public involvement process. If an Access Management Classification / Reclassification Public Hearing is required, it will be combined with the PD&E Study Public Hearing.

#### **4.10.6 Multimodal Accommodations**

The CONSULTANT will review, evaluate, and document the location and condition of existing pedestrian, bicycle, and public transit accommodations and freight services in the Study Area. This activity includes reviewing existing plans, reports, and studies that outline strategies or define projects associated with alternative modes of travel.

The CONSULTANT will consider freight, pedestrian, bicycle, and transit in the development and evaluation of Project alternatives commensurate with the context with a goal of improving overall mobility, access, connectivity, safety and efficiency. Multimodal accommodation may include analysis of on-street parking and loading zone modifications and/or removal, park and ride needs, as necessary. The CONSULTANT will consider and evaluate the existing and anticipated future use of the Project by bicyclists and pedestrians, the potential impacts of the Project alternatives on bicycle and pedestrian travel, and propose measures to avoid or reduce adverse impacts to bicyclists and pedestrians that would use the Project.

The CONSULTANT will also consider supportive Transportation Demand Management and parking management strategies consistent with the transportation context and the needs of all users of the project. The CONSULTANT will assist the DEPARTMENT with coordination with local agencies, transit operators and Metropolitan Planning Organizations (MPOs) as appropriate.

#### **4.10.7 Maintenance of Traffic**

The CONSULTANT will evaluate alternatives for constructability and the ability to maintain traffic during construction according to **Part 2, Chapter 3** of the **PD&E Manual**. The CONSULTANT will include the estimated cost to maintain traffic in the construction cost estimate for the Project alternative.

#### **4.10.8 Lighting**

The CONSULTANT will evaluate the need for lighting in accordance with applicable manuals, guideline, standards and current design memorandums. The CONSULTANT will include the estimated cost for lighting in the construction cost estimate for the Project alternative.

### **4.11 IDENTIFY CONSTRUCTION SEGMENTS**

The DEPARTMENT will identify construction segments for this Project.

### **4.12 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS**

*Intelligent Transportation Systems (ITS) Analysis is not required for this project.*

## **4.13 STRUCTURES**

### **4.13.1 Existing Structures**

*Existing Structures are not applicable for this project.*

### **4.13.2 Structure Typical Sections**

The CONSULTANT will develop typical sections options for the bridges. These will include the DEPARTMENT's standard typical sections, and any typical sections that may result in minimizing right of way and environmental impacts. Coordination with the District's Structures Design Engineer is required.

### **4.13.3 Structure Design Alternatives**

The CONSULTANT will evaluate conceptual vertical and horizontal geometry and clearance requirements for the bridges. The CONSULTANT will document structural design calculations and design assumptions used in the analysis.

## **4.14 DRAINAGE**

The CONSULTANT will perform Drainage analysis in accordance with the **Drainage Manual** and **Part 2, Chapters 11 and 13** of the **PD&E Manual**. The CONSULTANT shall incorporate/consider the Contamination Screening Evaluation Report and any other related report findings into the Drainage Reports.

### **4.14.1 Floodplain and Environmental Permit Data Collection**

The CONSULTANT will gather floodplain data from FEMA Flood Insurance Rate Maps, and other drainage related data needed to obtain permits from relevant sources including local government, local agencies, and regulatory agencies.

### **4.14.2 Drainage Analysis**

The CONSULTANT will perform drainage analysis by delineating the basin boundaries by using LiDAR information, existing survey data, and field observations. The CONSULTANT will analyze and determine high water elevations in each basin and use the information to establish the preliminary roadway profile. Drainage analysis will also include checking the capacity and structural adequacy of existing cross drains, preliminary design of potential cross drains and outfall structures and identifying the recommended conceptual drainage design for the Project.

### **4.14.3 Floodplain Compensation Analysis**

For each roadway alternative, the CONSULTANT will determine base floodplain elevations and estimate encroachments and appropriate compensation provisions, including incorporating floodplain compensation site requirements into the Pond Siting Report.

### **4.14.4 Stormwater Management Analysis**

The CONSULTANT will calculate the stormwater quality and attenuation requirements, and estimate the stormwater management facility needs for each roadway alternative.

The CONSULTANT will schedule an Environmental Look-Around (ELA) meeting (See **Part 2, Chapter 11** of the **PD&E Manual**) with DEPARTMENT staff, regulatory agencies, local governments, and other stakeholders to discuss regional stormwater needs and design and permitting approaches that benefit the watershed as a whole. During the meeting, the CONSULTANT will document the meeting notes in the project file.

If the ELA reveals no regional pond sites within the Study Area, the CONSULTANT will identify practical pond sites in each basin for each project alternative, estimate construction cost, compare the sites, and identify (in coordination with the DEPARTMENT) a preferred pond site for each basin. Additionally, the CONSULTANT will identify inflow or outfall easement requirements for each pond site. If additional pond sites are revealed, they will be used as a potential option.

The CONSULTANT will prepare a Pond Siting Report or Conceptual Drainage Design Report in accordance with the **Drainage Manual** and the **FDOT Drainage Design Guide**.

#### **4.14.5 Drainage Design**

N/A

#### **4.14.6 Location Hydraulics Report**

The CONSULTANT will prepare a Location Hydraulics Report for the project in accordance with **Part 2, Chapter 13** of the **PD&E Manual**.

### **4.15 LANDSCAPING ANALYSIS**

The CONSULTANT will research and collect data necessary to complete initial landscaping design and analysis of the preferred alternative. The research and data collection must include identification of opportunities and constraints of the proposed Project based on existing site conditions.

### **4.16 CONSTRUCTION AND RIGHT OF WAY COST ESTIMATES**

#### **4.16.1 Construction Cost Estimates**

The CONSULTANT will develop quantities for use by the DEPARTMENT in the Department's Long Range Estimate (LRE) program. The CONSULTANT will be responsible for reviewing and updating the quantities when scope changes occur, at project milestones, and during the DEPARTMENT's annual Work Program update cycle. Construction costs must include traffic management costs.

#### **4.16.2 Right of Way Cost Estimates**

Based on typical section analysis and DEPARTMENT design standards, the CONSULTANT will establish construction limits and determine the minimum (proposed) right of way requirements throughout the limits of the Project. Establishment of construction limits will consider location drainage features, the transportation management plan, utility relocations, stormwater pond requirements, and identified environmental issues, among other factors.

The CONSULTANT will compare the existing right of way width with the proposed right of way requirements to estimate the amount of right of way that the DEPARTMENT must acquire.

The DEPARTMENT will estimate the cost for right of way acquisition, and cost estimates for relocations and business damages, if any. The CONSULTANT will submit concept plans for the Build Alternative that include the parcel identification number, existing right of way lines, proposed right of way lines and acreage of property required. Additionally, the CONSULTANT will provide a spreadsheet with the following parcel information: owner, address, acreage of parent parcel and required amount of property for the Project, estimated business damages and right of way property costs.

The DEPARTMENT's Right of Way Office staff and CONSULTANT may conduct an interactive field trip to review conditions in the corridor as they pertain to actual conditions that might impact the cost of right of way acquisition for the Project.

The DEPARTMENT's Right of Way Office will estimate the cost for right of way acquisition, as well as cost estimates for relocations and business damages, if any.

#### **4.17 ALTERNATIVES EVALUATION**

##### **4.17.1 Comparative Alternatives Evaluation**

The CONSULTANT will establish evaluation criteria at the beginning of the Project, which must be agreed upon with the DEPARTMENT before use in the comparative evaluation of alternatives. After developing the viable alternatives, analyzing alternatives and estimating costs, the CONSULTANT will prepare a matrix which compares the impacts, performance, and costs of the alternatives evaluated in detail in the PD&E Study. The matrix will include the performance of the No Build Alternative as the baseline for comparison.

##### **4.17.2 Selection of Recommended Alternative**

N/A

##### **4.17.3 Value Engineering**

*Value Engineering is not required for this project.*

#### **4.18 CONCEPT PLANS**

The CONSULTANT will prepare concept plans for all viable Project alternatives in appropriate scales overlaid on the base map.

#### **4.18.1 Base Map**

The CONSULTANT will produce a base map of the project area using DEPARTMENT's CADD standards. The base map will contain an aerial photo and existing characteristics for the project. The base map must show environmental issues that are specific to the Study Area such as cemeteries, wetlands, historic properties, high-risk contamination sites, public parks, and property lines.

The CONSULTANT will prepare base maps for the following uses (at noted scales):

- Overall Project Location Map 1: 1000
- Overall Drainage Map 1: 200
- Corridor Maps (Roll Plots) 1: 100

#### **4.18.2 Alternatives Concept Plans**

The CONSULTANT will prepare and overlay alternative concept plans on the base map. The concept plan must show potential location of bridges, culverts, retaining walls, right of way lines (existing and proposed), major utility facilities, intersection, critical driveways, and median openings, among other roadway elements, at appropriate scale according to the DEPARTMENT **CADD Manual**.

#### **4.18.3 Preferred Alternative**

N/A

#### **4.18.4 Typical Section Package**

The CONSULTANT will prepare the Typical Section Package (excluding pavement design) in accordance with the **FDM**.

#### **4.18.5 Design Exceptions and Design Variations**

The CONSULTANT will prepare Design Exceptions and Design Variations Package for the preferred alternative for approval in accordance with the **FDM**.

### **4.19 TRANSPORTATION MANAGEMENT PLAN**

The CONSULTANT will prepare a conceptual Transportation Management Plan in accordance with as per **Part 2, Chapter 3** of the **PD&E Manual**.

### **4.20 RISK MANAGEMENT**

N/A

### **4.21 ENGINEERING ANALYSIS DOCUMENTATION**

The CONSULTANT will prepare a Feasibility Report.

The CONSULTANT shall include sufficient back up information related to all computer programs and parameters used in the analyses to facilitate the review of the engineering documentation. The engineering documentation shall be neatly and logically presented. The final engineering analysis documentation prepared by the CONSULTANT shall be signed and sealed by a Florida-licensed professional engineer.

## **4.22 PLANNING CONSISTENCY**

### **4.22.1 Transportation Plans**

The DEPARTMENT will obtain and review transportation plans throughout the life of the Project for all modes of transportation including freight, transit, and non-motorized. The following plans or studies should be reviewed as appropriate:

- MPO's adopted Long Range Transportation Plan (LRTP) Cost Feasible and Needs Plans
- Local Government Transportation Improvement Plan (TIP)
- State Transportation Improvement Program (STIP)

### **4.22.2 Planning Consistency Form**

The CONSULTANT will assist the DEPARTMENT's finalization of Planning Requirements for Environmental Document approval in the appropriate form.

## **5.0 ENVIRONMENTAL ANALYSIS AND REPORTS**

Tasks described within this section direct work efforts applicable to the environmental analysis and documentation for this Project. Prior to beginning environmental work, the CONSULTANT must review the ETDM AOI and GIS information from the Environmental Screening Tool (EST). This review will support the CONSULTANT's ability to adequately assess the potential for Project alternatives to affect known environmental resource issues.

CONSULTANT activities to conduct and prepare environmental analysis and reports shall be done under the direction of the DEPARTMENT Project Manager. The CONSULTANT will collect pertinent environmental data, conduct analyses, and document the results of this analysis within technical reports or memoranda. The analyses and reporting will be performed and presented in accordance with the procedures in the **PD&E Manual**. The CONSULTANT will analyze all Build Alternatives and the No Build Alternative with respect to impacts to natural, cultural, social and physical resources and document all analyses in the reports. Wherever appropriate the CONSULTANT will describe proposed measures to avoid, minimize, or mitigate project impacts on the environmental issues. Additionally, the CONSULTANT will summarize results of the environmental analysis in the Feasibility Report. The CONSULTANT must verify and record in the Feasibility Report any environmental resource that is identified as "No Involvement". The CONSULTANT will summarize in the Feasibility Report the results of analysis of environmental resources that were completed as part of another study or performed by others concurrent with this project.

## **5.1 SOCIOCULTURAL EFFECTS**

THE CONSULTANT will conduct a Sociocultural Effects (SCE) evaluation in accordance with **Part 2, Chapter 4** of the **PD&E Manual**. The CONSULTANT will document the results of the SCE Evaluation in the Environmental Document and in the Project file and / or complete a stand-alone SCE report if required. If no involvement for a particular issue is indicated, then standard statements to that effect from **Part 2, Chapter 4** of the **PD&E Manual** will be included in the Environmental Document.

#### **5.1.1 Social**

- **Community Cohesion:** The CONSULTANT will identify and assess potential Project impacts on physical barriers, traffic pattern changes, social pattern changes, and loss of connectivity to community features and facilities.
- **Special Community Designation:** The CONSULTANT will identify and assess potential Project impacts on schools, churches, parks, emergency facilities, social services, daycare facilities, retirement centers, community centers, and retail locations.
- **Safety / Emergency Response:** The CONSULTANT will identify and assess potential Project impacts on the creation of isolated areas; emergency response time changes; and location of police, fire, emergency medical services, healthcare facilities, and government offices.
- **Demographics:** The CONSULTANT will identify and assess potential Project impacts on minority, LEP persons, disabled persons, low-income populations, and/or special populations within the Project area.
- **Community Goals and Quality of Life:** The CONSULTANT will identify and assess potential Project impacts on social value changes and compatibility with community goals and vision.

#### **5.1.2 Economic**

- **Business and Employment:** The CONSULTANT will assess potential Project impacts to business and employment activity in the project area, including industries with special needs (e.g., freight distributor) or significance (e.g., regional employer), economic-oriented land use, economic development plans, special designations, and community development priorities. Assessment will also include identification of changes to routes, access, parking, or visibility that could benefit or impair businesses, employment centers, community facilities, or population.
- **Property Values and Tax Base:** The CONSULTANT will assess potential Project impacts on the tax base, employment opportunities, and property values.

#### **5.1.3 Land Use Changes**

The CONSULTANT will evaluate the Project's consistency with the physical character of the area and applicable community plans.

#### **5.1.4 Mobility**

The CONSULTANT will evaluate potential Project impact on mobility and accessibility with regard to all transportation modes (i.e., pedestrian, bicycle, transit and vehicle) in the Study Area.

#### **5.1.5 Aesthetics**

The CONSULTANT will evaluate and summarize the Project's effect on viewshed and vista, community focal points, historic structures, landmarks, and community character in accordance with the **PD&E Manual**.

#### **5.1.6 Relocation Potential**

The CONSULTANT will identify residences, businesses, and institutional or community facilities that may require relocation to accommodate the Project. It is estimated that 3 parcels may require relocation due to removal of access. The CONSULTANT will obtain additional site-specific information needed to evaluate the effect of each Project alternative on the displacement of residences and businesses.

The CONSULTANT will collect the data and perform the analysis necessary to complete a Conceptual Stage Relocation Plan (CSRP) for the proposed alternatives according to **Chapter 9** of the **Right of Way Procedures Manual**.

### **5.2 CULTURAL RESOURCES**

The CONSULTANT will prepare a Research Design and Survey Methodology for the project, to be submitted to the DEPARTMENT for approval prior to the initiation of field work. The CONSULTANT shall identify and map out the zones of probability for the Project Study Area, and identify any previously recorded resources. The Area of Potential Effect (APE) will be determined (including pond sites). The CONSULTANT will summarize each of the cultural resource issues in the Environmental Document. If noninvolvement for a particular issue is indicated, then a statement to that effect will be included. The CONSULTANT will use a professional qualified under the provisions of **36 CFR 61** in compliance with the **National Historic Preservation Act of 1966 (Public Law 89-665)**, as amended) and the implementing regulations (**36 CFR 800**), as well as with the provisions contained in **Chapter 267, Florida Statutes**, to perform all work in this task.

The CONSULTANT will assess the direct and indirect effects and will document the severity of the following items in the Environmental Document and Project file:

#### **5.2.1 Archaeological and Historic Resources**

The CONSULTANT will identify and analyze impacts to archaeological sites and historic resources within the Project's Area of Potential Effects (APE). The APE must include potential pond sites. The CONSULTANT will prepare a research design methodology and perform a Cultural Resources Assessment Survey in accordance with **Part 2, Chapter 8** of the **PD&E Manual**. All work will be documented and coordinated with appropriate agencies as per **Part 2, Chapter 8** of the **PD&E**



**Manual**, and the DEPARTMENT's **Cultural Resource Management Handbook**. In addition, attendance at public meetings may be required. The CONSULTANT will review and address any resource issues or comments by the State Historic Preservation Office (SHPO) listed in the Programming Screen Summary Report.

The CONSULTANT will assist the DEPARTMENT in meetings by providing technical support in Section 106 Meetings, such as Cultural Resource Committee Meeting.

The CONSULTANT will prepare Cultural Resources Assessment Survey (CRAS) documentation detailing the results of the survey and assessments of resource significance, including a Florida Master Site File (FMSF) form. The Research Design and Survey Methodology and the Pond Site Technical Memo will be included in the CRAS appendix.

#### **5.2.2 Recreational, Section 4(f)**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

### **5.3 NATURAL RESOURCES**

The CONSULTANT will assess and summarize each of the natural resource issues in the Environmental Document. If no involvement for a particular issue is indicated, then a statement to that effect will be included.

The CONSULTANT will identify the natural resource evaluation area. The CONSULTANT will assess the direct and indirect effects and will document the severity of the following items in the Environmental Document and project file:

#### **5.3.1 Wetlands**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

#### **5.3.2 Essential Fish Habitat**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

#### **5.3.3 Wildlife and Habitat**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

#### **5.3.4 Natural Resource Evaluation Report**

The CONSULTANT will document the results of the Wetlands and EFH, Wildlife and Habitat, evaluations in a Natural Resources Evaluation (NRE) report in accordance with **Part 2, Chapter 16** of the **PD&E Manual**.

### **5.3.5 Water Quality**

The CONSULTANT will evaluate the data for and document water quality in the Water Quality Impact Evaluation (WQIE) Checklist in accordance with **Part 2, Chapter 11** of the **PD&E Manual**.

### **5.3.6 Special Designations**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

### **5.3.7 Identify Permit Needs**

The CONSULTANT will review the Programming Screen Summary Report and identify permits required for the project.

The CONSULTANT will perform activities that will inform and accelerate the permitting process, including activities to acquire permits during PD&E (as required by the DEPARTMENT).

List expected permits, e.g., USCG, COE and WMD.

### **5.3.8 Farmland**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

## **5.4 PHYSICAL EFFECTS**

The CONSULTANT will summarize each of the physical effect issues in the Environmental Document. If no involvement for a particular issue is indicated, then a statement to that effect will be included. The CONSULTANT will identify the physical effect evaluation area. The CONSULTANT will assess the direct and indirect effects and will document the severity of the following:

### **5.4.1 Noise**

The CONSULTANT will perform the noise analysis, noise abatement evaluation, and assessment of construction noise and vibration in accordance with the **Part 2, Chapter 18** of the **PD&E Manual** and the current version of FDOT's Traffic Noise Modeling and Analysis Practitioner's Handbook. The CONSULTANT will attend a noise study methodology meeting with the DEPARTMENT prior to beginning analysis.

The CONSULTANT will document methodology and results of noise analysis and noise abatement evaluation in the Noise Study Report (NSR). The CONSULTANT will provide an electronic copy of the NSR, in PDF format, as well as all Traffic Noise Model (TNM) input/output files, and "readme" file that support the information documented in the report.

If the Project is determined to be a Type III project, the CONSULTANT will document that in the Project File.

#### **5.4.2 Transit Noise and Vibration Analysis**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

#### **5.4.3 Air Quality**

This resource is not present or will not be impacted by the project. The CONSULTANT must verify and record in the Environmental Document.

#### **5.4.4 Construction Impact Analysis**

The CONSULTANT will evaluate and document the potential impacts of construction of the Project alternatives in accordance with **Part 2, Chapter 3** of the **PD&E Manual**.

#### **5.4.5 Contamination**

The CONSULTANT will gather data, review data, and investigate contamination issues within the limits of the project and identify potentially contaminated sites in accordance with **Part 2, Chapter 20** of the **PD&E Manual**.

The CONSULTANT will document data reviewed, findings, risk rating of potential contamination sites, and recommendation for additional assessment actions in the Contamination Screening Evaluation Report.

### **5.5 CUMULATIVE EFFECTS EVALUATION**

The CONSULTANT will perform and document cumulative effects evaluation of each resource of concern identified based on context and in consultation with the DEPARTMENT as per the process outlined in the **Cumulative Effects Evaluation Handbook**. The cumulative effects evaluation should build upon information derived from the direct and indirect effects analyses.

### **5.6 PROJECT COMMITMENTS RECORD**

The CONSULTANT will assist the DEPARTMENT in filling out **Form No. 700-011-35 Project Commitments Record (PCR)** to document project commitments in the Commitments section of the Environmental Document. DEPARTMENT **Procedure 700-011-035** will be used by the CONSULTANT for recording the project commitments. The CONSULTANT will forward the completed PCR form to the DEPARTMENT Project Manager.

## **6.0 ENVIRONMENTAL DOCUMENT**

Results of environmental analysis will be included in the Feasibility Report. An environmental document may be required, as an optional service, if the project advances to PD&E.

## **7.0 METHOD OF COMPENSATION**

Payment for the work accomplished will be in accordance with **Exhibit B** of this contract. The DEPARTMENTs Project Manager and the CONSULTANT will monitor the cumulative invoiced billings to ensure the reasonableness of the billings compared to the study schedule and the work accomplished and accepted by the DEPARTMENT. The DEPARTMENT Project Manager will decide whether work of sufficient quality and quantity has been accomplished by comparing the reported Scope of Services percent complete against actual work accomplished.

Payments will not be made that exceed the percentage of work identified in the approved payout curve and schedule provided. 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.