March 27, 2024

EXHIBIT A

SCOPE OF SERVICES

FOR

Financial Project ID: 451270-1-32-01

FDOT District 1

HIGHLANDS

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SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES

HIGHWAY AND BRIDGE/STRUCTURAL DESIGN

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

Financial Project ID: 451270-1-32-01

Related Financial Project ID(s): *[Related FM Numbers]*

Federal Aid Project No.:

Roadway:

RoadwayId	Begin milepost	End milepost
9030000	11.612	15.286

Project Description: SR 25 (US 27) FROM N OF PONCE DE LEON BLVD TO N OF LAKE ISIS AVE

Bridge No(s).:

- ***090054***
- ***090028***

Railroad Crossing No.: ***N/A***

Context Classification:

- ***C3C-Suburban Commercial Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.***

1 PURPOSE

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

- Major work mix includes:
  - ***0226 - PAVEMENT ONLY RESURFACE (FLEX)***
- Major work groups include:
  - ***3.1 - Minor Highway Design***
- Minor work groups include:
  - ***7.1 - Signing, Pavement Marking, and Channelization***
  - ***8.2 - Design, Right of Way, and Construction Surveying***

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

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

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

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

The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and preparation of Contract Documents, including Construction Documents. The DEPARTMENT's technical reviews are for high-level conformance and are not meant to be comprehensive reviews. The CONSULTANT shall be fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide job-specific information and/or functions as outlined in this contract.

2 PROJECT DESCRIPTION

The CONSULTANT shall investigate the status of the project and become familiar with concepts and commitments (typical sections, alignments, etc.) developed from prior studies and/or activities. If a Preliminary Engineering Report is available from a prior or current

Project Development and Environment (PD&E) study, the CONSULTANT shall use the approved concepts as a basis for the design unless otherwise directed by the DEPARTMENT. ***SR 25 (US 27) FROM N OF PONCE DE LEON BLVD TO N OF LAKE ISIS AVE***

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

Specification Package Preparation:
[*List any significant effort*]

Estimated Quantities Report Preparation:
[*List any significant effort*]

Plan Type:
[*Describe type of roadway plans, e.g., plan/profile, plan only, letter plans, or as directed*]

Typical Section:
Number of Typical Sections: ***3***
[*Description of typical sections, e.g., mainline: four-lane divided urban curb and gutter, 4-foot bike lanes, 5-foot sidewalk, ...*]

Pavement Designs:
Number of Pavement Designs: ***1***
[*List number of anticipated pavement designs on this project*]

Access Management Classification:

- *Select an Access Management Classification Number*

2.2 Drainage (Activities 6a and 6b)

2.3 Selective Clearing and Grubbing (Activity 6c)

2.4 Utilities Coordination (Activity 7)

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

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

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

District Utilities Administrator that they have the following knowledge, skills, and expertise:

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

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

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

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

Expected Utilities:

2.5 Environmental Permits and Environmental Clearances (Activity 8)

2.6 Structures (Activities 9 - 18)

2.7 Signing and Pavement Markings (Activities 19 & 20)

No Sign Structures included in this project.

2.8 Signalization (Activities 21 & 22)

2.9 Lighting (Activities 23 & 24)

2.10 Landscape (Activities 25 & 26)

2.11 Survey (Activity 27)

Design Survey:
[*Provide limits and description*]

2.12 Photogrammetry (Activity 28)

2.13 Mapping (Activity 29)

2.14 Terrestrial Mobile LiDAR (Activity 30)

2.15 Architecture (Activity 31)

2.16 Noise Barriers (Activity 32)

2.17 Intelligent Transportation Systems (Activities 33 & 34)

2.18 Geotechnical (Activity 35)

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

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

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

2.19 Project Schedule

Within ten (10) days after the Notice-To-Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall provide a detailed project activity/event schedule for DEPARTMENT and CONSULTANT scheduled activities required to meet the current DEPARTMENT Production Date. The schedule shall be based upon the ***Greenlines, Phase II, IIR, IV, & Specs***. The current production date is ***April 17, 2026***. The schedule shall be accompanied by an anticipated payout and fiscal progress curve. For the purpose of scheduling, the CONSULTANT shall allow for a ***four*** week review time for each phase submittal and any other submittals as appropriate.

The schedule shall indicate all required submittals.

All fees and price proposals are to be based on the negotiated schedule of ***twenty-four*** months for final construction contract documents. However, the contract deadline is ***sixty*** months from the Notice to Proceed.

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

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

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

2.20 Submittals

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

2.21 Provisions for Work

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

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

2.22 Services to be Performed by the DEPARTMENT

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

- ***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***
- ***Building Construction Permit Coordination (Turnpike)***
- ***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***
- ***Previously constructed Highway Beautification or Landscape Construction Plans***
- ***Landscape Opportunity Plan(s)***
- ***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 35 (Geotechnical). These tasks are to be included in the project scope in each applicable activity when the described work is to be performed by the CONSULTANT.

Cost Estimates: The CONSULTANT is responsible for producing a construction cost estimate and reviewing and updating the cost estimate when scope changes occur and/or at

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Independent Peer Review and a Constructability/Bidability Review for design Phase Plans document submittals are required on this project. These separate reviews shall be completed by someone who has not worked on the plan component that is being reviewed. These could include, but are not limited to a separate office under the Prime's umbrella, a subconsultant that is qualified in the work group being reviewed, or a CEI. It does not include persons who

have knowledge of the day to day design efforts. The Constructability/Bidability Review shall be performed by a person with experience working on DEPARTMENT construction projects (CEI, Contractor, etc.).

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

Supervision: The CONSULTANT shall supervise all technical design activities.

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

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

3.2 Joint Project Agreements

3.3 Specifications & Estimates

3.3.1 Specifications Package Preparation

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

The Specifications Package must be submitted for review to the District Specifications Office at least 30 days prior to the contract package to Tallahassee or District due date, or sooner if required by the District Specifications Office. This submittal does not require signing and sealing and shall be coordinated through the District's Project Manager. The CONSULTANT shall coordinate with the DEPARTMENT on the submittal requirements, but at a minimum shall consist of (1) the complete Specifications Package, (2) a copy of the marked-up workbook used to prepare the package, and (3) a copy of the final project plans.

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

3.3.2 Estimated Quantities Report Preparation

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

3.4 Contract Maintenance and Project Documentation

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

3.5 Value Engineering (Multi-Discipline Team) Review

3.6 Prime Consultant Project Manager Meetings

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

3.7 Plans Update

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

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

3.8 Post-Design Services

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

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

3.9 Digital Delivery

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

3.10 Risk Assessment Workshop

3.11 Railroad, Transit and/or Airport Coordination

[*Provide project-specific information*]

3.11.1 Aeronautical Evaluation

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

3.12 Landscape and Existing Vegetation Coordination

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

3.13 Other Project General Tasks

[*Describe other project general tasks*]

4 ROADWAY ANALYSIS (TBD)

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

4.1 Typical Section Package

The CONSULTANT shall prepare a Typical Section Package.

4.2 Pavement Type Selection Report

4.3 Pavement Design Package

The CONSULTANT shall prepare a Pavement Design Package.

4.4 Cross-Slope Analysis

4.5 Safety Analysis

The CONSULTANT shall perform all safety analysis required for roadway design. This includes safety analysis (justification/mitigation) required for design variations and exceptions, Highway Safety Manual (HSM) assessments, and crash analysis of crash reports.

4.6 Design Analysis

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

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

Access Management: The CONSULTANT shall incorporate access management standards for each project in coordination with DEPARTMENT staff. The CONSULTANT shall review adopted access management standards and the existing access conditions (interchange spacing, signalized intersection spacing, median opening spacing, and connection spacing). Median openings that will be closed, relocated, or substantially altered shall be shown on plan sheets and submitted with supporting documentation for review with the first plans submittal.

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

4.7 Operational Analysis

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.

4.8 Design Reports

The CONSULTANT shall prepare all applicable report(s). Reports are to be delivered as a signed and sealed pdf file.

4.9 Design Variations and Exceptions

4.10 Master Design File Setup & Maintenance, Model Management Plan

The CONSULTANT shall setup the horizontal/vertical master design file and maintain the design file throughout the life of the design. The CONSULTANT shall create a model management plan when necessary.

4.11 Horizontal/Vertical Master Design Files

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

3D Model Development: When the project includes a 3D Model deliverable, the CONSULTANT shall design elements in a 3D Model in accordance with the FDOT CADD Manual and FDM.

4.12 Temporary Traffic Control Plan (TTCP) Analysis and Master Design Files

4.13 Utility Data Collection and Analysis

The CONSULTANT shall collect, analyze, and coordinate utility data. This includes reviewing the Utility Work Schedule (UWS) and developing and coordinating utility conflict information (if not included in section 7 Utilities).

4.14 Roadway Quantities for EQ Report

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

TTCP Quantities for EQ Report: The CONSULTANT shall determine temporary traffic control pay items and quantities and the supporting documentation.

4.15 Cost Estimate

4.16 Technical or Modified Special Provisions

4.17 Other Roadway Tasks

4.18 Quality Assurance/Quality Control

4.19 Supervision

4.20 Roadway Meetings

4.21 Field Reviews

4.22 Coordination

5 ROADWAY PLANS

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

5.1 Key Sheet & Signature Sheet

5.2 Typical Section Sheets

5.3 Cross Slope Correction Details (N/A)

5.4 General Notes/Pay Item Notes

5.5 Project Layout/Model Management (N/A)

5.6 Plan View (Plan Sheets)

5.7 Profile View (Plan/Profile Sheets) (N/A)

5.8 Special Profiles (N/A)

5.9 Sidewalk Profiles

5.10 Interchange Layout Sheet (N/A)

5.11 Details

5.12 Soil Survey Sheets (N/A)

5.13 Cross Sections (N/A)

5.14 Temporary Traffic Control Plan

5.15 Utility Adjustment Sheets (N/A)

5.16 Project Control Sheets

5.17 Utility Verification Data (SUE Data) (N/A)

5.18 Quality Assurance/Quality Control

5.19 Supervision

6a DRAINAGE ANALYSIS (TBD)

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 Base Clearance Analysis (N/A)

6a.2 Hydroplaning Analysis (N/A)

6a.3 Existing Permit Analysis (N/A)

6a.4 Utility Conflict Matrix (for drainage structures) (N/A)

6a.5 Noise Barrier Drainage Analysis (N/A)

6a.6 Temporary Drainage Analysis

6a.7 Pond Siting Analysis and Report (N/A)

6a.8 Analysis of Pipe Video Inspection Report (N/A)

6a.9 Bridge Hydraulic Report (N/A)

6a.10 Design of Cross Drains (N/A)

6a.11 Design of Ditches and Side Drains (N/A)

6a.12 Design of Stormwater Management Facility (N/A)

6a.13 Design of Floodplain Compensation (N/A)

6a.14 Design of Storm Drains (N/A)

6a.15 Optional Culvert Material (N/A)

6a.16 Design of Trench Drains (N/A)

6a.17 French Drain Systems (N/A)

6a.18 Design of Drainage Wells (N/A)

6a.19 Stormwater Runoff Control Concept (N/A)

6a.20 Other Drainage Tasks (N/A)

6a.21 Drainage Design Documentation Report (N/A)

6a.22 Drainage Quantities for EQ Report (N/A)

6a.23 Cost Estimate (N/A)

6a.24 Technical or Modified Special Provisions (N/A)

6a.25 Quality Assurance/Quality Control (N/A)

6a.26 Supervision (N/A)

6a.27 Drainage Meetings (N/A)

6a.28 Field Reviews (N/A)

6a.29 Coordination (N/A)

6b DRAINAGE PLANS (TBD)

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) (N/A)

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

6b.3 Drainage Structures (N/A)

6b.4 Lateral Ditches (N/A)

6b.5 Retention/Detention/Floodplain Compensation Ponds (N/A)

6b.6 Quality Assurance/Quality Control (N/A)

6b.7 Supervision (N/A)

6c SELECTIVE CLEARING AND GRUBBING (TBD)

6c.1 Data Collection and Inventory (N/A)

6c.2 Assessment and Disposition Determination (N/A)

6c.3 Selective Clearing and Grubbing Maintenance Report (N/A)

6c.4 Selective Clearing and Grubbing Plan (N/A)

6c.5 Selective Clearing and Grubbing Quantities for EQ Report (N/A)

6c.6 Cost Estimate (N/A)

6c.7 Quality Assurance/Quality Control (N/A)

6c.8 Supervision (N/A)

6c.9 Selective Clearing and Grubbing Meetings (N/A)

6c.10 Field Reviews (N/A)

6c.11 Coordination (N/A)

7 UTILITIES

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

7.1 Utility Kickoff Meeting

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

7.2 Identify Existing Utility Agency Owner(s)

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

7.3 Make Utility Contacts

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

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

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

Not all projects will have all contacts as described above.

7.4 Exception Processing (N/A)

7.5 Preliminary Utility Meeting (N/A)

7.6 Individual/Field Meetings

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

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

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

7.8 Subordination of Easements Coordination (N/A)

7.9 Utility Design Meeting (N/A)

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

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

7.11 Utility Coordination/Follow-up

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

7.12 Utility Constructability Review

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

7.13 Additional Utility Services (N/A)

7.14 Processing Utility Work by Highway Contractor (UWHC) (N/A)

7.15 Contract Plans to UAO(s)

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

7.16 Certification/Close-Out

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

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

OR

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

OR

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

7.17 Other Utilities

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

8 ENVIRONMENTAL PERMITS and ENVIRONMENTAL CLEARANCES (TBD)

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

8.1 Preliminary Project Research (N/A)

8.2 Field Work (N/A)

8.3 Agency Verification of Wetland Data (N/A)

8.4 Complete and Submit All Required Permit Applications (N/A)

8.5 Coordinate and Review Dredge and Fill Sketches (N/A)

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

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

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

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

8.10 Compensatory Mitigation Plan (N/A)

8.11 Mitigation Coordination and Meetings (N/A)

8.12 Regulatory Agency Support (N/A)

8.13 Other Environmental Permits (N/A)

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

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

8.16 Contamination Impact Analysis (N/A)

8.17 Asbestos Survey (N/A)

8.18 Technical Meetings (N/A)

8.19 Quality Assurance/Quality Control (N/A)

8.20 Supervision (N/A)

8.21 Coordination (N/A)

9 STRUCTURES - SUMMARY AND MISCELLANEOUS TASKS AND DRAWINGS (TBD)

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

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

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

9.2 Project Layout (N/A)

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

9.4 Miscellaneous Common Details (N/A)

9.5 Incorporate Report of Core Borings (N/A)

9.6 Standard Plans- Bridges (N/A)

9.7 Existing Bridge Plans (N/A)

9.8 Structures Quantities for EQ Report (N/A)

9.9 Cost Estimate (N/A)

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

9.11 Field Reviews (N/A)

9.12 Technical Meetings (N/A)

9.13 Quality Assurance/Quality Control (N/A)

9.14 Independent Peer Review (N/A)

9.15 Supervision (N/A)

9.16 Coordination (N/A)

10 STRUCTURES - BRIDGE DEVELOPMENT REPORT (TBD)

The CONSULTANT shall prepare a Bridge Development Report (BDR). The BDR shall be submitted as part of the Phase I Roadway Submittal, General Requirements.

General Requirements

10.1 Bridge Geometry (N/A)

10.2 Ship Impact Data Collection (N/A)

10.3 Ship Impact Criteria (N/A)

Superstructure Alternatives

10.4 Short-Span Concrete (N/A)

10.5 Medium-Span Concrete (N/A)

10.6 Long Span Concrete (N/A)

10.7 Structural Steel (N/A)

Foundation and Substructure Alternatives

10.8 Pier/Bent (N/A)

10.9 Shallow Foundations / GRS Abutments (N/A)

10.10 Deep Foundations (N/A)

Movable Span

10.11 Data Collection and Design Criteria (N/A)

10.12 Movable Span Geometrics and Clearances (N/A)

10.13 Deck System Evaluation (N/A)

10.14 Framing Plan Development (N/A)

10.15 Main Girder Preliminary Design (N/A)

10.16 Conceptual Span Balance/Counterweight (N/A)

10.17 Support System Development (N/A)

10.18 Drive Power Calculations (N/A)

10.19 Drive System Development (N/A)

10.20 Power and Control Development (N/A)

10.21 Conceptual Pier Design (N/A)

10.22 Foundation Analysis (FL PIER) (N/A)

10.23 Tender Visibility Study (N/A)

Other BDR Issues

10.24 Aesthetics (N/A)

10.25 TTCP/Staged Construction Requirements (N/A)

10.26 Constructability Requirements (N/A)

10.27 Load Rating for Damaged/Widened Structures (N/A)

10.28 Quantity and Cost Estimates (N/A)

10.29 Quantity and Cost Estimates - Movable Span (N/A)

10.30 Wall Type Justification (N/A)

Report Preparation

10.31 Exhibits (N/A)

10.32 Exhibits - Movable Span (N/A)

10.33 Report Preparation (N/A)

10.34 Report Preparation - Movable Span (N/A)

10.35 BDR Submittal Package (N/A)

Preliminary Plans

When ONLY Phase I plans are final deliverable, use Task Nos. as shown for applicable bridge types for project Activities 12 thru 16. Staffhours to be negotiated and scaled appropriately.

11 STRUCTURES - TEMPORARY BRIDGE (TBD)

The CONSULTANT shall prepare plans for Temporary Bridge(s) at the location(s) specified in Section 2.5. The CONSULTANT shall contact FDOT Office of Maintenance to determine the type and availability of temporary before deciding on the temporary bridge type to be used.

General Layout Design and Plans

11.1 Overall Bridge Final Geometry (N/A)

11.2 General Plan and Elevation (N/A)

11.3 Miscellaneous Details (N/A)

End Bent Design and Plans

11.4 End Bent Structural Design (N/A)

11.5 End Bent Details (N/A)

Intermediate Bent Design and Plans

11.6 Intermediate Bent Structural Design (N/A)

11.7 Intermediate Bent Details (N/A)

Miscellaneous Substructure Design and Plans

11.8 Foundation Layout (N/A)

12 STRUCTURES - SHORT SPAN CONCRETE BRIDGE (TBD)

The CONSULTANT shall prepare plans for Short Span Concrete Bridge(s) at the location(s) specified in Section 2.5.

General Layout Design and Plans

12.1 Overall Bridge Final Geometry (N/A)

12.2 Expansion/Contraction Analysis (N/A)

12.3 General Plan and Elevation (N/A)

12.4 Construction Staging (N/A)

12.5 Approach Slab Plan and Details (N/A)

12.6 Miscellaneous Details (N/A)

End Bent Design and Plans

12.7 End Bent Geometry (N/A)

12.8 End Bent Structural Design (N/A)

12.9 End Bent Plan and Elevation (N/A)

12.10 End Bent Details (N/A)

Intermediate Bent Design and Plans

12.11 Bent Geometry (N/A)

12.12 Bent Stability Analysis (N/A)

12.13 Bent Structural Design (N/A)

12.14 Bent Plan and Elevation (N/A)

12.15 Bent Details (N/A)

Miscellaneous Substructure Design and Plans

12.16 Foundation Layout (N/A)

Superstructure Design and Plans

12.17 Finish Grade Elevation Calculation (N/A)

12.18 Finish Grade Elevations (N/A)

Cast-In-Place Slab Bridges

12.19 Bridge Deck Design (N/A)

12.20 Superstructure Plan (N/A)

12.21 Superstructure Sections and Details (N/A)

Prestressed Slab Unit Bridges

12.22 Prestressed Slab Unit Design (N/A)

12.23 Prestressed Slab Unit Layout (N/A)

12.24 Prestressed Slab Unit Details and Schedule (N/A)

12.25 Deck Topping Reinforcing Layout (N/A)

12.26 Superstructure Sections and Details (N/A)

Reinforcing Bar Lists

12.27 Preparation of Reinforcing Bar List (N/A)

Load Rating

12.28 Load Rating (N/A)

13 STRUCTURES - MEDIUM SPAN CONCRETE BRIDGE (TBD)

The CONSULTANT shall prepare plans for Medium Span Concrete Bridge(s) at the location(s) specified in Section 2.5.

General Layout Design and Plans

13.1 Overall Bridge Final Geometry (N/A)

13.2 Expansion/Contraction Analysis (N/A)

13.3 General Plan and Elevation (N/A)

13.4 Construction Staging (N/A)

13.5 Approach Slab Plan and Details (N/A)

13.6 Miscellaneous Details (N/A)

End Bent Design and Plans

13.7 End Bent Geometry (N/A)

13.8 Wingwall Design and Geometry (N/A)

13.9 End Bent Structural Design (N/A)

13.10 End Bent Plan and Elevation (N/A)

13.11 End Bent Details (N/A)

Intermediate Bent Design and Plans

13.12 Bent Geometry (N/A)

13.13 Bent Stability Analysis (N/A)

13.14 Bent Structural Design (N/A)

13.15 Bent Plan and Elevation (N/A)

13.16 Bent Details (N/A)

Pier Design and Plans

13.17 Pier Geometry (N/A)

13.18 Pier Stability Analysis (N/A)

13.19 Pier Structural Design (N/A)

13.20 Pier Plan and Elevation (N/A)

13.21 Pier Details (N/A)

Miscellaneous Substructure Design and Plans

13.22 Foundation Layout (N/A)

Superstructure Deck Design and Plans

13.23 Finish Grade Elevation (FGE) Calculation (N/A)

13.24 Finish Grade Elevations (N/A)

13.25 Bridge Deck Design (N/A)

13.26 Bridge Deck Reinforcing and Concrete Quantities (N/A)

13.27 Diaphragm Design (N/A)

13.28 Superstructure Plan (N/A)

13.29 Superstructure Section (N/A)

13.30 Miscellaneous Superstructure Details (N/A)

Reinforcing Bar Lists

13.31 Preparation of Reinforcing Bar List (N/A)

Continuous Concrete Girder Design

13.32 Section Properties (N/A)

13.33 Material Properties (N/A)

13.34 Construction Sequence (N/A)

13.35 Tendon Layouts (N/A)

13.36 Live Load Analysis (N/A)

13.37 Temperature Gradient (N/A)

13.38 Time Dependent Analysis (N/A)

13.39 Stress Summary (N/A)

13.40 Ultimate Moments (N/A)

13.41 Ultimate Shear (N/A)

13.42 Construction Loading (N/A)

13.43 Framing Plan (N/A)

13.44 Girder Elevation, including Grouting Plan and Vent Locations (N/A)

13.45 Girder Details (N/A)

13.46 Erection Sequence (N/A)

13.47 Splice Details (N/A)

13.48 Girder Deflections and Camber (N/A)

Simple Span Concrete Design

13.49 Prestressed Beam (N/A)

13.50 Prestressed Beam Schedules (N/A)

13.51 Framing Plan (N/A)

Beam Stability

13.52 Beam/Girder Stability (N/A)

Bearing

13.53 Bearing Pad and Bearing Plate Design (N/A)

13.54 Bearing Pad and Bearing Plate Details (N/A)

Load Rating

13.55 Load Ratings (N/A)

14 STRUCTURES - STRUCTURAL STEEL BRIDGE (TBD)

The CONSULTANT shall prepare plans for Structural Steel Bridge(s) at the location(s) specified in Section 2.5.

General Layout Design and Plans

14.1 Overall Bridge Final Geometry (N/A)

14.2 Expansion/Contraction Analysis (N/A)

14.3 General Plan and Elevation (N/A)

14.4 Construction Staging (N/A)

14.5 Approach Slab Plan and Details (N/A)

14.6 Miscellaneous Details (N/A)

End Bent Design and Plans

14.7 End Bent Geometry (N/A)

14.8 Wingwall Design and Geometry (N/A)

14.9 End Bent Structural Design (N/A)

14.10 End Bent Plan and Elevation (N/A)

14.11 End Bent Details (N/A)

Intermediate Bent Design and Plans

14.12 Bent Geometry (N/A)

14.13 Bent Stability Analysis (N/A)

14.14 Bent Structural Design (N/A)

14.15 Bent Plan and Elevation (N/A)

14.16 Bent Details (N/A)

Pier Design and Plans

14.17 Pier Geometry (N/A)

14.18 Pier Stability Analysis (N/A)

14.19 Pier Structural Design (N/A)

14.20 Pier Plan and Elevation (N/A)

14.21 Pier Details (N/A)

Miscellaneous Substructure Design and Plans

14.22 Foundation Layout (N/A)

Superstructure Deck Design and Plans

14.23 Finish Grade Elevation (FGE) Calculation (N/A)

14.24 Finish Grade Elevations (N/A)

14.25 Bridge Deck Design (N/A)

14.26 Bridge Deck Reinforcing and Concrete Quantities (N/A)

14.27 Superstructure Plan (N/A)

14.28 Superstructure Section (N/A)

14.29 Miscellaneous Bridge Deck Details (N/A)

Reinforcing Bar Lists

14.30 Preparation of Reinforcing Bar List (N/A)

Structural Steel Plate Girder Design

14.31 Unit Modeling (N/A)

14.32 Section Design (N/A)

14.33 Stiffener Design and Locations (N/A)

14.34 Cross-frame Design (N/A)

14.35 Connections (N/A)

14.36 Bearing Assembly Design and Detailing (With Jacking Analysis) (N/A)

14.37 Splice Design (N/A)

14.38 Shear Stud Connectors (N/A)

14.39 Deflection Analysis (N/A)

14.40 Framing Plan (N/A)

14.41 Girder Elevation (N/A)

14.42 Structural Steel Details (N/A)

14.43 Splice Details (N/A)

14.44 Girder Deflections and Camber (N/A)

Structural Steel Box Girder Design

14.45 Unit Modeling (N/A)

14.46 Section Design (N/A)

14.47 Stiffener Design and Locations (N/A)

14.48 Interior Cross-Frame Design (N/A)

14.49 Exterior Cross-Frame Design (N/A)

14.50 Connections (N/A)

14.51 Bearing Assembly Design and Detailing (with Jacking Analysis) (N/A)

14.52 Splice Design (N/A)

14.53 Shear Stud Connectors (N/A)

14.54 Deflection Analysis (N/A)

14.55 Framing Plan (N/A)

14.56 Girder Elevation (N/A)

14.57 Structural Steel Details (N/A)

14.58 Splice Details (N/A)

14.59 Girder Deflections and Camber (N/A)

Erection Scheme

14.60 Erection Scheme Analysis (N/A)

14.61 Erection Scheme (N/A)

Load Rating

14.62 Load Rating (N/A)

15 STRUCTURES - SEGMENTAL CONCRETE BRIDGE (TBD)

The CONSULTANT shall prepare plans for Segmental Concrete Bridge(s) at the location(s) specified in Section 2.5.

General Layout Design and Plans

15.1 Final Bridge Geometry (N/A)

15.2 Casting Geometry Calculation (N/A)

15.3 Finish Grade Geometry Calculation (N/A)

15.4 Finish Grade Elevations (N/A)

15.5 Construction Schedule (N/A)

15.6 General Plan and Elevation (N/A)

15.7 Approach Slab Plan and Details (N/A)

15.8 Miscellaneous Details (N/A)

15.9 Existing Bridge Plans (N/A)

End Bent Design and Plans

15.10 End Bent Geometry (N/A)

15.11 Wingwall Geometry and Design (N/A)

15.12 End Bent Structural Design (N/A)

15.13 End Bent Plan and Elevation (N/A)

15.14 End Bent Details (N/A)

Pier Design and Plans

15.15 Pier Geometry (N/A)

15.16 Pier Stability Analysis (N/A)

15.17 Pier Construction Loads (N/A)

15.18 Pier Structural Design (N/A)

15.19 Pier Plan and Elevation (N/A)

15.20 Pier Details (N/A)

Miscellaneous Substructure Design and Plans

15.21 Foundation Layout (N/A)

Longitudinal Analysis

15.22 Section Properties (N/A)

15.23 Material Properties (N/A)

15.24 Superimposed Dead Loads (N/A)

15.25 Construction Sequence (N/A)

15.26 Tendon Layouts (N/A)

15.27 Live Load Analysis (N/A)

15.28 Temperature Gradient (N/A)

15.29 Time Dependent Analysis (N/A)

15.30 Stress Summary (N/A)

15.31 Ultimate Moments (N/A)

15.32 Ultimate Shear (N/A)

15.33 Construction Loading (N/A)

Transverse Analysis

15.34 Time Dependent Analysis (N/A)

15.35 Live Load Analysis (N/A)

15.36 Temperature Gradient (N/A)

15.37 Stress Summary (N/A)

15.38 Ultimate Moments (N/A)

15.39 Construction Loading (N/A)

Superstructure Design

15.40 Typical Segment (N/A)

15.41 Pier Segment (N/A)

15.42 Expansion Joint Segment (N/A)

15.43 Blister Details (N/A)

15.44 Deviator Blocks (N/A)

15.45 Bearings (N/A)

15.46 Expansion Joints (N/A)

15.47 Special Analysis (N/A)

Superstructure Plans

15.48 Typical Sections (N/A)

15.49 Finish Grade Elevations (N/A)

15.50 Segment Layout / Designations (N/A)

15.51 Typical Segments (N/A)

15.52 Variable Depth Segments (N/A)

15.53 Pier Segments (N/A)

15.54 Expansion Joint Segments (N/A)

15.55 CIP Closure Joint Details (N/A)

15.56 Casting Geometry (N/A)

15.57 Integrated 3D Drawings (N/A)

Post-Tensioning Details

15.58 Bulkhead Details (N/A)

15.59 Transverse Tendon Layout (N/A)

15.60 Longitudinal Tendon Layout (N/A)

15.61 Temporary Post-Tensioning (N/A)

15.62 Quantities and Stressing Schedule (N/A)

15.63 Future Post-Tensioning (N/A)

15.64 Anchorage Blisters (N/A)

15.65 Deviation Blocks (N/A)

15.66 PT Grouting Plan Details (N/A)

Miscellaneous Details

15.67 Erection Sequence and Details (N/A)

15.68 Access Opening Details (N/A)

15.69 Bearings (N/A)

15.70 Expansion Joints (N/A)

15.71 Vermin Screen Details (N/A)

15.72 Railing Details (N/A)

15.73 Lighting and Luminaries (N/A)

15.74 Architectural Details (N/A)

15.75 Special Systems (N/A)

Reinforcing Bar Lists

15.76 Preparation of Reinforcing Bar Lists (N/A)

Load Rating

15.77 Load Rating (LRFR) (N/A)

16 STRUCTURES - MOVABLE SPAN (TBD)

The CONSULTANT shall prepare plans for Movable Span Bridge(s) at the location(s) specified in Section 2.5.

Final Design Bascule Pier

16.1 Pier Deck (N/A)

16.2 Leaf/Pier Clearance Diagrams (N/A)

16.3 Load Shoe Columns (N/A)

16.4 Trunnion Columns (N/A)

16.5 Foundations (N/A)

16.6 Footing (N/A)

16.7 Seal (N/A)

16.8 Back Wall (Approach Span Bearings) Closed Piers only (N/A)

16.9 Bascule Pier Deck Elevations (N/A)

Bascule Pier Dimensions - Detailing

16.10 Pier Plan Views (N/A)

16.11 Pier Elevations Views (N/A)

16.12 Pier Sections (N/A)

Bascule Pier Reinforcing

16.13 Pier Reinforcing (N/A)

Bascule Pier Miscellaneous Details

16.14 Pier Barrier Details (N/A)

16.15 Stair Details (N/A)

16.16 Handrail Details (N/A)

16.17 Ladder and Hatch Details (N/A)

16.18 Pier Equipment (N/A)

16.19 Bascule Pier Notes and Summary of Quantities (N/A)

16.20 Miscellaneous Details (N/A)

Bascule Leaf Design

16.21 Deck Design (N/A)

16.22 Sidewalk Design (N/A)

16.23 Stringer Design (N/A)

16.24 Typical Floorbeam Design (N/A)

16.25 End Floorbeam Design (N/A)

16.26 Deep Floorbeam Design (N/A)

16.27 Sidewalk Bracket Design (N/A)

16.28 Roadway Bracket Design (N/A)

16.29 Main Girder Influence Lines (N/A)

16.30 Main Girder Design (N/A)

16.31 Trunnion Girder Design (N/A)

16.32 Main Girder Camber Data (N/A)

16.33 Leaf Lateral Bracing Design (N/A)

16.34 Counterweight Design (N/A)

16.35 Live Load Shoe Design (N/A)

16.36 Barrier Design (N/A)

16.37 Deck Elevations (N/A)

16.38 Balance Calculations (N/A)

Bascule Leaf Detailing

16.39 Bascule GP&E (N/A)

16.40 Bascule Leaf Notes (N/A)

16.41 Framing Plan (N/A)

16.42 Flooring Plan and Details (N/A)

16.43 Typical Section and Finish Grade Elevations (N/A)

16.44 Girder Elevation (N/A)

16.45 Girder Details (N/A)

16.46 Camber Layout (N/A)

16.47 Floor Beams (N/A)

16.48 Counterweight Girder/Box (N/A)

16.49 Trunnion Girder (N/A)

16.50 Cylinder Girder (N/A)

16.51 Lateral Bracing Details (N/A)

16.52 Counterweight Bracing Details (N/A)

16.53 Joint Details (N/A)

16.54 Traffic Barrier Details (N/A)

16.55 Pedestrian Rail and Support Details (N/A)

16.56 Curb and Sidewalk Details (N/A)

16.57 Barrier and Sidewalk Bracket Details (N/A)

16.58 Counterweight Details (N/A)

16.59 Stress Table or Influence Lines (N/A)

Mechanical Design

16.60 Final Power Requirements (N/A)

16.61 Trunnion Assembly (N/A)

16.62 Span Locks (N/A)

16.63 Sump Pumps (N/A)

Mechanical Drive Design

16.64 Drive Shafts, Couplings, Keys, Bearings and Supports (N/A)

16.65 Rack and Pinion, Bearings and Supports (N/A)

16.66 Drive Train (N/A)

16.67 Motor Brakes and Machinery Brakes (N/A)

Hydraulic Drive Design

16.68 Hydraulic Drive (N/A)

Machinery Detailing

16.69 Machinery Layout (N/A)

16.70 Machinery Elevation (N/A)

16.71 Machinery Section (N/A)

16.72 Trunnion Assembly (N/A)

16.73 Drive Details (N/A)

16.74 Span Locks (N/A)

Electrical Design

16.75 Load Analysis (N/A)

16.76 Power Distribution (N/A)

16.77 Drive Equipment (N/A)

16.78 Bridge Controls (N/A)

16.79 Grounding (N/A)

16.80 Lightning and Surge Suppression (N/A)

16.81 Pier Lighting (N/A)

Electrical Detailing

16.82 Electrical Plan and Elevation (N/A)

16.83 Electrical Symbols and Abbreviations (N/A)

16.84 Single/Three Line Diagram (N/A)

16.85 Panel Board and Light Fixture Schedules (N/A)

16.86 Wire and Conduit Schedules and Diagrams (N/A)

16.87 Control Desk/Panel Layout (N/A)

16.88 Control Schematics (N/A)

16.89 PLC Logic (N/A)

16.90 Communication System (N/A)

16.91 Navigation Lighting Details (N/A)

16.92 Pedestrian Gate, Traffic Gate, and Barrier Details (N/A)

16.93 Submarine Cable (N/A)

16.94 Miscellaneous Details (N/A)

Control House

16.95 Architectural Design (N/A)

16.96 Architectural Details (N/A)

16.97 Structural Design (N/A)

16.98 Structural Details (N/A)

16.99 HVAC/Plumbing Design (N/A)

16.100 HVAC/Plumbing/Electrical Cables (N/A)

Reinforcing Bar Lists

16.101 Preparation of Reinforcing Bar List (N/A)

Load Rating

16.102 Load Rating (N/A)

17 STRUCTURES - RETAINING WALLS (TBD)

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

17.1 Key Sheet (N/A)

17.2 Horizontal Wall Geometry (N/A)

Permanent Proprietary Walls

17.3 Vertical Wall Geometry (N/A)

17.4 Semi-Standard Drawings (N/A)

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

17.6 Details (N/A)

Temporary Proprietary Walls

17.7 Vertical Wall Geometry (N/A)

17.8 Semi-Standard Drawings (N/A)

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

17.10 Details (N/A)

Cast-In-Place Retaining Walls

17.11 Design (N/A)

17.12 Vertical Wall Geometry (N/A)

17.13 General Notes (N/A)

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

17.15 Sections and Details (N/A)

17.16 Reinforcing Bar List (N/A)

Other Retaining Walls and Bulkheads

17.17 Design (N/A)

17.18 Vertical Wall Geometry (N/A)

17.19 General Notes, Tables and Miscellaneous Details (N/A)

17.20 Wall Plan and Elevations (N/A)

17.21 Details (N/A)

18 STRUCTURES - MISCELLANEOUS (TBD)

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

Concrete Box Culverts

18.1 Concrete Box Culverts (N/A)

18.2 Concrete Box Culverts Extensions (N/A)

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

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

Strain Poles

18.5 Steel Strain Poles (N/A)

18.6 Concrete Strain Poles (N/A)

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

18.8 Strain Pole Special Details Plan Sheets (N/A)

Mast Arms

18.9 Mast Arms (N/A)

18.10 Mast Arms Data Table Plan Sheets (N/A)

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

Overhead/Cantilever Sign Structure

18.12 Cantilever Sign Structures (N/A)

18.13 Overhead Span Sign Structures (N/A)

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

18.15 Monotube Overhead Sign Structure (N/A)

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

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

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

High Mast Lighting

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

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

Noise Barrier Walls (Ground Mount)

18.21 Horizontal Wall Geometry (N/A)

18.22 Vertical Wall Geometry (N/A)

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

18.24 Control Drawings (N/A)

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

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

18.27 Aesthetic Details (N/A)

Special Structures

18.28 Fender System (N/A)

18.29 Fender System Access (N/A)

18.30 Special Structures (N/A)

18.31 Other Structures (N/A)

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

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

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

18.35 Ancillary Structures Report (N/A)

19 SIGNING AND PAVEMENT MARKING ANALYSIS

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

19.1 Traffic Data Analysis (N/A)

19.2 No Passing Zone Study (N/A)

19.3 Signing and Pavement Marking Master Design File

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

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

19.5 Sign Panel Design Analysis (N/A)

19.6 Sign Lighting/Electrical Calculations (N/A)

19.7 S&PM Quantities for EQ Report

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

19.8 Cost Estimate

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

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

19.11 Field Reviews (N/A)

19.12 Technical Meetings (N/A)

19.13 Quality Assurance/Quality Control

19.14 Independent Peer Review (N/A)

19.15 Supervision

19.16 Coordination

20 SIGNING AND PAVEMENT MARKING PLANS

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

20.1 Key Sheet & Signature Sheet

20.2 General Notes/Pay Item Notes

20.3 Project Layout (N/A)

20.4 Plan Sheet

20.5 Special Details (N/A)

20.6 Service Point Details (N/A)

20.7 Guide Sign Data (N/A)

20.8 Cross Sections (Sign Installations) (N/A)

20.9 Quality Assurance/Quality Control

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

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

20.10 Supervision

21 SIGNALIZATION ANALYSIS (TBD)

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

21.2 Traffic Data Analysis (N/A)

21.3 Signal Warrant Study (N/A)

21.4 Systems Timings (N/A)

21.5 Reference and Master Signalization Design File (N/A)

21.6 Reference and Master Interconnect Communication Design File (N/A)

21.7 Overhead Street Name Sign Design (N/A)

21.8 Pole Elevation Analysis (N/A)

21.9 Traffic Signal Operation Report (N/A)

21.10 Signalization Quantities for EQ Report (N/A)

21.11 Cost Estimate (N/A)

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

21.13 Other Signalization Analysis (N/A)

21.14 Field Reviews (N/A)

21.15 Technical Meetings (N/A)

21.16 Quality Assurance/Quality Control (N/A)

21.17 Independent Peer Review (N/A)

21.18 Supervision (N/A)

21.19 Coordination (N/A)

22 SIGNALIZATION PLANS (TBD)

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

22.1 Key Sheet & Signature Sheet (N/A)

22.2 General Notes/Pay Item Notes (N/A)

22.3 Signalization Plan Sheets (N/A)

22.4 Interconnect Plans (N/A)

22.5 Traffic Monitoring Site

22.6 Guide Sign Data (N/A)

22.7 Special Details (N/A)

22.8 Service Point Details (N/A)

22.9 Mast Arm/Monotube Tabulation Sheet (N/A)

22.10 Strain Pole Schedule (N/A)

22.11 TTCP Signal

22.12 Temporary Detection Sheet (N/A)

22.13 Quality Assurance/Quality Control (N/A)

22.14 Supervision (N/A)

23 LIGHTING ANALYSIS (TBD)

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

23.1 Lighting Justification Report (N/A)

23.2 Lighting Design Analysis Report (LDAR) (N/A)

23.3 Voltage Drop Calculations (N/A)

23.4 FDEP Coordination and Report (N/A)

23.5 Reference and Master Design Files (N/A)

23.6 Temporary Highway Lighting

23.7 Design Documentation (N/A)

23.8 Lighting Quantities for EQ Report (N/A)

23.9 Cost Estimate (N/A)

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

23.11 Other Lighting Analysis (N/A)

23.12 Field Reviews (N/A)

23.13 Technical Meetings (N/A)

23.14 Quality Assurance/Quality Control (N/A)

23.15 Independent Peer Review (N/A)

23.16 Supervision (N/A)

23.17 Coordination (N/A)

24 LIGHTING PLANS (TBD)

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

24.1 Key Sheet & Signature Sheet (N/A)

24.2 General Notes/Pay Item Notes (N/A)

24.3 Pole Data, Legend & Criteria (N/A)

24.4 Project Layout (N/A)

24.5 Plan Sheets (N/A)

24.6 Special Details (N/A)

24.7 Service Point Details (N/A)

24.8 Temporary Highway Lighting Plan Sheets (N/A)

24.9 Quality Assurance/Quality Control (N/A)

24.10 Supervision (N/A)

25 LANDSCAPE ANALYSIS (TBD)

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

25.1 Data Collection (N/A)

25.2 Outdoor Advertising Assessment (N/A)

25.3 Master Design File Setup (Base Files) (N/A)

25.4 Site Inventory and Analysis (N/A)

25.5 Landscape Opportunity Plan (N/A)

25.6 Conceptual Planting Design

25.7 Final Planting Design

25.8 Conceptual Irrigation Design

25.9 Final Irrigation Design (N/A)

25.10 Conceptual Hardscape Design

25.11 Final Hardscape Design

25.12 Landscape Quantities for EQ Report (N/A)

25.13 Cost Estimates (N/A)

25.14 Technical or Modified Special Provisions (N/A)

25.15 Other Landscape Services (N/A)

25.16 Quality Assurance/Quality Control (N/A)

25.17 Supervision (N/A)

25.18 Landscape Meetings (N/A)

25.19 Field Reviews

25.20 Coordination (N/A)

26 LANDSCAPE PLANS (TBD)

The CONSULTANT shall prepare a set of Landscape Plans which includes the following.

26.1 Key Sheet & Signature Sheet (N/A)

26.2 Plant Schedule (Sheet no longer produced) (N/A)

26.3 General Notes/Pay Item Notes (N/A)

26.4 Planting Plans for Linear Areas

26.5 Planting Plans for Non-Linear Areas (Stormwater Facilities, Rest Areas, Interchanges and Toll Plazas)

26.6 Planting Details

26.7 Irrigation Plans for Linear Areas

26.8 Irrigation Plans for Non-Linear Areas (Stormwater Facilities, Rest Areas, Interchange and Toll Plazas)

26.9 Irrigation Details

26.10 Hardscape Plans and Details

26.11 Maintenance Plan (N/A)

26.12 Quality Assurance/Quality Control (N/A)

26.13 Supervision (N/A)

27 SURVEY

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

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

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

27.1 Horizontal Project Control (HPC)

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

27.2 Vertical Project Control (VPC)

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

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

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

27.4 Aerial Targets

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

27.5 Reference Points

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

27.6 Topography/Digital Terrain Model (DTM) (3D)

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

27.7 Planimetric (2D)

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

27.8 Roadway Cross Sections/Profiles

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

27.9 Side Street Surveys

Refer to tasks of this document as applicable.

27.10 Underground Utilities

27.11 Outfall Survey (N/A)

27.12 Drainage Survey

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

27.13 Bridge Survey (Minor/Major)

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

27.14 Channel Survey (N/A)

27.15 Pond Site Survey (N/A)

27.16 Mitigation Survey (N/A)

27.17 Jurisdiction Line Survey (N/A)

27.18 Geotechnical Support (N/A)

27.19 Sectional/Grant Survey (N/A)

27.20 Subdivision Location (N/A)

27.21 Maintained R/W (N/A)

27.22 Boundary Survey (N/A)

27.23 Water Boundary Survey (N/A)

27.24 Right of Way Staking, Parcel / Right of Way Line (N/A)

27.25 Right of Way Monumentation (N/A)

27.26 Line Cutting (N/A)

27.27 Work Zone Safety

Provide work zone as required by DEPARTMENT standards.

27.28 Vegetation Survey

27.29 Tree Survey (N/A)

27.30 Miscellaneous Surveys (N/A)

27.31 Supplemental Surveys

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.

27.32 Document Research

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

27.33 Field Review

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

27.34 Technical Meetings

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

27.35 Quality Assurance/Quality Control (QA/QC)

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

27.36 Supervision

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

27.37 Coordination

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

28 PHOTOGRAMMETRY (TBD)

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

In addition to the maps and photographic products, the CONSULTANT shall submit all computations to document the mapping. This will include documentation of all decisions reached from meetings, telephone conversations, and site visits.

28.1 Flight Preparation (N/A)

28.2 Control Point Coordination (N/A)

28.3 Mobilization (N/A)

28.4 Flight Operations (N/A)

28.5 Photo Products (N/A)

28.6 LiDAR (N/A)

28.7 Aerial Triangulation (N/A)

28.8 Surfaces (N/A)

28.9 Ortho Generation (N/A)

28.10 Rectified Digital Imagery (Georeferenced) (N/A)

28.11 Mosaicking (N/A)

28.12 Sheet Clipping (N/A)

28.13 Topographics (3D) (N/A)

28.14 Planimetrics (2D) (N/A)

28.15 Drainage Basin (N/A)

28.16 CADD Edit (N/A)

28.17 Data Merging (N/A)

28.18 Miscellaneous (N/A)

28.19 Field Review (N/A)

28.20 Technical Meetings (N/A)

28.21 Quality Assurance/Quality Control (N/A)

28.22 Supervision (N/A)

28.23 Coordination (N/A)

29 MAPPING (TBD)

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

29.1 Alignment (N/A)

29.2 Section and 1/4 Section Lines (N/A)

29.3 Subdivisions (N/A)

29.4 Property Lines (N/A)

29.5 Existing Right of Way (N/A)

29.6 Topography (N/A)

29.7 Parent Tract Properties and Existing Easements (N/A)

29.8 Proposed Right of Way Requirements (N/A)

29.9 Limits of Construction (N/A)

29.10 Jurisdictional/Agency Lines (N/A)

Sheet Files

29.11 Control Survey Cover Sheet

29.12 Control Survey Key Sheet

29.13 Control Survey Detail Sheet

29.14 Right of Way Map Cover Sheet

29.15 Right of Way Map Key Sheet

29.16 Right of Way Map Detail Sheet

29.17 Maintenance Map Cover Sheet

29.18 Maintenance Map Key Sheet

29.19 Maintenance Map Detail Sheet

29.20 Reference Point Sheet (N/A)

29.21 Project Control Sheet (N/A)

29.22 Table of Ownerships Sheet (N/A)

Miscellaneous Surveys and Sketches

29.23 Parcel Sketches (N/A)

29.24 TIITF Sketches (N/A)

29.25 Other Specific Purpose Survey(s) (N/A)

29.26 Boundary Survey(s) Map (N/A)

29.27 Right of Way Monumentation Map (N/A)

29.28 Title Search Map (N/A)

29.29 Title Search Report (N/A)

29.30 Legal Descriptions

29.31 Quality Assurance/Quality Control (N/A)

29.32 Supervision (N/A)

29.33 Mapping Meetings (N/A)

29.34 Field Reviews (N/A)

29.35 Coordination (N/A)

29.36 Supplemental Mapping (N/A)

30 TERRESTRIAL MOBILE LiDAR (TBD)

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

In addition to the maps and LiDAR products, the CONSULTANT shall submit all computations and reports to support the mapping. This will include documentation of all decisions reached from meetings, telephone conversations, and site visits.

30.1 Terrestrial Mobile LiDAR Mission Planning (N/A)

30.2 Project Control Point Coordination (N/A)

30.3 Terrestrial Mobile LiDAR Mobilization (N/A)

30.4 Terrestrial Mobile LiDAR Mission (N/A)

30.5 Terrestrial Mobile LiDAR Processing (N/A)

30.6 Terrestrial Mobile Photography Processing (N/A)

30.7 Transformation / Adjustment (N/A)

30.8 Classification / Editing (N/A)

30.9 Specific Surface Reporting (N/A)

30.10 Topographic (3D) Mapping (N/A)

30.11 Topographic (2D) Planimetric Mapping (N/A)

30.12 CADD Edits (N/A)

30.13 Data Merging (N/A)

30.14 Miscellaneous (N/A)

30.15 Field Reviews (N/A)

30.16 Technical Meetings (N/A)

30.17 Quality Assurance/ Quality Control (N/A)

30.18 Supervision (N/A)

30.19 Coordination (N/A)

31 ARCHITECTURE DEVELOPMENT (TBD)

PHASE I - 30% SCHEMATIC DESIGN DOCUMENTS SUBMITTAL

After receipt of written authorization to proceed from the DEPARTMENT and based on the approvals and any authorized adjustments to the Project Scope, Project Schedule or Budget, the Design Professional shall prepare, submit and present for approval by the DEPARTMENT, Phase I (30%) documents, comprised of, but not limited, to the following:

Documents

- Architectural and Civil site plan(s) showing, in addition to site survey requirements, landscaping, drainage, water retention ponds, sewage disposal and water supply system, chilled water supply and return piping and such physical features that may adversely affect or enhance the safety, health, welfare, visual environment, or comfort of the occupants.
- A statement on the site plan signed and dated by the Design Professional or his designated subconsultant, including identifying the number of existing trees, the number and size of required trees, and the number of proposed trees to be planted, and other relevant features.
- Soil testing results including a copy of the Geotechnical Engineer's report on the site, and proposed method of treatment when unusual soil conditions or special foundation problems are indicated.
- Review of anticipated GBRS points and certification level; adjust attempted points as needed to meet target certification level. Provide updated GBRS credit scorecard or checklist.

Drawing(s) to include as a minimum, the following deliverables:

- Floor plan drawn at an architectural scale that will allow the entire facility to be shown on one sheet, without breaklines, and which indicates project phasing as applicable to the Scope.
- Floor plans drawn at 3/32 inch or larger scale showing typical occupied spaces or special rooms with dimensions, sanitary facilities, stairs, elevators, identification of accessible areas for the disabled and other program requirements.
- Floor plans drawn at 3/32 inch or larger scale showing typical spaces or special rooms with dimensions, indicating door and window layouts and other relevant features.
- For alterations or additions to an existing facility: Indicate the connections and tie ins to the existing facilities, including all existing spaces, exits, plumbing fixtures and locations and any proposed changes thereto. Distinguish between new and existing areas for renovation, remodeling, or an addition and show demolition plans of areas to be removed.
- Furniture and Equipment plans drawn at 1/8 inch or larger scale showing typical spaces or special rooms with dimensions, equipment and furnishing layouts and other relevant features.
- Reflected ceiling plans drawn at 3/32 inch or larger scale showing typical spaces or special rooms with dimensions, major lighting equipment and ceiling panel layouts.
- Roof and miscellaneous plans to be drawn at 3/32 inch or larger scale showing dimensioned features penetrations, equipment and other relevant features.
- Provide design narrative and plumbing fixture locations.
- All exterior building elevations to illustrate and indicate the scale, finish, size and fenestration of the facility.
- Sufficient building and wall sections to show dimensions, proposed construction material, and relationship of finished floor to finished grades.
- Preliminary Structural Drawings to include plans and sections indicating systems, connections and foundations.
- Mechanical Drawings to include ceiling plans, location of grease trap(s), LP gas tank location, natural gas piping connection to existing utilities. Provide narrative description to include a description of proposed HVAC system equipment including the chiller, pumps, AHUs, cooling tower, electric duct heaters and other relevant features.
- Electrical Drawings include plans with lighting layouts for outdoors and major interior spaces. Show location of electrical rooms, transformers, emergency generator.
- Equipment and Furnishing Schedules to indicate major equipment that will be provided by the Contractor and those that will be provided by the DEPARTMENT or others.

Life Safety plans to show exit strategy, rated doors, emergency wall openings, range and fume hoods, eye wash, emergency showers, ramps, vertical lifts, and other relevant features.

- By symbol, indicate fire extinguishers, fire alarm equipment, smoke vents, master valves and emergency disconnects, emergency lighting, emergency power equipment, fire sprinklers, exit signs, smoke and fire dampers, and other life safety equipment relevant to the facility.
- By symbol, indicate connections and tie ins to existing equipment.

For existing facilities where remodeled or renovated spaces are required and where an ADA and code conforming ramp cannot be utilized, document proposed vertical platform lifts or

inclined wheelchair lifts and provide the following documents as part of or in addition to the required life safety plans:

- Floor plans of proposed vertical platform lifts including layout drawings showing corridor widths and exiting from the affected facility.
- Sketches of proposed inclined wheel chair lift to include layout drawings showing clear and affected areas of the following conditions stairway width in the folded and unfolded position, the upper and lower platform storage locations, and the means of egress from the affected areas of the facility.

Outline Specifications (Edited Table of Contents)

- Organized to conform to the formats for outline specifications as established by the Construction Specifications Institute's current edition of Master Format on the date of execution of the Contract.
- Provide only those sections relevant to the project scope.
- Complete for Divisions 2 through 48 for finishes, material, and systems including structural, HVAC, electrical, plumbing and specialty items, including fire sprinklers, alarm systems, electronic controls, and computer networking components.
- They shall incorporate all GBRS requirements dictated by the credits being pursued for the project.

Other Requirements

- Provide a Life Cycle Cost Analysis (LCCA) for review and approval. LCCA shall be by a commercially available life cycle cost analysis program and as required by the State of Florida and the DEPARTMENT.
- Design to meet or exceed Florida Energy Efficiency Code for Building Construction (FEEC). Submit preliminary (input and output) FEEC forms.
- The Design Professional shall advise the DEPARTMENT of any adjustments to the budget and shall submit a fully detailed Phase I estimate of probable construction cost, projected to the expected time of bid and containing sufficient detail to provide information necessary to evaluate compliance with the Construction Budget set for this project. Format estimate and provide detail matching the organization and content of the project's Outline Specifications complete for Divisions 2 through 48.
- Provide an updated Project Development Schedule reflecting development and anticipated schedules for all subsequent project activities.
- Preliminary selection of materials and finishes in digital format to establish design intent. Provide two schemes for selection and approval by the DEPARTMENT. Provide documentation demonstrating compliance with GBRS requirements.

Staff from each of the Design Professional's major technical disciplines, and subconsultants shall attend coordination, review, and presentation meetings with the Owner to explain the design concept and technical resolution of their respective building or site systems.

If requested, the Design Professional shall submit five (5) sets of all documents required under this phase without additional charge, for approval by the Owner. The Design Professional shall not proceed with the next phase until the completion of all required presentations and reports are provided digitally and the CONSULTANT receives written Authorization to Proceed with the next phase.

PHASE II - 60% DESIGN DOCUMENTS SUBMITAL:

After written Authorization to Proceed from DEPARTMENT and based on the approved Phase I documents, and any adjustments in the scope or quality of the project or in the Fixed Limit of Construction Cost authorized by DEPARTMENT, the Design Professional shall prepare for approval by DEPARTMENT, Phase II (60% Construction) Documents setting forth in detail the requirements for the construction of the Project. The Design Professional is responsible for the full compliance of the design with all applicable codes. Phase II documents comprised of, but not limited to, the following:

Documents

- Updated Florida Energy Efficiency Code for Building Construction (FEEC) (input and output) compliance forms, including calculations for mechanical systems, documenting energy efficiency ratio rating of HVAC equipment, electrical systems, insulation, and building envelope to be submitted to the DEPARTMENT for review and approval.
- Calculations: Provide preliminary calculations for structural, mechanical and electrical systems.
- Review of anticipated GBRS points and certification level; adjust attempted points as needed to meet target certification level. Provide updated GBRS credit scorecard or checklist.

Drawings

Site Plan(s) and detailing which, in addition to the Phase I requirements, indicate the following:

- Spot elevations, based on the civil grading plan, for the perimeter of the new construction, sidewalk, or any other areas pertinent to the drainage of rainwater.
- Location of storm water service for new construction roof drainage.
- Parking lot lighting poles, location and type.
- Final location for manholes, handholds, and pull boxes.
- Layout of underground distribution systems (normal power emergency power, fire alarm, master clock, intercommunication, television, telephone, security, control and spares).
- Locations of all site improvements, playground and equipment, street furniture, planters and other features.
- Details of all curbing, typical parking spaces (regular and handicap accessible), handicap ramps, directional signage, site lighting, flagpole and fence foundations, and any other site conditions pertinent to the scope of work.

A plan to delineate staging areas, site barriers, and other area designations to control the public from construction activities and traffic.

Landscape plans and details including, a plant list clearly noted and cross-referenced, details for shrub and tree plantings, identification of plants and trees to remain, to be removed or relocated, and other necessary documentation.

Irrigation plans and details delineating the entire area of the project, and addressing necessary connections, alteration, repair or replacement of any existing irrigation.

Floor plans to include the following:

- All dimensions and any cross references explaining the extent of work, wall types, or other component, assembly, or direction regarding the Construction.
- Wall chases, floor drains and rainwater leaders.
- Show structural tie columns and coordinate with the floor plan.
- Cross referenced interior elevations.
- Delineate and note all built in cabinetry or equipment.
- Identify room and door numbers with all doors having individual numbers.

Demolition Plans

Indicate required demolition activities.

- Provide separate demolition plan(s) and other drawings (elevations, sections, etc.) if the scope of work includes demolition which is too excessive to indicate in drawings depicting new construction.
- Indicate notes on the extent of the demolition: address dimensions at locations where partial walls are being removed or altered, existing room names and numbers, existing partitions, equipment, plumbing, HVAC or electrical elements,
- Include notes dealing with protection of existing areas as a result of demolition.
- Delineate any modifications to existing buildings involving structural elements within the structural documents rather than on the architectural.

Building elevations developed further than at Phase II and including delineation of building joints (including dimensionally located stucco control joints), material locations, elevation height, and other building features.

Building and wall sections to establish vertical controls and construction types. Include clear graphic, and notes on construction assemblies and systems to be used, dimensions, heights. Provide, associated detailing to delineate solutions for difficult connections.

Reflected ceiling plans to indicate ceiling types, heights, ceiling grid layout, light fixture types, mechanical diffuser and return location, and sprinkler heads if area is sprinklered. Delineate and detail any dropped soffits or joint conditions between different materials. Coordinate with architectural, electrical, mechanical, and plumbing disciplines.

Roof Plans

- Indicate all roof penetrations, including drains, scuppers, exhaust fans, and any other equipment on the roof. Show direction of roof slopes with elevations at the high and low points, type of roofing system to be used, expansion joints, typical parapet, and flashing details.
- Provide dimensions to locate all penetrations and cross-reference details.

Large scale building details as appropriate to this level of document development and as required to establish vertical controls for the Project. Include clear graphics and notes on construction assemblies and systems to be used, and dimensions and heights. Provide associated detailing to delineate solutions for difficult connections.

Interior elevations of all rooms including cross references of cabinetry details, dimensions and heights, notes indicating type of equipment (and whether equipment is in or out of contract), wall materials, finishes, and classroom equipment, and accessories.

Details of casework as necessary to appropriately delineate custom or premanufactured casework. Provide appropriate schedules referencing manufacturer's numbers or catalogs, finishes, hardware, and other construction characteristics.

Details of the following:

- Door jamb, head and sill conditions.
- Wall and partition types.
- Window head, sill and jamb conditions, and anchorage methods shown, in lieu of referencing to manufacturer's standards.
- Interior signage to include classroom and building identification, emergency exiting and equipment signs, and any other items pertinent to the identification of the project. Coordinate with electrical discipline.
- Interior and exterior expansion control connections.
- Any other specialized items necessary to clearly express the intent of the project design.

Room finishes and door schedules coordinated with the floor plans, developed to 60% completion.

Structural foundation and framing plans, with associated diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

Mechanical Drawings

- Provide double line ductwork layout and HVAC equipment layout drawings with related diagrams and schematic diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.
- Provide dimensioned 1/2-inch scale plans, elevations and sections of the mechanical rooms showing service, clearance, room openings, nominal equipment size, ceiling height, duct clearance between bottom of joist and top of ceiling and any ceiling mounted lighting fixtures, electrical equipment or other building assembly or component, etc.

Electrical

Provide drawings for the following systems:

- Electrical Drawings include plans with lighting layouts for outdoors and major interior spaces and electrical outlets for all major spaces. Show locations of electrical rooms, transformers, emergency generator. Also show locations of mechanical equipment such as chillers, compressors, and air handler units and their respective electrical connections and other relevant features.
- Lighting including, circuiting and luminaire identification and switching. Also provide illuminance computer printout for all indoor typical indoor spaces and parking lots.
- Convenience outlets and circuiting, special outlets and circuiting, and power systems and equipment.

- Provide riser diagrams for all electrical systems including master clock, intercom, fire alarm, ITV, computer networking/telephone, and emergency and normal power distribution. Provide light fixture schedule.
- Panel schedule may be in preliminary form, but circuitry must be included.
- Applicable installation details.
- General legend and list of abbreviations.
- Voltage drop computations for all main feeders.
- Short circuit analysis
- Provide 1/2" scale floor plan and wall elevations for all electrical rooms.
- Indicate surge protector for main switchboard and electrical panels.

Plumbing

Provide drawings for the following systems:

- Provide fixture unit calculations, isometrics, one line diagram and riser details, schedule of common fixtures, and other relevant features.
- Provide plumbing equipment and fixture drawings with related diagrams, schedules, notes, detailing, and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

Specifications

- Provide preliminary Project Manual including front-end documents. Completion of fill in items in Bidding documents and other "Division 0" documents is not required.
- Provide a preliminary Division 1 based upon the standard documents provided by the Owner and edited by the Design Professional after consultation with the Owner to establish project specific requirements.
- Include progress set of all other Sections in Divisions 2 through 48 with each section developed to demonstrate to the Owner an understanding of the project and an appropriate level of developmental progress comparable to that of the drawings.
- Specification sections shall be organized to follow the Construction Specification Institute's (CSI) current edition of Master Format with each section developed to include CSIs standard 3-part section and page formats with full paragraph numbering. They shall incorporate all GBRS requirements dictated by the credits being pursued for the project.

An updated Project Development Schedule, formatted as a preliminary construction schedule reflecting continued Project development and illustrating anticipated schedules for all subsequent project activities including permitting and submittal coordination with all agencies having jurisdiction on the Project, project phasing, site, mobilization, temporary facilities, general construction sequencing, anticipated substantial completion dates, DEPARTMENT occupancy, and all other significant Project events.

Color boards illustrating color selections, finishes, textures and aesthetic qualities for all finish materials for final review and approval by the DEPARTMENT, and to establish a final palette of material selections for development of subsequent specifications, schedules and other requirements for incorporation into the Contract Documents. This may be submitted digitally if approved by the DEPARTMENT. Provide documentation demonstrating compliance with GBRS requirements.

A letter from the Design Professional and each of the major technical disciplines and any necessary subconsultants or explaining how each previous comment concerning the project has been addressed or corrected.

Staff from each of the Design Professional's major technical disciplines, and subconsultants shall attend coordination, review and presentation meetings with the Owner to explain the design concept and technical resolution of their respective building or site systems.

If requested, the Design Professional shall submit five (5) sets of all documents required under this phase without additional charge, for approval by the Owner. The Design Professional shall not proceed with the next phase until the completion of all required presentations and reports are provided digitally and the CONSULTANT receives a written Authorization to Proceed with the next phase.

PHASE III - 100% CONSTRUCTION DOCUMENTS SUBMITTAL

After written Authorization to Proceed from DEPARTMENT and based on the approved Phase II documents and any adjustments in the scope or quality of the project or in the Fixed Limit of Construction Cost authorized by DEPARTMENT, the Design Professional shall prepare for approval by DEPARTMENT, Phase III (100% Construction) Documents setting forth in detail the requirements for the construction of the Project. The Design Professional is responsible for the full compliance of the design with all applicable codes. Phase III documents are to be comprised of, but not limited to, the following:

General Requirements - Digital submittals are acceptable upon the approval of the DEPARTMENT.

- Updated Florida Energy Efficiency Code for Building Construction (FEEC) (input and output) compliance forms. Submit five (5) copies signed and sealed by a State of Florida registered design professional.
- Signed and Sealed/Statements of Compliance: Only complete documents, properly signed and sealed by the CONSULTANT and respective subconsultants, will be accepted for review; in addition, these documents shall contain a statement of compliance by the architect or engineer of record as follows: "To the best of my knowledge and belief these drawings, and the project manual are complete, and comply with the Department of Transportation Requirements".
- Submit engineering calculations for mechanical, electrical, and structural systems in a separately bound manual.
- Review of anticipated GBRS points and certification level; adjust attempted points as needed to meet target certification level. Provide updated GBRS credit scorecard or checklist.

Drawings

The drawings shall include all previous phase review requirements, and the Phase III 100% document requirements specified above, along with the following:

- Site plans including, but not limited to, area location map, legal description of property, demolition, excavation, utilities, finish grading, landscaping, mechanical, electrical, civil/structural, and architectural site plans:

- Drawings include at a minimum, the following:
    - Key sheets including a table of contents and statement of compliance by the design professional. Each discipline shall have a list of abbreviations, schedule of material indications, and schedule of notations and symbols at the beginning of their section of the plans.
    - Architectural drawings including floor plans, door, window and finish schedules, roof plans, elevations, sections, and details.
    - Civil/Structural drawings including paving, traffic loops, service drives, parking; drainage; foundation plans; floor plans; roof plans; structural plans; sections; details; and, pipe, culvert, beam and column schedules.
    - Mechanical drawings including floor plans; sections; details; riser diagrams; kitchen exhaust hoods; and equipment, fan, and fixture schedules.
    - Electrical drawings including floor plans; sections; details; riser diagrams, and fixture and panel schedules.
    - The drawings should indicate that the approved mechanical/electrical systems, from the previous phases FEEC/LCCA analysis, have been incorporated into the documents.

Specifications

- Provide a complete Project Manual including front-end documents. Completion of fill in items in Bidding documents and other "Division 0" documents is not required.
- Provide a complete Division 1 based upon the standard documents provided by the Owner and edited by the Design Professional after consultation with the Owner to establish project specific requirements.
- Provide a complete set of all other Sections in Divisions 2 through 48 with each section developed to demonstrate to the Owner an understanding of the project and an appropriate level of developmental progress comparable to that of the drawings.
- Specification sections shall be organized to follow the Construction Specification Institute's (CSI) current edition of Master Format with each section developed to include CSI's standards 3-part section and page formats with full paragraph numbering. They shall incorporate all GBRS requirements dictated by the credits being pursued for the project.

Staff from each of the Design Professional's major technical disciplines, and subconsultants shall attend coordination, review, and presentation meetings with the Owner to explain the design concept and technical resolution of their respective building or site systems.

If requested, the Design Professional shall submit five (5) sets of all documents required under this phase without additional charge, for approval by the Owner. The Design Professional shall not proceed with the next phase until the completion of all required presentations and reports are provided digitally and the CONSULTANT receives a written Authorization to Proceed with the next phase.

PHASE IV FINAL BID DOCUMENTS SUBMITTAL:

After written Authorization to Proceed from DEPARTMENT and based on the approved Phase III documents and any adjustments in the scope or quality of the project or in the Fixed

Limit of Construction Cost authorized by DEPARTMENT, the Design Professional shall prepare for approval by DEPARTMENT, Phase IV (Release for Construction, or RFC) Documents setting forth in detail the requirements for the construction of the Project: The Design Professional is responsible for the full compliance of the design with all applicable codes. Phase IV documents are to be comprised of, but not limited to, the following:

General Requirements - Digital submittals are acceptable upon approval of the DEPARTMENT.

- This submittal is the official record set and shall be the bid documents.
- Signed and Sealed/Statements of Compliance: Only complete documents, properly signed and sealed by the CONSULTANT and respective subconsultants, will be accepted for review; in addition, these documents shall contain a statement of compliance by the architect or engineer of record as follows: "To the best of my knowledge and belief these drawings, and the project manual are complete, and comply with the DEPARTMENT of Transportation Requirements".
- Submit engineering calculations for mechanical, electrical, and structural systems in a separately bound manual.
- Update anticipated GBRS points and certification level; adjust attempted points as needed to meet target certification level. Provide updated GBRS credit scorecard or checklist.

Drawings

The drawings shall include all previous phase review requirements, and the Phase IV final document requirements specified above, along with the following:

- Site plans including, but not limited to, area location map, legal description of property, demolition, excavation, utilities, finish grading, landscaping, mechanical, electrical, civil/structural, and architectural site plans:
- Drawings include at a minimum, the following:
    - Key sheets including a table of contents and statement of compliance by the design professional. Each discipline shall have a list of abbreviations, schedule of material indications, and schedule of notations and symbols at the beginning of their section of the plans.
    - Architectural drawings including floor plans, door, window and finish schedules, roof plans, elevations, sections, and details.
    - Structural drawings including foundation plans; floor plans; roof plans; structural plans; sections; details; and beam and column schedules.
    - Mechanical drawings including floor plans; sections; details; riser diagrams; kitchen exhaust hoods; and equipment, fan, and fixture schedules.
    - Electrical drawings including floor plans; sections; details; riser diagrams, and fixture and panel schedules.
    - The drawings should indicate that the approved mechanical/electrical systems, from the previous phases FEEC/LCCA analysis, have been incorporated into the documents.

Specifications

- Provide a final Project Manual including front-end documents. Completion of fill in items in Bidding documents and other "Division 0" documents is not required.
- Provide a final Division 1 based upon the standard documents provided by the Owner and edited by the Design Professional after consultation with the Owner to establish project specific requirements.
- Provide a final set of all other Sections in Divisions 2 through 48 with each section developed to demonstrate to the Owner an understanding of the project and an appropriate level of developmental progress comparable to that of the drawings.
- Specification sections shall be organized to follow the Construction Specification Institute's (CSI) current edition of Master Format with each section developed to include CSI's standards 3-part section and page formats with full paragraph numbering. They shall incorporate all GBRS requirements dictated by the credits being pursued for the project.

Upon completion of the Final Bid Documents, the Design Professional shall submit to the Owner five (5) copies of the Drawings, Specifications, reports, programs, a final updated Project Development Schedule, a final up dated Statement of Probable Construction Cost and such other documents as reasonably required by Owner.

All documents for this phase shall be provided in both hard copy and in electronic media. The DEPARTMENT will approve Phase IV documents for submission to the DEPARTMENT for review and approval.

Architectural Plans

31.1 Architectural Program Review/Verification (N/A)

31.2 Key Sheet and Index of Sheets (N/A)

31.3 General Notes, Abbreviations, Symbols, and Legend (N/A)

31.4 Life Safety Plans (N/A)

31.5 Site Plans (N/A)

31.6 Floor Plans (small scale) (N/A)

31.7 Floor Plans (large scale) (N/A)

31.8 Exterior Elevations (N/A)

31.9 Roof Plans (N/A)

31.10 Roof Details (N/A)

31.11 Interior Elevations (N/A)

31.12 Rest Room Plans (Enlarged) (N/A)

31.13 Rest Room Elevations (N/A)

31.14 Building Sections (N/A)

31.15 Stair Section, Enlarged Stair Plan and Details (N/A)

31.16 Reflective Ceiling Plans (N/A)

31.17 Room Finish Schedule or Finish Plan (N/A)

31.18 Door and Window Finish Schedule (N/A)

31.19 Door Jamb Details and Window Details (N/A)

31.20 Exterior Wall Sections (N/A)

31.21 Interior Wall Sections (N/A)

31.22 Overhead Door Details (N/A)

31.23 Curtain Wall Details (N/A)

31.24 Fascia, Soffit and Parapet Details (N/A)

31.25 Signage Details (N/A)

31.26 Miscellaneous Details (N/A)

31.27 Repetitive Sheets (N/A)

31.28 Design Narrative Reports (N/A)

31.29 Permitting (N/A)

31.30 Other Pertinent Project Documentation (N/A)

31.31 Cost Estimate (N/A)

31.32 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.33 Field Reviews (N/A)

31.34 Technical Meetings (N/A)

31.35 Quality Assurance/Quality Control (N/A)

31.36 Meeting with Independent Peer Review (N/A)

31.37 Supervision (N/A)

Structural Plans

31.38 General Notes, Abbreviations, Symbols, and Legend (N/A)

31.39 Foundation Plans (Small Scale) (N/A)

31.40 Foundation Plans (Large Scale) (N/A)

31.41 Slab Plans (Small Scale) (N/A)

31.42 Slab Plans (Large Scale) (N/A)

31.43 Slab Placement Plans (N/A)

31.44 Slab Placement Details (N/A)

31.45 Foundation Sections (N/A)

31.46 Foundation Details (N/A)

31.47 Slab Sections (N/A)

31.48 Slab Details (N/A)

31.49 Roof Framing Plans (Small Scale) (N/A)

31.50 Roof Framing Plans (Large Scale) (N/A)

31.51 Roof Loading Plans and Details (N/A)

31.52 Roof Sections (N/A)

31.53 Roof Details (N/A)

31.54 Bearing Wall Sections (N/A)

31.55 Bearing Wall Details (N/A)

31.56 Column Sections (N/A)

31.57 Column Details (N/A)

31.58 Miscellaneous Sections (N/A)

31.59 Repetitive Sheets (N/A)

31.60 Other Pertinent Project Documentation (N/A)

31.61 Cost Estimate (N/A)

31.62 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.63 Field Reviews (N/A)

31.64 Technical Meetings (N/A)

31.65 Quality Assurance/Quality Control (N/A)

31.66 Independent Peer Review (N/A)

31.67 Supervision (N/A)

Mechanical Plans

31.68 General Notes, Abbreviations, Symbols, Legend, and Code Issues (N/A)

31.69 Plans (Small Scale) (N/A)

31.70 Plans (Large Scale) (N/A)

31.71 Details (N/A)

31.72 Sections (N/A)

31.73 Piping Schematics (N/A)

31.74 Control Plans (N/A)

31.75 Schedules (N/A)

31.76 HVAC Calculations (N/A)

31.77 Life Cycle Cost Analysis (N/A)

31.78 Repetitive Sheets (N/A)

31.79 Other Pertinent Project Documentation (N/A)

31.80 Cost Estimate (N/A)

31.81 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.82 Field Reviews (N/A)

31.83 Technical Meetings (N/A)

31.84 Quality Assurance/Quality Control (N/A)

31.85 Independent Peer Review (N/A)

31.86 Supervision (N/A)

Plumbing Plans

31.87 General Notes, Abbreviations, Symbols, Legend, and Code Issues (N/A)

31.88 Plans (Small Scale) (N/A)

31.89 Plans (Large Scale) (N/A)

31.90 Isometrics (Large Scale) (N/A)

31.91 Riser Diagrams (N/A)

31.92 Details (N/A)

31.93 Repetitive Sheets (N/A)

31.94 Other Pertinent Project Documentation (N/A)

31.95 Cost Estimate (N/A)

31.96 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.97 Field Reviews (N/A)

31.98 Technical Meetings (N/A)

31.99 Quality Assurance/Quality Control (N/A)

31.100 Independent Peer Review (N/A)

31.101 Supervision (N/A)

Fire Protection Plan

31.102 General Notes, Abbreviations, Symbols, Legend, and Code Issues (N/A)

31.103 Fire Protection Plan (N/A)

31.104 Riser Diagram, Details, and Partial Plans (N/A)

31.105 Hydraulic Calculation (N/A)

31.106 Repetitive Sheets (N/A)

31.107 Other Pertinent Project Documentation (N/A)

31.108 Cost Estimate (N/A)

31.109 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.110 Field Reviews (N/A)

31.111 Technical Meetings (N/A)

31.112 Quality Assurance/Quality Control (N/A)

31.113 Independent Peer Review (N/A)

31.114 Supervision (N/A)

Electrical Plans

31.115 General Notes, Abbreviations, Symbols, Legend, and Code Issues (N/A)

31.116 Electrical Site Plan (N/A)

31.117 Lighting Plans (N/A)

31.118 Lighting Fixtures Schedules (N/A)

31.119 Lighting Fixtures Details (N/A)

31.120 Lightning Protection Plans (N/A)

31.121 Lightning Protection Details (N/A)

31.122 Power Plans (N/A)

31.123 Power Distribution Riser Diagrams (N/A)

31.124 Panel Board Schedules (N/A)

31.125 Data Plans (N/A)

31.126 Data Details (N/A)

31.127 Communication Plans (N/A)

31.128 Communication Details (N/A)

31.129 Security Alarm System Plans (N/A)

31.130 Miscellaneous Details (N/A)

31.131 Repetitive Sheets (N/A)

31.132 Energy Analysis (N/A)

31.133 Other Pertinent Project Documentation (N/A)

31.134 Cost Estimate (N/A)

31.135 Technical Special Provisions and Modified Special Provisions Packages (N/A)

31.136 Field Reviews (N/A)

31.137 Technical Meetings (N/A)

31.138 Quality Assurance/Quality Control (N/A)

31.139 Independent Peer Review (N/A)

31.140 Supervision (N/A)

31.141 GBRS Certification (N/A)

31.142 Coordination (N/A)

31.143 Building Information Modeling (BIM) (N/A)

32 NOISE BARRIERS IMPACT DESIGN ASSESSMENT IN THE DESIGN PHASE (TBD)

The CONSULTANT shall fulfill the commitments resulting from the traffic noise analysis and noise barrier evaluation performed during the Project Development and Environment (PD&E) Phase, as directed and clarified by the DEPARTMENT.

The noise analysis shall be performed in accordance with the FDOT's Noise Policy (Part 2, Chapter 17 of the FDOT's PD&E Manual) and the FDOT's Traffic Noise Modeling and Analysis Guidelines. The noise analysis and noise abatement evaluation shall be performed by or supervised/reviewed by a person(s) who has attended the DEPARTMENT's Traffic Noise Analysis training course or has attended and successfully completed the National Highway Institute's Highway Traffic Noise Course (FHWA-NHI-142051). The Federal Highway Administration (FHWA) approved noise model, the Traffic Noise Model (TNM) Version 2.5 (or most current version) shall be used for the noise analysis, unless otherwise directed by the DEPARTMENT.

32.1 Noise Analysis (N/A)

32.2 Noise Barrier Evaluation (N/A)

32.3 Public Involvement (N/A)

32.4 Outdoor Advertising Identification (N/A)

32.5 Noise Study Report (NSR) Addendum (N/A)

32.6 Technical Meetings (N/A)

32.7 Quality Assurance/Quality Control (N/A)

32.8 Supervision (N/A)

32.9 Coordination (N/A)

33 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS (TBD)

The CONSULTANT shall analyze and document Intelligent Transportations System (ITS) Analysis Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, existing ITS standard operating procedures, ITS master and strategic plans, Florida's SEMP guidelines, National, statewide and/or regional ITS architectures, and current design bulletins.

33.1 ITS Analysis (N/A)

33.2 Communications Subsystem Analysis (N/A)

33.3 Grounding, Surge Suppression, and Lightning Protection Analysis (N/A)

33.4 Power Subsystem (N/A)

33.5 Voltage Drop Calculations (N/A)

33.6 Design Documentation (N/A)

33.7 Existing ITS (N/A)

33.8 Queue Analysis (N/A)

33.9 Reference and Master ITS Design File (N/A)

33.10 Reference and Master Communications Design File (N/A)

33.11 ITS Poles and Overhead Structures Elevation Analysis (N/A)

33.12 DMS Sign Panel Design Analysis (N/A)

33.13 ITS Quantities for EQ Report (N/A)

33.14 Cost Estimate (N/A)

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

33.16 Other ITS Analyses (N/A)

33.17 Field Reviews (N/A)

33.18 Technical Meetings (N/A)

33.19 Quality Assurance / Quality Control (N/A)

33.20 Supervision (N/A)

33.21 Coordination (N/A)

34 INTELLIGENT TRANSPORTATION SYSTEMS PLANS (TBD)

The CONSULTANT shall prepare a set of ITS Plans in accordance with the FDOT Design Manual that includes the following:

34.1 Key Sheet and Signature Sheet (N/A)

34.2 General Notes / Pay Item Notes (N/A)

34.3 Project Layout (N/A)

34.4 Communication Overview Sheet (N/A)

34.5 Typical and Special Details (N/A)

34.6 ITS and Communication Plan Sheet (N/A)

34.7 Maintenance of Communications Plans (N/A)

34.8 Fiber Optic Splice Diagrams (N/A)

34.9 Grounding and Lightning Protection Plans (N/A)

34.10 Cross Sections (N/A)

34.11 Hybrid and DMS Guide Sign Data (N/A)

34.12 Service Point Details (N/A)

34.13 Strain Pole Schedule (N/A)

34.14 Temporary Traffic Control Plans (N/A)

34.15 Quality Assurance / Quality Control (N/A)

34.16 Supervision (N/A)

35 GEOTECHNICAL (TBD)

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 (N/A)

35.2 Develop Detailed Boring Location Plan (N/A)

35.3 Stake Borings/Utility Clearance (N/A)

35.4 Muck Probing (N/A)

35.5 Coordinate and Develop TTCP for Field Investigation (N/A)

35.6 Drilling Access Permits (N/A)

35.7 Property Clearances (N/A)

35.8 Groundwater Monitoring (N/A)

35.9 LBR / Resilient Modulus Sampling (N/A)

35.10 Coordination of Field Work (N/A)

35.11 Soil and Rock Classification - Roadway (N/A)

35.12 Design LBR (N/A)

35.13 Laboratory Data (N/A)

35.14 Seasonal High Water Table (N/A)

35.15 Parameters for Water Retention Areas (N/A)

35.16 Delineate Limits of Unsuitable Material (N/A)

35.17 Electronic Files for Cross-Sections (N/A)

35.18 Embankment Settlement and Stability (N/A)

35.19 Monitor Existing Structures (N/A)

35.20 Stormwater Volume Recovery and/or Background Seepage Analysis (N/A)

35.21 Geotechnical Recommendations (N/A)

35.22 Pavement Condition Survey and Pavement Evaluation Report (N/A)

35.23 Preliminary Roadway Report (N/A)

35.24 Final Report (N/A)

35.25 Auger Boring Drafting (N/A)

35.26 SPT Boring Drafting (N/A)

35.27 Develop Detailed Boring Location Plan (N/A)

35.28 Stake Borings/Utility Clearance (N/A)

35.29 Coordinate and Develop TTCP for Field Investigation (N/A)

35.30 Drilling Access Permits (N/A)

35.31 Property Clearances (N/A)

35.32 Collection of Corrosion Samples (N/A)

35.33 Coordination of Field Work (N/A)

35.34 Soil and Rock Classification - Structures (N/A)

35.35 Tabulation of Laboratory Data (N/A)

35.36 Estimate Design Groundwater Level for Structures (N/A)

35.37 Selection of Foundation Alternatives (BDR) (N/A)

35.38 Detailed Analysis of Selected Foundation Alternate(s) (N/A)

35.39 Bridge Construction and Testing Recommendations (N/A)

35.40 Lateral Load Analysis (Optional) (N/A)

35.41 Walls (N/A)

35.42 Sheet Pile Wall Analysis (Optional) (N/A)

35.43 Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations (N/A)

35.44 Box Culvert Analysis (N/A)

35.45 Preliminary Report - BDR (N/A)

35.46 Final Report - Bridge and Associated Walls (N/A)

35.47 Final Reports - Signs, Signals, Box Culvert, Walls, and High Mast Lights (N/A)

35.48 SPT Boring Drafting (N/A)

35.49 Other Geotechnical (N/A)

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

35.51 Field Reviews (N/A)

35.52 Technical Meetings (N/A)

35.53 Quality Assurance/Quality Control (N/A)

35.54 Supervision (N/A)

35.55 Coordination (N/A)

36 PROJECT REQUIREMENTS

36.1 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.

36.2 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.

36.3 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.

36.4 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.

36.5 Professional Endorsement

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

36.6 Computer Automation

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

36.7 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.

36.8 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.

37 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.