EXHIBIT A

SCOPE OF SERVICES

FOR


FINANCIAL PROJECT ID(S): Will be established with each Task Work Order

DISTRICT TWO

DISTRICTWIDE
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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 ________________ (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

- **Financial Project ID:** Will be established with each Task Work Order
- **Federal Aid Project No.:** Will be established with each Task Work Order
- **County Section No.:** Will be established with each Task Work Order
- **Description:** Traffic Operations and Safety Continuing Services Contract for Studies, Conceptual Design, Design and Construction Support (Post Design)
- **Bridge No(s).:** (will be established per Task Work Order)
- **Rail Road Crossing No:** (will be established per Task Work Order)

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 groups include:** 3.1, 7.1, 7.3
**Minor work groups include:** 4.1.1, 6.1, 7.2, 8.1, 8.2, 8.4, 9.1

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 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.


2.1 Project General and Roadway (Activities 3, 4, and 5) (will be established per Task Work Order)

Public Involvement: (will be established per Task Work Order)

Other Agency Presentations/Meetings: (will be established per Task Work Order)

Joint Project Agreements: (will be established per Task Work Order)

Specification Package Preparation: Using Specs on the Web, (will be established per Task Work Order)

Value Engineering: (will be established per Task Work Order)

Risk Assessment Workshop: (not applicable to this contract)

Plan Type: Plan / Profile, or Plan, and Profile (will be established per Task Work Order)

Typical Section: (will be established per Task Work Order)

Pavement Design: (will be established per Task Work Order)

Pavement Type Selection Report(s): (not applicable to this contract)

Cross Slope: (will be established per Task Work Order)

Access Management Classification: (will be established per Task Work Order)

Transit Route Features: (will be established per Task Work Order)

Major Intersections/Interchanges: (will be established per Task Work Order)

Roadway Alternative Analysis: (will be established per Task Work Order)

Level of TCP Plans: (will be established per Task Work Order)

Temporary Lighting: (will be established per Task Work Order)

Temporary Signals: (will be established per Task Work Order)

Temporary Drainage: (will be established per Task Work Order)

Design Variations/Exceptions: (will be established per Task Work Order)

Back of Sidewalk Profiles: (will be established per Task Work Order)

2.2 Drainage (Activities 6a and 6b) (will be established per Task Work Order)
2.3 Utilities Coordination (Activity 7) (will be established per Task Work Order)

The DEPARTMENT 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 DEPARTMENT shall coordinate with Utility Companies and meet production schedules.

The CONSULTANT shall assist by performing the following activities:

- Attend and participate in utility design meetings, keep and distribute of minutes/action items of all utility meetings.
- Distributing all plans, conflict matrixes and changes to the DEPARTMENT’s District Utilities Office (DUO). See Design Staff Hour Estimation (SHE) Guidelines, Task 4.5 for utility conflict location identification and adjustments.
- Review and sign Utility Work Schedules.

2.4 Environmental Permits, Compliances, and Clearances (Activity 8) (will be established per Task Work Order)

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

2.5 Structures (Activities 9 – 18) (will be established per Task Work Order)

Miscellaneous: Overhead Sign Structures, Strain Poles, Mast Arms, Lighting

2.6 Signing and Pavement Markings (Activities 19 & 20) (will be established per Task Work Order)

2.7 Signalization (Activities 21 & 22) (will be established per Task Work Order)

Intersections, Traffic Data Collection, Traffic Studies, Count Stations, Traffic Monitoring Sites:

2.8 Lighting (Activities 23 & 24) (will be established per Task Work Order)

2.9 Landscape Architecture (Activities 25 & 26) (Not applicable to this contract)

2.10 Survey (Activity 27) (will be established per Task Work Order)

Design Survey, Subsurface Utility Exploration, Right of Way Survey

2.11 Photogrammetry (Activity 28) (Not applicable to this contract)

2.12 Mapping (Activity 29) (will be established per Task Work Order)

Control Survey Map, Right of Way Map, Legal Descriptions, Maintenance Map, Miscellaneous Items

2.13 Terrestrial Mobile LiDAR (Activity 30) (will be established per Task Work Order)

2.14 Architecture (Activity 31) (Not applicable to this contract)

2.15 Noise Barriers (Activity 32) (Not applicable to this contract)
2.16 Intelligent Transportation Systems (Activities 33 & 34) (Not applicable to this contract)

2.17 Geotechnical (Activity 35) (will be established per Task Work Order)

2.18 3D Modeling (Activity 36) (will be established per Task Work Order)

2.19 Project Schedule (will be established per Task Work Order)

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 schedule provided in the Task Work Order.

All fees and price proposals are to be based on the task work order scope of services issued.

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

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

2.20 Submittals (will be established per Task Work Order)

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.

2.21 Provisions for Work

All work shall be prepared with English units in accordance with the latest editions of standards and requirements utilized by the DEPARTMENT which include, but are not limited to, publications such as:

- General
  o 29 C.F.R. 1926.1101 – Asbestos Standard for Construction, OSHA
  o 40 C.F.R. 61, Subpart M - National Emission Standard for Hazardous Air Pollutants (NESHAP), Environmental Protection Agency (EPA)
  o 40 C.F.R. 763, Subpart E – Asbestos-Containing Materials in Schools, EPA
  o 40 C.F.R. 763, Subpart G – Asbestos Worker Protection, EPA
  o Americans with Disabilities Act (ADA) Standards for Accessible Design
  o AASHTO – A Policy on Design Standards Interstate System
  o AASHTO – Roadside Design Guide
  o AASHTO – Roadway Lighting Design Guide
  o AASHTO – A Policy for Geometric Design of Highways and Streets
  o AASHTO – Highway Safety Manual
  o Rule Chapter 5J-17, Florida Administrative Code (F.A.C.), Standards of Practice for Professional Surveyors and Mappers
  o Chapter 469, Florida Statutes (F.S.) – Asbestos Abatement
  o Rule Chapter 62-257, F.A.C., Asbestos Program
  o Rule Chapter 62-302, F.A.C., Surface Water Quality Standards
  o Code of Federal Regulations (C.F.R.)
  o Florida Administrative Codes (F.A.C.)
- Chapters 20, 120, 215, 455, Florida Statutes (F.S.) – Florida Department of Business & Professional Regulations Rules
- Florida Department of Environmental Protection Rules
- FDOT Basis of Estimates Manual
- FDOT Computer Aided Design and Drafting (CADD) Manual
- FDOT Standard Plans
- FDOT Flexible Pavement Design Manual
- FDOT - Florida Roundabout Guide
- FDOT Handbook for Preparation of Specifications Package
- FDOT Standard Plans Instructions
- FDOT Materials Manual
- FDOT Pavement Type Selection Manual
- FDOT Design Manual
- FDOT Procedures and Policies
- FDOT Procurement Procedure 001-375-030, Compensation for Consultant Travel Time on Professional Services Agreements
- FDOT Project Development and Environmental Manual
- FDOT Project Traffic Forecasting Handbook
- FDOT Public Involvement Handbook
- FDOT Rigid Pavement Design Manual
- FDOT Standard Specifications for Road and Bridge Construction
- FDOT Utility Accommodation Manual
- Manual on Speed Zoning for Highways, Roads, and Streets in Florida
- Federal Highway Administration (FHWA) - Manual on Uniform Traffic Control Devices (MUTCD)
- FHWA Roadway Construction Noise Model (RCNM) and Guideline Handbook
- Florida Fish and Wildlife Conservation Commission - Standard Manatee Construction Conditions 2005
- Florida Statutes (F.S.)
- Florida’s Level of Service Standards and Guidelines Manual for Planning
- Model Guide Specifications – Asbestos Abatement and Management in Buildings, National Institute for Building Sciences (NIBS)
- Quality Assurance Guidelines
- Safety Standards
- Any special instructions from the DEPARTMENT

Roadway
- FDOT – Florida Intersection Design Guide
- FDOT - Project Traffic Forecasting Handbook
- FDOT - Quality/Level of Service Handbook
- Florida’s Level of Service Standards and Highway Capacity Analysis for the SHS
- Transportation Research Board (TRB) - Highway Capacity Manual

Permits
- Chapter 373, F.S. – Water Resources
- US Fish and Wildlife Service Endangered Species Programs
- Florida Fish and Wildlife Conservation Commission Protected Wildlife Permits
- Bridge Permit Application Guide, COMDTPUB P16591.3C
- Building Permit

Drainage
- FDOT Bridge Hydraulics Handbook
Continuing Services Conceptual Design, Design & Construction Support
February 26, 2019

Stage I

- FDOT Culvert Handbook
- FDOT Drainage Manual
- FDOT Erosion and Sediment Control Manual
- FDOT Exfiltration Handbook
- FDOT Hydrology Handbook
- FDOT Open Channel Handbook
- FDOT Optional Pipe Materials Handbook
- FDOT Storm Drain Handbook
- FDOT Stormwater Management Facility Handbook
- FDOT Temporary Drainage Handbook
- FDOT Drainage Connection Permit Handbook
- FDOT Bridge Scour Manual

- Survey and Mapping
  - All applicable Florida Statutes and Administrative Codes
  - Applicable Rules, Guidelines Codes and authorities of other Municipal, County, State and Federal Agencies.
  - FDOT Aerial Surveying Standards for Transportation Projects Topic 550-020-002
  - FDOT Right of Way Mapping Handbook
  - FDOT Surveying Procedure Topic 550-030-101
  - Florida Department of Transportation Right of Way Procedures Manual
  - Florida Department of Transportation Surveying Handbook
  - Right of Way Mapping Procedure 550-030-015

- Traffic Engineering and Operations and ITS
  - AASHTO - An Information Guide for Highway Lighting
  - AASHTO - Guide for Development of Bicycle Facilities
  - FHWA Standard Highway Signs Manual
  - FDOT Manual on Uniform Traffic Studies (MUTS)
  - FDOT Median Handbook
  - Minimum Specifications for Traffic Control Signal Devices
  - National Electric Safety Code
  - National Electrical Code

- Structures
  - AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications and Interims
  - AASHTO LRFD Movable Highway Bridge Design Specifications and Interims
  - AASHTO Guide Specifications for Structural Design of Sound Barriers
  - AASHTO Manual for Condition Evaluation and Load and Resistance Factor Rating (LRFR) of Highway Bridges
  - FDOT Bridge Load Rating Manual
  - FDOT Structures Manual
  - FDOT Structures Design Bulletins (available on FDOT Structures web site only)

- Geotechnical
  - FHWA Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Specifications
  - Manual of Florida Sampling and Testing Methods
  - Soils and Foundation Handbook
2.22 Services to be Performed by the DEPARTMENT When appropriate and/or available, the DEPARTMENT will provide project data including: (will be established per Task Work Order)

- Numbers for field books.
- Preliminary Horizontal Network Control.
- Access for the CONSULTANT to utilize the DEPARTMENT’s Information Technology Resources.
- All Department agreements with Utility Agency Owner (UAO).
- All certifications necessary for project letting.
- All information that may come to the DEPARTMENT pertaining to future improvements.
- 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.
- Available traffic and planning data.
- All approved utility relocations.
- Project utility certification to the DEPARTMENT’s Central Office.
- Any necessary title searches.
- Engineering standards review services.
- 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 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.
- Systems traffic for Projected Design Year, with K, D, and T factors.
- Existing right of way maps.
- Existing cross slope data for all RRR projects.
- Existing pavement evaluation report for all RRR projects.
- PD&E Documents
- Design Reports
- 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.
- Regarding Environmental Permitting Services:
  - Approved Permit Document when available.
  - 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.
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 every 6 months using the DEPARTMENT’s Long Range Estimate (L.R.E.) system. Once the quantities have been developed the CONSULTANT shall be responsible for inputting the pay items and quantities into AASHTOWare Project Preconstruction through the use of the DEPARTMENT’s Designer Interface for generating the summary of quantities and the FDOT’s in-house estimates. A Summary of Pay Items sheet shall be prepared for all required Plans submittals as needed.

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: (Not applicable for this project)

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.

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 (will be established per Task Work Order)

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 (i.e., newsletters, property owner letters, advertisements, etc.)
associated with the following tasks for review and approval at least 14 business days prior to printing and/or distribution.

3.1.1 Community Awareness Plan (will be established per Task Work Order)

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.

3.1.2 Notifications (will be established per Task Work Order)

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/CONSULTANT] to ensure that they are addressed to the correct and current public officials.

3.1.3 Preparing Mailing Lists (will be established per Task Work Order)

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 (will be established per Task Work Order)

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

3.1.5 Driveway Modification Letters (will be established per Task Work Order)

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.

3.1.6 Newsletters (will be established per Task Work Order)

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

3.1.7 Renderings and Fly-Throughs (will be established per Task Work Order)

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

3.1.8 PowerPoint Presentations (will be established per Task Work Order)

The CONSULTANT shall prepare PowerPoint presentations for use in public meetings.
3.1.9 Public Meeting Preparations (will be established per Task Work Order)

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. No DEPARTMENT meetings will be held on public school system properties.

3.1.10 Public Meeting Attendance and Follow-up (will be established per Task Work Order)

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 may be necessary for the project per task work order that there will be public meetings during the design.

3.1.11 Other Agency Meetings (will be established per Task Work Order)

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.

3.1.12 Web Site (will be established per Task Work Order)

The CONSULTANT shall create and/or maintain a web site for the project.

3.2 Joint Project Agreements (will be established per Task Work Order)

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 Package Preparation (will be established per Task Work Order)

The CONSULTANT shall prepare and provide a specifications package in accordance with the DEPARTMENT’S Handbook for the Preparation of Specification Packages and associated training. 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.

3.4 **Contract Maintenance and Electronic Document Management System (EDMS) (will be established per Task Work Order)**

Contract maintenance includes project management effort for complete setup and maintenance of files, developing monthly progress reports, schedule updates, work effort to develop and execute subconsultant agreements, etc.

3.5 **Value Engineering (Multi-Discipline Team) Review (will be established per Task Work Order)**

3.6 **Prime Consultant Project Manager Meetings (will be established per Task Work Order)**

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 (will be established per Task Work Order)**

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.

3.8 **Post Design Services (will be established per Task Work Order)**

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 at a later date as necessary as a contract amendment.

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

3.9 **Digital Delivery (will be established per Task Work Order)**

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 (Not applicable for this contract)**

3.11 **Railroad, Transit and/or Airport Coordination (will be established per Task Work Order)**

3.11.1 **Aeronautical Evaluation (Not applicable to this contract)**

3.12 **Landscape and Existing Vegetation Coordination (Not applicable to this contract)**

3.13 **Other Project General Tasks (will be established per Task Work Order)**

3.14 **Traffic Engineering Studies (will be established per Task Work Order)**

The CONSULTANT shall complete Traffic Engineering Studies as requested. All Traffic Engineering Studies shall be completed in accordance with 2.21 Provisions of Work. The requested may include, but not limited to:
• Traffic Volume Collection
  o 24 hour machine counts
  o 7 Day Traffic Counts
  o 4 Hour Turning Movement/Pedestrian Count
  o 8 Hour Turning Movement/Pedestrian Count
  o 10 Hour Turning Movement/Pedestrian Count
  o 12 Hour Turning Movement/Pedestrian Count
• Intersection Delay Analysis
• Travel Time Delay Study
• Pedestrian Group Size Study
• Vehicle Gap Size Study
• 8 Hour Bicycle Count
• Field Intersection Inventory (Condition Diagram)
• Crash Analysis
• No-passing Zone Study
• Lighting
• Spot Speed study
• Speed Study Report
• Safe Curve Speed Study
• Conflict Analysis
• Fixed Object Inventory
• Railroad Crossing Preemption Study
• Sight Distance Study
• Signal Warrant Analysis
• Roundabout Justification
• Parking Study
• Operational Analysis for Intersections
• Operational Analysis for Arterials and Networks
• Concept Design/Scope package
• Structural Analysis of Mast Arms, Strain Poles and Sign Structures
• Intersection Design - Lane Configuration
• Left Turn Treatments
• Roadway Signing Inventory
• Benefit Cost Analysis
• Studies Research
• Intersection Control Evaluation
• In House Support
4 ROADWAY ANALYSES (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall provide an approved Typical Section Package prior to the first plans submittal.

4.2 Pavement Type Selection Report (Not applicable to this contract)

4.3 Pavement Design Package (will be established per Task Work Order)

The CONSULTANT shall provide an approved Pavement Design Package prior to the Phase II plans submittal date.

4.4 Cross-Slope Correction (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall design the geometrics using the design standards 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, pedestrian and bicycle concerns, ADA requirements, elder road user policy, 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.

4.6 Access Management (will be established per Task Work Order)

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 Evaluation (will be established per Task Work Order)

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

The CONSULTANT shall perform a Roundabout Screening for assessment of potential site impacts such as utility adjustments or relocations, right of way takes, environmental mitigation, and access management.
The CONSULTANT shall perform a Roundabout b/c Evaluation comparing a roundabout with a traditional intersection (stop controlled or signal controlled). The b/c analysis considers safety benefits associated with reduced crashes, delay, life cycle costs including right of way, utilities, construction, operation, and maintenance.

The CONSULTANT shall perform a Geometric and Operation Analysis to establish the roundabout alignment, geometry and lane requirements. Roundabout geometric and operational analysis must be documented in a preliminary report including data collection, conceptual layout, crash analysis, traffic counts, traffic forecast, and future design and opening year analysis.

The CONSULTANT shall perform all efforts required for traffic data collection and required design elements for all the above steps accordingly, including crash reports, 24 hour machine counts, peak hour turning movement counts, existing geometrics, pedestrian and bicycle volumes, posted speed limits, delay counts, design vehicle, access management, transit operations and physical and right of way limitations.

4.8 Roundabout Final Design Analysis (will be established per Task Work Order)

The CONSULTANT shall finalize the design of the roundabout in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall perform a final roundabout operational analysis that recommends a functional geometric layout that is cost effective, safe and meets the needs of the community. A final roundabout design will be recommended for implementation, and all geometric and operational analysis will be documented in a final roundabout report.

4.9 Cross Section Design Files (will be established per Task Work Order)

The CONSULTANT shall establish and develop cross section design files in accordance with the CADD manual.

4.10 Traffic Control Analysis (will be established per Task Work Order)

The CONSULTANT shall design a safe and effective Traffic Control Plan 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, 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 lighting, alternate detour roads, 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 Traffic Control Plan, 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 Traffic Control Plan 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.

4.11 Master TCP Design Files (will be established per Task Work Order)

The CONSULTANT shall develop master Traffic Control Plan (TCP) files (for Level II and Level III only) showing each phase of the Traffic Control Plan.

4.12 Design Variations and Exceptions (will be established per Task Work Order)

If available, the DEPARTMENT shall furnish the Variation/Exception Report. The CONSULTANT shall prepare the documentation necessary to gain DEPARTMENT approval of all appropriate Design Variations and/or Design Exceptions before the first submittal.

4.13 Design Report (will be established per Task Work Order)

The CONSULTANT shall prepare all applicable report(s) as listed in the Project Description section of this scope.

The CONSULTANT shall submit to the DEPARTMENT design notes, data, and calculations to document the design conclusions reached during the development of the contract plans.

The design notes, data, and computations shall be recorded on size 8½"x11" sheets, fully titled, numbered, dated, indexed and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to 8½"x11" size. The data shall be in a hardback folder for submittal to the DEPARTMENT.

4.14 Quantities (will be established per Task Work Order)

The CONSULTANT shall develop accurate quantities and the supporting documentation, including construction days when required.

4.15 Cost Estimate (will be established per Task Work Order)

4.16 Technical Special Provisions (will be established per Task Work Order)

4.17 Other Roadway Analyses (will be established per Task Work Order)

4.18 Field Reviews (will be established per Task Work Order)

4.19 Monitor Existing Structures (will be established per Task Work Order)

4.20 Technical Meetings (will be established per Task Work Order)

4.21 Quality Assurance/Quality Control (will be established per Task Work Order)

4.22 Independent Peer Review (not applicable to this contract)

4.23 Supervision (will be established per Task Work Order)

4.24 Coordination (will be established per Task Work Order)
5 ROADWAY PLANS (will be established per Task Work Order)

The CONSULTANT shall prepare Roadway, Traffic Control, 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 (will be established per Task Work Order)
5.2 Summary of Pay Items Including Quantity Input (will be established per Task Work Order)
5.3 Typical Section Sheets (will be established per Task Work Order)
   5.3.1 Typical Sections (will be established per Task Work Order)
   5.3.2 Typical Section Details (will be established per Task Work Order)
5.4 General Notes/Pay Item Notes (will be established per Task Work Order)
5.5 Summary of Quantities Sheets (will be established per Task Work Order)
5.6 Project Layout (will be established per Task Work Order)
5.7 Plan/Profile Sheet (will be established per Task Work Order)
5.8 Profile Sheet (will be established per Task Work Order)
5.9 Plan Sheet (will be established per Task Work Order)
5.10 Special Profile (will be established per Task Work Order)
5.11 Back-of-Sidewalk Profile Sheet (will be established per Task Work Order)
5.12 Interchange Layout Sheet (will be established per Task Work Order)
5.13 Ramp Terminal Details (Plan View) (will be established per Task Work Order)
5.14 Intersection Layout Details (will be established per Task Work Order)
5.15 Special Details (will be established per Task Work Order)
5.16 Cross-Section Pattern Sheet(s) (will be established per Task Work Order)
5.17 Roadway Soil Survey Sheet(s) (will be established per Task Work Order)
5.18 Cross Sections (will be established per Task Work Order)
5.19 Temporary Traffic Control Plan Sheets (will be established per Task Work Order)
5.20 Temporary Traffic Control Cross Section Sheets (will be established per Task Work Order)
5.21 Temporary Traffic Control Detail Sheets (will be established per Task Work Order)
5.22 Utility Adjustment Sheets (will be established per Task Work Order)
5.23 Selective Clearing and Grubbing Sheet(s) (will be established per Task Work Order)

5.24 Project Network Control Sheet(s) (will be established per Task Work Order)

5.25 Environmental Detail Sheets (will be established per Task Work Order)

Preparation of detail sheets for potential environmental issues such as, underground fuel tanks and monitoring wells, septic tanks within the proposed right of way. All piping and pumps in association with the above referenced issues shall also be located and identified by the survey. The CONSULTANT shall relay to the DEPARTMENT any findings of contaminated soil, monitoring wells, or any features (particularly springs or sinks) relating to contamination or hazardous material.

Coordination with Permits/Environmental staff and preparing Dredge & Fill Detail sheets where applicable.

5.26 Utility Verification Sheet(s) (SUE Data) (will be established per Task Work Order)

5.27 Quality Assurance/Quality Control (will be established per Task Work Order)

5.28 Supervision (will be established per Task Work Order)
6a DRAINAGE ANALYSIS (will be established per Task Work Order)

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 (will be established per Task Work Order)

Accurately delineate drainage basin boundaries to be used in defining the system hydrology. Basin delineation shall incorporate existing survey and/or LiDAR and shall be supplemented, as necessary, with other appropriate data sources (such as permitted site plans) and field observations. Basin delineations shall also include any existing collection systems in a logical manner to aid in the development of the hydraulic model. Prepare the Drainage Maps in accordance with the Plans Preparation Manual.

6a.2 Base Clearance Report (will be established per Task Work Order)

6a.3 Pond Siting Analysis and Report (will be established per Task Work Order)

6a.4 Design of Cross Drains (will be established per Task Work Order)

Analyze the hydraulic design and performance of cross drains. Check existing cross drains to determine if they are structurally sound and can be extended. Document the design as required. Determine and provide flood data as required.

6a.5 Design of Ditches (will be established per Task Work Order)

Design roadway conveyance and outfall ditches. This task includes capacity calculations, longitudinal grade adjustments, flow changes, additional adjustments for ditch convergences, selection of suitable channel lining, design of side drain pipes, and documentation. (Design of linear stormwater management facilities in separate task.)

6a.6 Design of Stormwater Management Facility (Offsite or Infield Pond) (will be established per Task Work Order)

6a.7 Design of Stormwater Management Facility (Roadside Ditch as Linear Pond) (will be established per Task Work Order)

Design stormwater management facilities to meet requirements for stormwater quality treatment and attenuation. Develop proposed pond layout (contributing drainage basin, shape, contours, slopes, volumes, tie-ins, etc.), perform routing, pollutant loading calculations, recovery calculations and design the outlet control structure.

6a.8 Design of Floodplain Compensation (will be established per Task Work Order)

6a.9 Design of Storm Drains (will be established per Task Work Order)
Develop a “working drainage map”, 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 (will be established per Task Work Order)

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

6a.11 French Drain Systems (Not applicable to this contract)

6a.12 Drainage Wells (Not applicable to this contract)

6a.13 Drainage Design Documentation Report (will be established per Task Work Order)

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.

6a.14 Bridge Hydraulic Report (Not applicable to this contract)

6a.15 Temporary Drainage Analysis (will be established per Task Work Order)

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

6a.16 Cost Estimate (will be established per Task Work Order)

6a.17 Technical Special Provisions (will be established per Task Work Order)

6a.18 Other Drainage Analysis (will be established per Task Work Order)

6a.19 Field Reviews (will be established per Task Work Order)

6a.20 Technical Meetings (will be established per Task Work Order)

6a.21 Environmental Look-Around Meetings (will be established per Task Work Order)

6a.22 Quality Assurance/Quality Control (will be established per Task Work Order)

6a.23 Independent Peer Review (not applicable to this contract)

6a.24 Supervision (will be established per Task Work Order)

6a.25 Coordination (will be established per Task Work Order)
6b DRAINAGE PLANS (will be established per Task Work Order)

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) (will be established per Task Work Order)
6b.2 Bridge Hydraulics Recommendation Sheets (not applicable for this contract)
6b.3 Summary of Drainage Structures (will be established per Task Work Order)
6b.4 Optional Pipe/Culvert Material (will be established per Task Work Order)
6b.5 Drainage Structure Sheet(s) (Per Structure) (will be established per Task Work Order)
6b.6 Miscellaneous Drainage Detail Sheets (will be established per Task Work Order)
6b.7 Lateral Ditch Plan/Profile (will be established per Task Work Order)
6b.8 Lateral Ditch Cross Sections (will be established per Task Work Order)
6b.9 Retention/Detention Pond Detail Sheet(s) (will be established per Task Work Order)
6b.10 Retention Pond Cross Sections (will be established per Task Work Order)
6b.11 Erosion Control Plan Sheet(s) (will be established per Task Work Order)
6b.12 SWPPP Sheet(s) (will be established per Task Work Order)
6b.13 Quality Assurance/Quality Control (will be established per Task Work Order)
6b.14 Supervision (will be established per Task Work Order)
7 UTILITIES (will be established per Task Work Order)

The DEPARTMENT 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 DEPARTMENT 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 (will be established per Task Work Order)
7.2 Identify Existing Utility Agency Owner(s) (will be established per Task Work Order)
7.3 Make Utility Contacts (will be established per Task Work Order)
7.4 Exception Processing (will be established per Task Work Order)
7.5 Preliminary Utility Meeting (will be established per Task Work Order)
7.6 Individual/Field Meetings (will be established per Task Work Order)
7.7 Collect and Review Plans and Data from UAO(s) (will be established per Task Work Order)
7.8 Subordination of Easements Coordination (will be established per Task Work Order)
7.9 Utility Design Meeting (will be established per Task Work Order)

The DEPARTMENT shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s). The CONSULTANT shall be prepared to discuss drainage, traffic signalization, maintenance of traffic (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 maintenance of traffic 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 Files) for utility conflict location identification and adjustments.

7.10 Review Utility Markups & Work Schedules and Processing of Schedules & Agreements (will be established per Task Work Order)

The CONSULTANT shall review utility marked up plans and work schedules as they are received for content. Recommend resolution between known utility conflicts with proposed construction plans as practical. Review and sign all Utility Work Schedules and return to the DUO for distribution.

7.11 Utility Coordination/Follow-up (will be established per Task Work Order)
7.12 Utility Constructability Review (will be established per Task Work Order)

The CONSULTANT shall review utility schedules against construction contract time, and phasing for compatibility. Coordinate with and obtain written concurrence from the construction office.

7.13 Additional Utility Services (will be established per Task Work Order)

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.

7.14 Processing Utility Work by Highway Contractor (UWHC) (will be established per Task Work Order)

7.15 Contract Plans to UAO(s) (will be established per Task Work Order)

7.16 Certification/Close-Out (will be established per Task Work Order)

7.17 Other Utilities (will be established per Task Work Order)
8 ENVIRONMENTAL PERMITS, COMPLIANCE AND CLEARANCES (will be established per Task Work Order)

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.

8.1 Preliminary Project Research (will be established per Task Work Order)

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 a review of the project’s PD&E documents including but not limited to the Environmental Document, Wetland Evaluation Report, Endangered Species and Biological Assessment and Essential Fish and Habitat Report.

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

8.2 Field Work (will be established per Task Work Order)

8.2.1 Pond Site Alternatives: (will be established per Task Work Order)

8.2.2 Establish Wetland Jurisdictional Lines and Assessments: (will be established per Task Work Order)

The CONSULTANT shall collect all data and information necessary to determine the boundaries of wetlands and other surface waters defined by the rules or regulations of each agency processing or reviewing a permit application necessary to construct the DEPARTMENT project.

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

- Determine landward extent of wetlands and other surface waters as defined in Rule Chapter 62-340, F.A.C. as ratified in Section 373.4211, F.S.
- Determine the jurisdictional boundaries and obtain a jurisdictional determination of wetlands and other surface waters as defined by rules or regulations of any permitting authority that is processing a DEPARTMENT permit application.
- Prepare aerial maps showing the jurisdictional boundaries of wetlands and surface waters. Aerial maps shall be reproducible, of a scale no greater than 1”=200’ and be recent photography. The maps shall show the jurisdictional limits of each agency. Photo copies of aerials are not acceptable. All jurisdictional boundaries are to be tied to the project’s baseline of survey. When necessary, a wetland specific survey will be prepared by a registered surveyor and mapper.
- 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 impacted, size of wetland to be impacted, type of impact and identify any wetland 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 United States Army Corps of Engineers (USACE) “Wetland Determination Data Form – Atlantic and Gulf Coastal Plain Region”; the USACE “Approved Jurisdictional...
Determination Form”; Uniform Mitigation Assessment Method forms and/or project specific data forms.

8.2.3 Species Surveys: (will be established per Task Work Order)
The CONSULTANT shall conduct wildlife surveys as defined by rules or regulations of any permitting authority that is processing a DEPARTMENT permit.

8.2.4 Archaeological Surveys: (will be established per Task Work Order)
The CONSULTANT shall conduct Archaeological field surveys as required, in accordance with Part 2, Chapter 12 of the PD&E Manual.

8.3 Agency Verification of Wetland Data (will be established per Task Work Order)
The CONSULTANT shall be responsible for verification of wetland data identified in Section 8.2 and coordinating regulatory agency field reviews, including finalization of wetland assessments and jurisdictional determinations with applicable agencies.

8.4 Complete and Submit All Required Permit Applications (will be established per Task Work Order)
The CONSULTANT shall prepare permit application packages as identified in the Project Description section. The permit application package must be approved by the DEPARTMENT prior to submittal to the regulatory agency.

The CONSULTANT shall collect all of the data and information necessary to obtain the environmental permits required to construct the project. The CONSULTANT shall prepare each permit application for DEPARTMENT approval in accordance with the rules and/or regulations of the environmental agency responsible for issuing a specific permit and/or authorization to perform work.

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

Local Permits: will be established by each Task Work Order

8.5 Prepare Dredge and Fill Sketches (Not applicable for this contract)

8.6 Prepare USCG Permit (Not applicable for this contract)

8.7 Prepare Water Management District Right of Way Occupancy Permit (will be established per Task Work Order)

8.8 Prepare Coastal Construction Control Line (CCCL) Permit Application (Not applicable for this contract)

8.9 Prepare Tree Permit Information (Not applicable for this contract)

8.10 Mitigation Design (will be established per Task Work Order)

8.11 Mitigation Coordination and Meetings (will be established per Task Work Order)

8.12 Other Environmental Permits (will be established per Task Work Order)
Environmental Clearances, Reevaluations and Technical Support

8.13 Technical Support to the DEPARTMENT for Environmental Clearances and Re-evaluations (not applicable for this contract)

8.14 Preparation of Environmental Clearances and Reevaluations (Not applicable for this contract)

8.15 Contamination Impact Analysis (will be established per Task Work Order)

The CONSULTANT shall perform the necessary analysis to complete the Contamination Screening Evaluation for any changes to the project and complete the Contamination Screening Evaluation Report as described in Part 2, Chapter 22, of the PD&E Manual.

8.16 Asbestos Survey (not applicable for this contract)

8.17 Technical Meetings (will be established per Task Work Order)

8.18 Quality Assurance/Quality Control (will be established per Task Work Order)

8.19 Supervision (will be established per Task Work Order)

8.20 Coordination (will be established per Task Work Order)
9  STRUCTURES - SUMMARY AND MISCELLANEOUS TASKS AND DRAWINGS
   (will be established per Task Work Order)

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.

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 (will be established per Task Work Order)
9.2  Project Layout (will be established per Task Work Order)
9.3  General Notes and Bid Item Notes (will be established per Task Work Order)
9.4  Miscellaneous Common Details (will be established per Task Work Order)
9.5  Incorporate Report of Core Borings (will be established per Task Work Order)
9.6  Existing Bridge Plans (Not applicable for this contract)
9.7  Assemble Plan Summary Boxes and Quantities (will be established per Task Work Order)
9.8  Cost Estimate (will be established per Task Work Order)
9.9  Technical Special Provisions (will be established per Task Work Order)
9.10 Field Reviews (will be established per Task Work Order)
9.11 Technical Meetings (will be established per Task Work Order)
9.12 Quality Assurance/Quality Control (will be established per Task Work Order)
9.13 Independent Peer Review (will be established per Task Work Order)
9.14 Supervision (will be established per Task Work Order)
9.15 Coordination (will be established per Task Work Order)
The CONSULTANT shall prepare plans for Miscellaneous Structure(s) as specified in Section 2.5.

Concrete Box Culverts (Not applicable for this contract)

Strain Poles

18.5 Steel Strain Poles (will be established per Task Work Order)
18.6 Concrete Strain Poles (will be established per Task Work Order)
18.7 Strain Pole Data Table Plan Sheets (will be established per Task Work Order)
18.8 Strain Pole Special Details Plan Sheets (will be established per Task Work Order)

Mast Arms

18.9 Mast Arms (will be established per Task Work Order)
18.10 Mast Arms Data Table Plan Sheets (will be established per Task Work Order)
18.11 Mast Arms Special Details Plan Sheets (will be established per Task Work Order)

Overhead/Cantilever Sign Structure

18.12 Cantilever Sign Structures (will be established per Task Work Order)
18.13 Overhead Span Sign Structures (will be established per Task Work Order)
18.14 Special (Long Span) Overhead Sign Structures (will be established per Task Work Order)
18.15 Monotube Overhead Sign Structure (will be established per Task Work Order)
18.16 Bridge Mounted Signs (Attached to Superstructure) (will be established per Task Work Order)
18.17 Overhead/Cantilever Sign Structures Data Table Plan Sheets (will be established per Task Work Order)
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18.18 Overhead/Cantilever Sign Structures Special Details Plan Sheets (will be established per Task Work Order)

High Mast Lighting

18.19 Non-Standard High Mast Lighting Structures (will be established per Task Work Order)

18.20 High Mast Lighting Special Details Plan Sheets (will be established per Task Work Order)

Noise Barrier Walls (Ground Mount) (Not applicable for this contract)

Special Structures (Not applicable for this contract)
19 SIGNING AND PAVEMENT MARKING ANALYSIS (will be established per Task Work Order)

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 (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall perform all effort required for field data collection, and investigation in accordance with the DEPARTMENT’s Manual on Uniform Traffic Studies.

The CONSULTANT shall submit the signed and sealed report to the DEPARTMENT for review and approval.

19.3 Reference and Master Design File (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall determine the appropriate column size from the DEPARTMENT’s Multi-Post Sign Program(s).

19.5 Sign Panel Design Analysis (will be established per Task Work Order)

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

19.6 Sign Lighting/Electrical Calculations (will be established per Task Work Order)

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

The CONSULTANT shall prepare a photometric analysis to be submitted as part of the Lighting Design Analysis Report. An analysis shall be provided for each new and/or modified sign panel which requires lighting.

The Consultant shall submit voltage drop calculations and load analysis for each new and/or modified sign panel which requires lighting.

19.7 Quantities (will be established per Task Work Order)

19.8 Cost Estimate (will be established per Task Work Order)

19.9 Technical Special Provisions (will be established per Task Work Order)

19.10 Other Signing and Pavement Marking Analysis (will be established per Task Work Order)
19.11 Field Reviews (will be established per Task Work Order)

19.12 Technical Meetings (will be established per Task Work Order)

19.13 Quality Assurance/Quality Control (will be established per Task Work Order)

19.14 Independent Peer Review (will be established per Task Work Order)

19.15 Supervision (will be established per Task Work Order)

19.16 Coordination (will be established per Task Work Order)
20 SIGNING AND PAVEMENT MARKING PLANS (will be established per Task Work Order)

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 (will be established per Task Work Order)

20.2 Summary of Pay Items Including TRNS*Port Input (will be established per Task Work Order)

20.3 Tabulation of Quantities (will be established per Task Work Order)

20.4 General Notes/Pay Item Notes (will be established per Task Work Order)

20.5 Project Layout (will be established per Task Work Order)

20.6 Plan Sheet (will be established per Task Work Order)

20.7 Typical Details (will be established per Task Work Order)

20.8 Guide Sign Work Sheet(s) (will be established per Task Work Order)

20.9 Traffic Monitoring Site (will be established per Task Work Order)

20.10 Cross Sections (will be established per Task Work Order)

20.11 Special Service Point Details (will be established per Task Work Order)

20.12 Special Details (will be established per Task Work Order)

20.13 Interim Standards (will be established per Task Work Order)

20.14 Quality Assurance/Quality Control (will be established per Task Work Order)

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.

20.15 Supervision (will be established per Task Work Order)
21 SIGNALIZATION ANALYSES (will be established per Task Work Order)

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 (will be established per Task Work Order)

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 (will be established per Task Work Order)

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 (will be established per Task Work Order)

21.4 Systems Timings (will be established per Task Work Order)

The CONSULTANT shall determine proper coordination timing plans including splits, force offs, offsets, and preparation of Time Space Diagram.

21.5 Reference and Master Signalization Design File (will be established per Task Work Order)

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 (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall design Signal Mounted Overhead Street Name signs.

21.8 Pole Elevation Analysis (will be established per Task Work Order)

21.9 Traffic Signal Operation Report (will be established per Task Work Order)

21.10 Quantities (will be established per Task Work Order)

21.11 Cost Estimate (will be established per Task Work Order)

21.12 Technical Special Provisions (will be established per Task Work Order)

21.13 Other Signalization Analysis (will be established per Task Work Order)

21.14 Field Reviews (will be established per Task Work Order)

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:

A-45
- 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 (will be established per Task Work Order)

21.16 Quality Assurance/Quality Control (will be established per Task Work Order)

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.

21.17 Independent Peer Review (not applicable to this contract)

21.18 Supervision (will be established per Task Work Order)

21.19 Coordination (will be established per Task Work Order)
22 SIGNALIZATION PLANS (will be established per Task Work Order)

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 (will be established per Task Work Order)

22.2 Summary of Pay Items Including Designer Interface (TRNS*Port) Input (will be established per Task Work Order)

22.3 Tabulation of Quantities (will be established per Task Work Order)

22.4 General Notes/Pay Item Notes (will be established per Task Work Order)

22.5 Plan Sheet (will be established per Task Work Order)

22.6 Interconnect Plans (will be established per Task Work Order)

22.7 Traffic Monitoring Site (will be established per Task Work Order)

22.8 Guide Sign Worksheet (will be established per Task Work Order)

22.9 Special Details (will be established per Task Work Order)

22.10 Special Service Point Details (will be established per Task Work Order)

22.11 Mast Arm/Monotube Tabulation Sheet (will be established per Task Work Order)

22.12 Strain Pole Schedule (will be established per Task Work Order)

22.13 TCP Signal (Temporary) (will be established per Task Work Order)

22.14 Temporary Detection Sheet (will be established per Task Work Order)

22.15 Utility Conflict Sheet (will be established per Task Work Order)

22.16 Interim Standards (not applicable to this contract)

22.17 Quality Assurance/Quality Control (will be established per Task Work Order)

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.

22.18 Supervision (will be established per Task Work Order)
23 LIGHTING ANALYSIS (will be established per Task Work Order)

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 (will be established per Task Work Order)

The CONSULTANT shall prepare a Lighting Justification Report. The report shall be submitted under a separate cover with the Phase I plans submittal, titled Lighting Justification Report. The report shall provide analyses for mainlines, interchanges, and arterial roads and shall include all back-up data such that the report stands on its own. Back up data shall include current ADT’s, general crash data average cost from the Florida Highway Safety Improvement Manual, crash details data from the last three years, and preliminary lighting calculations.

The report shall address warrants to determine if lighting warrants are met, and shall include a benefit-cost analysis to determine if lighting is justified. The report shall include calculations for the night-to-day crash ratio as well as a table summarizing the day-time and the night-time crashes. The report shall follow the procedures outlined in the FDOT Manual on Uniform Traffic Studies (MUTS) manual which utilize ADT, Three Year Crash Data, night/day crash ratio, percentage of night ADT, etc.

23.2 Lighting Design Analysis Report (will be established per Task Work Order)

The CONSULTANT shall prepare a Preliminary Lighting Design Analysis Report. The report shall be submitted under a separate cover with the Phase II plans submittal. The report shall provide analyses for each typical section of the mainline, typical section for the ramps (one and/or two lanes), interchanges, underdeck lighting, and arterial roads. Each lighting calculation shall be properly identified as to the area that it covers.

The report shall include the Lighting Design Criteria that will be used and shall include the evaluation of at least three lighting design alternatives and a recommendation on the alternative to use. Each alternative shall be properly described; the alternatives shall consider different pole heights, lamp wattage, and arm lengths. Each alternative shall be provided with a cost estimate that includes initial cost in addition to operations and maintenance cost for one year.

The report shall also include the lighting calculations for each lighted sign.

After approval of the preliminary report, the CONSULTANT shall submit a revised report for each submittal. The Lighting Design Analysis Report shall include:

Voltage drop calculations

Load analysis calculations for each branch circuit

23.3 Aeronautical Evaluation (will be established per Task Work Order)

The CONSULTANT shall prepare an Aeronautical Evaluation/Airspace Analysis Report for those projects as established by the Task Work Order. It shall be submitted for approval by the DEPARTMENT and by FAA prior to Phase II plans submittal.

The report shall include an evaluation of the glide slope of all adjacent airport runways (including future runways) and the preparation of the required FAA forms and special lighting calculations based on NO PENETRATION of the approach or transitional surfaces and coordination with the Airport Manager.
The report shall include a profile drawing for each condition affected by the runway approach and transitional surfaces. This drawing(s) shall show the roadway profile grade line at the edge of the shoulder pavement with proper baseline stations, the FAR Part 77 - 50:1 (or 34:1) approach surface line and the 7:1 transitional surface line. The scale of this drawing shall be 1"=100' horizontal and 1"=10' vertical. The proposed location of each light pole shall be properly shown at the respective station to clearly indicate that no penetration to either the approach surface or to the transitional surface is anticipated.

23.4 Voltage Drop Calculations (will be established per Task Work Order)

The CONSULTANT shall submit voltage drop calculations showing the equation or equations used along with the number of luminaries per circuit, the length of each circuit, the size conductor or conductors used and their ohm resistance values. The voltage drop incurred on each circuit (total volts and percentage of drop) shall be calculated, and all work necessary to calculate the voltage drop values for each circuit should be presented in such a manner as to be duplicated by the District.

The Voltage Drop Calculations shall be submitted as part of the Lighting Design Analysis Report.

23.5 FDEP Coordination and Report (will be established per Task Work Order)

23.6 Reference and Master Design Files (will be established per Task Work Order)

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

23.7 Temporary Lighting (will be established per Task Work Order)

The CONSULTANT shall provide temporary lighting requirements for all affected phases of construction to light roadways in areas where required. The temporary lighting shall be included with the Traffic Control Plans with proper notes, illumination and uniformity criteria and details.

23.8 Design Documentation (will be established per Task Work Order)

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.

23.9 Quantities (will be established per Task Work Order)

23.10 Cost Estimate (will be established per Task Work Order)

23.11 Technical Special Provisions (will be established per Task Work Order)

23.12 Other Lighting Analysis (will be established per Task Work Order)

23.13 Field Reviews (will be established per Task Work Order)

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

23.14 Technical Meetings (will be established per Task Work Order)

23.15 Quality Assurance/Quality Control (will be established per Task Work Order)

23.16 Independent Peer Review (not applicable to this contract)

23.17 Supervision (will be established per Task Work Order)

23.18 Coordination (will be established per Task Work Order)
24 LIGHTING PLANS (will be established per Task Work Order)

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 (will be established per Task Work Order)

24.2 Summary of Pay Item Sheet Including Designer Interface (TRNS*Port) Input (will be established per Task Work Order)

24.3 Tabulation of Quantities (will be established per Task Work Order)

24.4 General Notes/Pay Item Notes (will be established per Task Work Order)

24.5 Pole Data, Legend & Criteria (will be established per Task Work Order)

24.6 Service Point Details (will be established per Task Work Order)

24.7 Project Layout (will be established per Task Work Order)

24.8 Plan Sheet (will be established per Task Work Order)

24.9 Special Details (will be established per Task Work Order)

24.10 Temporary Lighting Data and Details (will be established per Task Work Order)

24.11 Traffic Control Plan Sheets (will be established per Task Work Order)

24.12 Interim Standards (will be established per Task Work Order)

24.13 Quality Assurance/Quality Control (will be established per Task Work Order)

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.

24.14 Supervision (will be established per Task Work Order)
25 **LANDSCAPE ARCHITECTURE ANALYSIS** (Not applicable to this contract)

26 **LANDSCAPE ARCHITECTURE PLANS** (Not applicable to this contract)

27 **SURVEY** *(will be established per Task Work Order)*

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) (will be established per Task Work Order)**

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.

27.2 **Vertical Project Control (VPC) (will be established per Task Work Order)**

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.

27.3 **Alignment and/or Existing Right of Way (R/W) Lines (will be established per Task Work Order)**

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.

27.4 **Aerial Targets (will be established per Task Work Order)**

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.

27.5 **Reference Points (will be established per Task Work Order)**

Reference Horizontal Project Network Control (HPNC) points, project alignment, vertical control points, section, ¼ section, center of section corners and General Land Office (G.L.O.) corners as required.
27.6 **Topography/Digital Terrain Model (DTM) (3D) (will be established per Task Work Order)**

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.

27.7 **Planimetric (2D) (will be established per Task Work Order)**

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.

27.8 **Roadway Cross Sections/Profiles (will be established per Task Work Order)**

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

27.9 **Side Street Surveys (will be established per Task Work Order)**

Refer to tasks of this document as applicable.

27.10 **Underground Utilities (will be established per Task Work Order)**

Designation includes 2-dimensional collection of existing utilities and selected 3-dimensional verification (will be established per Task Work Order) 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 (will be established per Task Work Order) for designates and locates. Includes analysis and processing of all field collected data, and delivery of all appropriate electronic files.

27.11 **Outfall Survey (will be established per Task Work Order)**

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.

27.12 **Drainage Survey (will be established per Task Work Order)**

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.

27.13 **Bridge Survey (Minor/Major) (will be established per Task Work Order)**

27.14 **Channel Survey (will be established per Task Work Order)**

27.15 **Pond Site Survey (will be established per Task Work Order)**

27.16 **Mitigation Survey (will be established per Task Work Order)**

27.17 **Jurisdiction Line Survey (will be established per Task Work Order)**

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.

27.18 Geotechnical Support (will be established per Task Work Order)

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.

27.19 Sectional/Grant Survey (will be established per Task Work Order)

27.20 Subdivision Location (will be established per Task Work Order)

27.21 Maintained R/W (will be established per Task Work Order)

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.

27.22 Boundary Survey (will be established per Task Work Order)

27.23 Water Boundary Survey (Not applicable for this contract)

27.24 Right of Way Staking, Parcel / Right of Way Line (will be established per Task Work Order)

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

27.25 Right of Way Monumentation (Not applicable for this project)

27.26 Line Cutting (will be established per Task Work Order)

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

27.27 Work Zone Safety (will be established per Task Work Order)

Provide work zone as required by DEPARTMENT standards.

27.28 Miscellaneous Surveys (will be established per Task Work Order)

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.

27.29 Supplemental Surveys (will be established per Task Work Order)

Supplemental survey days and hours are to be approved in advance by DS or DLS. Refer to tasks of this document, as applicable, to perform surveys not described herein.

27.30 Document Research (will be established per Task Work Order)

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

27.31 Field Review (will be established per Task Work Order)

Perform verification of the field conditions as related to the collected survey data.
27.32 **Technical Meetings (will be established per Task Work Order)**

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

27.33 **Quality Assurance/Quality Control (QA/QC) (will be established per Task Work Order)**

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.

27.34 **Supervision (will be established per Task Work Order)**

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.

27.35 **Coordination (will be established per Task Work Order)**

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.
PHOTOGRAMMETRY (Not needed for this contract)

MAPPING (will be established per Task Work Order)

The CONSULTANT will be responsible for the preparation of control survey maps, right of way maps, maintenance maps, sketches, other miscellaneous survey maps, and legal descriptions as required for this project in accordance with all applicable DEPARTMENT Manuals, Procedures, Handbooks, District specific requirements, and Florida Statutes. All maps, surveys and legal descriptions will be prepared under the direction of a Florida Professional Surveyor and Mapper (PSM) to DEPARTMENT size and format requirements utilizing DEPARTMENT approved software, and will be designed to provide a high degree of uniformity and maximum readability. The CONSULTANT will submit maps, legal descriptions, quality assurance check prints, checklists, electronic media files and any other documents as required for this project to the DEPARTMENT for review at stages of completion as negotiated.

Master CADD File

Alignment (will be established per Task Work Order)
Section and 1/4 Section Lines (will be established per Task Work Order)
Subdivisions / Property Lines (will be established per Task Work Order)
Existing Right of Way (will be established per Task Work Order)
Topography (will be established per Task Work Order)
Parent Tract Properties and Existing Easements (will be established per Task Work Order)
Proposed Right of Way Requirements (will be established per Task Work Order)

The ENGINEER OF RECORD (EOR) will provide the proposed requirements. The PSM is responsible for calculating the final geometry. Notification of Final Right of Way Requirements along with the purpose and duration of all easements will be specified in writing.

Limits of Construction (will be established per Task Work Order)

The limits of construction DGN file as provided by the EOR will be imported or referenced to the master CADD file. Additional labeling will be added as required. The PSM is required to advise the EOR of any noted discrepancies between the limits of construction line and the existing/proposed right of way lines, and for making adjustments (will be established per Task Work Order) when a resolution is determined.

Jurisdictional/Agency Lines (will be established per Task Work Order)

These lines may include, but are not limited to, jurisdictional, wetland, water boundaries, and city/county limit lines.

Sheet Files (will be established per Task Work Order)

Control Survey Cover Sheet (will be established per Task Work Order)
Control Survey Key Sheet (will be established per Task Work Order)
29.12 Control Survey Detail Sheet (will be established per Task Work Order)
29.13 Right of Way Map Cover Sheet (will be established per Task Work Order)
29.14 Right of Way Map Key Sheet (will be established per Task Work Order)
29.15 Right of Way Map Detail Sheet (will be established per Task Work Order)
29.16 Maintenance Map Cover Sheet (will be established per Task Work Order)
29.17 Maintenance Map Key Sheet (will be established per Task Work Order)
29.18 Maintenance Map Detail Sheet (will be established per Task Work Order)
29.19 Reference Point Sheet (will be established per Task Work Order)
   This sheet(s) will be included with the Control Survey Map, Right of Way Map and Maintenance Map.
29.20 Project Network Control Sheet (will be established per Task Work Order)
   This sheet depicts the baseline, the benchmarks, the primary and secondary control points and their reference points including the type of material used for each point, their XYZ coordinates, scale factors and convergence angles. This sheet(s) may be included with the Control Survey Map, Right of Way Map and Maintenance Map.
29.21 Table of Ownerships Sheet (will be established per Task Work Order)

Miscellaneous Surveys and Sketches (will be established per Task Work Order)
29.22 Parcel Sketches (will be established per Task Work Order)
29.23 TIITF Sketches (will be established per Task Work Order)
29.24 Other Specific Purpose Survey(s) (will be established per Task Work Order)
29.25 Boundary Survey(s) Map (will be established per Task Work Order)
29.26 Right of Way Monumentation Map (will be established per Task Work Order)
29.27 Title Search Map (will be established per Task Work Order)
29.28 Title Search Report (will be established per Task Work Order)
29.29 Legal Descriptions (will be established per Task Work Order)
29.30 Final Map/Plans Comparison (will be established per Task Work Order)
   The PSM will perform a comparison of the final right of way maps with the available construction plans to review the correctness of the type of parcel to be acquired and the stations/offsets to the required right of way. The PSM will coordinate with the EOR to resolve any conflicts or discrepancies and provide documentation of the review.
29.31 Field Reviews (will be established per Task Work Order)

29.32 Technical Meetings (will be established per Task Work Order)

29.33 Quality Assurance/Quality Control (will be established per Task Work Order)

29.34 Supervision (will be established per Task Work Order)

29.35 Coordination (will be established per Task Work Order)

29.36 Supplemental Mapping (will be established per Task Work Order)

This task is to cover efforts resulting from major design and/or development changes after 60% map development that affect the right of way requirements/parent tract property lines and may include any number of tasks. Request and approval to utilize the Supplemental Mapping hours will be in writing and approved by the District Right of Way Surveyor prior to any work being done under this task.

30 TERRESTRIAL MOBILE LiDAR (will be established per Task Work Order) for this project

31 ARCHITECTURE DEVELOPMENT (Not applicable to this contract)

32 NOISE BARRIERS IMPACT DESIGN ASSESSMENT IN THE DESIGN PHASE (Not applicable to this contract)

33 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS (Not applicable to this contract)

34 INTELLIGENT TRANSPORTATION SYSTEMS PLANS (Not applicable to this contract)

35 GEOTECHNICAL (will be established per Task Work Order)

The CONSULTANT shall, for each project, be responsible for a complete geotechnical investigation. All work performed by the CONSULTANT shall be in accordance with DEPARTMENT standards, or as otherwise directed by the District Geotechnical Engineer. The District Geotechnical Engineer will make interpretations and changes regarding geotechnical standards, policies and procedures and provide guidance to the CONSULTANT.

Before beginning each phase of investigation and after the Notice to Proceed is given, 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. The investigation plan shall include, but not be limited to, the proposed boring locations and depths, and all existing geotechnical information from available sources to generally describe the surface and subsurface conditions of the project site. Additional meetings may be required to plan any additional field efforts, review plans, resolve plans/report comments, resolve responses to comments, and/or any other meetings necessary to facilitate the project.

The CONSULTANT shall notify the DEPARTMENT in adequate time to schedule a representative to attend all related meetings and field activities.

35.1 Document Collection and Review (will be established per Task Work Order)

CONSULTANT will review printed literature including topographic maps, county agricultural maps, aerial photography (including historic photos), ground water resources, geology bulletins, potentiometric maps, pile driving records, historic construction records and other geotechnical
related resources. Prior to field reconnaissance, CONSULTANT shall review U.S.G.S., S.C.S. and potentiometric maps, and identify areas with problematic soil and groundwater conditions.

Roadway

The CONSULTANT shall be responsible for coordination of all geotechnical related field work activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

Obtain pavement cores as directed in writing by the District Geotechnical Engineer.

If required by the District Geotechnical Engineer, a preliminary roadway exploration shall be performed before the Phase I plans submittal. The preliminary roadway exploration will be performed and results provided to the Engineer of Record to assist in setting roadway grades and locating potential problem areas. The preliminary roadway exploration shall be performed as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by project needs and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

35.2 Develop Detailed Boring Location Plan (will be established per Task Work Order)

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

35.3 Stake Borings/Utility Clearance (will be established per Task Work Order)

Stake borings and obtain utility clearance.

35.4 Muck Probing (will be established per Task Work Order)

Probe standing water and surficial muck in a detailed pattern sufficient for determining removal limits to be shown in the Plans.

35.5 Coordinate and Develop MOT Plans for Field Investigation (will be established per Task Work Order)

Coordinate and develop Maintenance of Traffic (MOT) plan. All work zone traffic control will be performed in accordance with the DEPARTMENT’s Roadway and Traffic Design Standards Index 600 series.

35.6 Drilling Access Permits (will be established per Task Work Order)

Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, (will be established per Task Work Order).

35.7 Property Clearances (will be established per Task Work Order)
Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT’s Project Manager.

35.8 **Groundwater Monitoring (will be established per Task Work Order)**

Monitor groundwater, using piezometers.

35.9 **LBR / Resilient Modulus Sampling (will be established per Task Work Order)**

Collect appropriate samples for Limerock Bearing Ratio (LBR) testing. Deliver Resilient Modulus samples to the District Materials Office or the State Materials Office in Gainesville, as directed by the DEPARTMENT.

35.10 **Coordination of Field Work (will be established per Task Work Order)**

Coordinate all field work required to provide geotechnical data for the project.

35.11 **Soil and Rock Classification - Roadway (will be established per Task Work Order)**

Refine soil profiles recorded in the field, based on results of laboratory testing.

35.12 **Design LBR (will be established per Task Work Order)**

Determine design LBR values from the 90% and mean methods when LBR testing is required by the DEPARTMENT.

35.13 **Laboratory Data (will be established per Task Work Order)**

Tabulate laboratory test results for inclusion in the geotechnical report, the report of tests sheet (Roadway Soil Survey Sheet), and for any necessary calculations and analyses.

35.14 **Seasonal High Water Table (will be established per Task Work Order)**

Review the encountered ground water levels and estimate seasonal high ground water levels. Estimate seasonal low ground water levels, if requested.

35.15 **Parameters for Water Retention Areas (will be established per Task Work Order)**

Calculate parameters for water retention areas, exfiltration trenches, and/or swales.

35.16 **Delineate Limits of Unsuitable Material (will be established per Task Work Order)**

Delineate limits of unsuitable material(s) in both horizontal and vertical directions. Assist the Engineer of Record with detailing these limits on the cross-sections. If requested, prepare a plan view of the limits of unsuitable material.

35.17 **Electronic Files for Cross-Sections (will be established per Task Work Order)**

Create electronic files of boring data for cross-sections.

35.18 **Embankment Settlement and Stability (will be established per Task Work Order)**

Estimate the total magnitude and time rate of embankment settlements. Calculate the factor of safety against slope stability failure.
35.19 **Monitor Existing Structures (will be established per Task Work Order)**

Coordinate with EOR and structural engineer (when applicable) to identify and develop mitigation strategies for sensitive structures and facilities which require special considerations for settlement, vibration and/or groundwater monitoring by the contractor during construction. When there is risk of damage to the structure or facility, provide recommendations in the geotechnical report addressing project specific needs and coordinate those locations with the EOR. See PPM Volume I Chapter 34 and Chapter 9 of the Soils and Foundations Handbook.

35.20 **Stormwater Volume Recovery and/or Background Seepage Analysis (will be established per Task Work Order)**

Perform stormwater volume recovery analysis as directed by the DEPARTMENT.

35.21 **Geotechnical Recommendations (will be established per Task Work Order)**

Provide geotechnical recommendations regarding the proposed roadway construction project including the following: description of the site/alignment, design recommendations and discussion of any special considerations (i.e. removal of unsuitable material, consolidation of weak soils, estimated settlement time/amount, groundwater control, high groundwater conditions relative to pavement base, etc.) Evaluate and recommend types of geosynthetics and properties for various applications, as required.

35.22 **Pavement Condition Survey and Pavement Evaluation Report (will be established per Task Work Order)**

If a pavement evaluation is performed, submit the report in accordance with Section 3.2 of the Materials Manual: Flexible Pavement Coring and Evaluation. Enter all core information into the Pavement Coring and Reporting (PCR) system.

35.23 **Preliminary Roadway Report (will be established per Task Work Order)**

If a preliminary roadway investigation is performed, submit a preliminary roadway report before the Phase I plans submittal. The purpose of the preliminary roadway report will be to assist in setting road grades and locating potential problems.

- Copies of U.S.G.S. and S.C.S. maps with project limits shown.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.
- The results of all tasks discussed in all previous sections regarding data interpretation and analysis.
- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.
- The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

35.24 **Final Report (will be established per Task Work Order)**

The Final Roadway Report shall include the following:

- Copies of U.S.G.S. and S.C.S. maps with project limits shown.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e.
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soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.

- The results of all tasks discussed in all previous sections regarding data interpretation and analysis.
- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.
- The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

35.25 Auger Boring Drafting (will be established per Task Work Order)

Draft auger borings as directed by the DEPARTMENT.

35.26 SPT Boring Drafting (will be established per Task Work Order)

Draft SPT borings as directed by the DEPARTMENT.

Structures (will be established per Task Work Order)

The CONSULTANT shall be responsible for coordination of all geotechnical related fieldwork activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by needs of project and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

The staff hour tasks for high embankment fills and structural foundations for bridges, box culverts, walls, high-mast lighting, overhead signs, mast arm signals, strain poles, buildings, and other structures include the following:

35.27 Develop Detailed Boring Location Plan (will be established per Task Work Order)

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

35.28 Stake Borings/Utility Clearance (will be established per Task Work Order)

Stake borings and obtain utility clearance.

35.29 Coordinate and Develop MOT Plans for Field Investigation (will be established per Task Work Order)

Coordinate and develop MOT plan. All work zone traffic control will be performed in accordance with the DEPARTMENT’s Roadway and Traffic Standard Plans Index 102 series.

35.30 Drilling Access Permits (will be established per Task Work Order)
Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, as needed.

35.31 Property Clearances (will be established per Task Work Order)

Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT’s Project Manager.

35.32 Collection of Corrosion Samples (will be established per Task Work Order)

Collect corrosion samples for determination of environmental classifications.

35.33 Coordination of Field Work (will be established per Task Work Order)

Coordinate all field work required to provide geotechnical data for the project.

35.34 Soil and Rock Classification – Structures (will be established per Task Work Order)

Soil profiles recorded in the field should be refined based on the results of laboratory testing.

35.35 Tabulation of Laboratory Data (will be established per Task Work Order)

Laboratory test results should be tabulated for inclusion in the geotechnical report and for the necessary calculations and analyses.

35.36 Estimate Design Groundwater Level for Structures (will be established per Task Work Order)

Review encountered groundwater levels, estimate seasonal high groundwater levels, and evaluate groundwater levels for structure design.

35.37 Selection of Foundation Alternatives (BDR) (Not applicable for this contract)

35.38 Detailed Analysis of Selected Foundation Alternate(s) (Not applicable for this contract)

35.39 Bridge Construction and Testing Recommendations (Not applicable for this contract)

35.40 Lateral Load Analysis (Optional) (Not applicable for this contract)

35.41 Walls (Not applicable for this contract)

35.42 Sheet Pile Wall Analysis (Optional) (Not applicable for this contract)

35.43 Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations

Provide the design soil profile(s) that include the soil model/type of each layer and all soil properties required by the Engineer of Record for foundation design. Review design for geotechnical compatibility and constructability.

35.44 Box Culvert Analysis (will be established per Task Work Order)
Provide the design soil profile(s) that include the soil model/type of each layer and all soil properties required by the Engineer of Record for foundation design. Review design for geotechnical compatibility and constructability.

Provide lateral earth pressure coefficients.

Provide box culvert construction and design recommendations.

Estimate differential and total (long term and short term) settlements.

Evaluate wingwall stability.

35.45 Preliminary Report – BDR (Not applicable for this contract)

35.46 Final Report - Bridge and Associated Walls (Not applicable for this contract)

35.47 Final Reports - Signs, Signals, Box Culvert, Walls, and High Mast Lights (Will be established per task work order.

The final reports shall include the following:

Copies of U.S.G.S. and S.C.S. maps with project limits shown.


The results of all tasks discussed in all previous sections regarding data interpretation and analysis).

Recommendations for foundation installation, or other site preparation soils-related construction considerations with plan sheets as necessary.

Any special provisions required for construction that are not addressed in the DEPARTMENT’s Standard specification.

An Appendix which includes SPT and CPT boring/sounding profiles, data from any specialized field tests, engineering analysis, notes/sample calculations, sheets showing ultimate bearing capacity curves versus elevation for piles and drilled shafts, a complete FHWA check list, pile driving records (if available), and any other pertinent information.

Final reports will incorporate comments from the DEPARTMENT and contain any additional field or laboratory test results, recommended foundation alternatives along with design parameters and special provisions for the contract plans. These reports will be submitted to the District Geotechnical Engineer for review prior to project completion. After review by the District Geotechnical Engineer, the reports will be submitted to the District Geotechnical Engineer in final form and will include the following:

All original plan sheets (11” x 17”)

All reference and support documentation used in preparation of contract plans package

The final reports, special provisions, as well as record prints, will be signed and sealed by a Professional Engineer licensed in the State of Florida.
Draft the detailed boring/sounding standard sheet, including environmental classification, results of laboratory testing, and specialized construction requirements, for inclusion in final plans.

35.48 SPT Boring Drafting (will be established per Task Work Order)

Prepare a complete set of drawings to include all SPT borings, auger borings and other pertinent soils information in the plans. Include these drawings in the Final Geotechnical Report. Draft borings, location map, S.C.S. map and U.S.D.A. map as directed by the DEPARTMENT. Soil symbols must be consistent with those presented in the latest Florida Department of Transportation Soils and Foundations Handbook.

35.49 Other Geotechnical (will be established per Task Work Order)

Other geotechnical effort specifically required for the project as determined by the Department, and included in the geotechnical upset limit.

35.50 Technical Special Provisions and Modified Special Provisions (will be established per Task Work Order)

35.51 Field Reviews (will be established per Task Work Order)

Identify and note surface soil and rock conditions, surface water conditions and locations, and preliminary utility conflicts. Observe and note nearby structures and foundation types.

35.52 Technical Meetings (will be established per Task Work Order)

35.53 Quality Assurance/Quality Control (will be established per Task Work Order)

35.54 Supervision (will be established per Task Work Order)

35.55 Coordination (will be established per Task Work Order)

36 3D MODELING (will be established per Task Work Order) for this project

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 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 DEPARTMENT’s CADD Manual. The CONSULTANT shall submit final documents and files as described therein.

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 Letter of Authorization or 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.
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.