

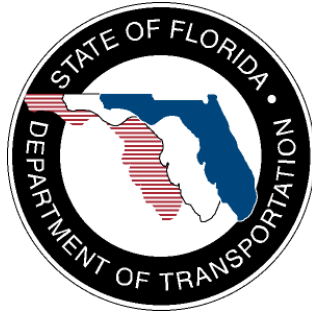


EXHIBIT "A"
SCOPE OF SERVICES

FOR

**TAMPA BAY SUNGUIDE
FREEWAY MANAGEMENT SYSTEM
PHASE IV**

MANATEE COUNTY

FINANCIAL PROJECT NUMBERS

407233-6-32-01

FEDERAL PROJECT NUMBERS

Non-Fed Aid

01/22/10

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I. INTRODUCTION

The Florida Department of Transportation District Seven seeks consultant services for the civil design and systems design of the Freeway Management System (FMS) to be deployed along I-275 (SR93) in Manatee County as part of the FMS in District Seven. This Scope of Services is for the preparation of construction plans for installation of Intelligent Transportation Systems (ITS) field devices and preparation of the specification package. This project will implement non-intrusive devices for a Vehicle Detection System (VDS), Incident Detection System (IDS) and a Travel Time System (TTS) along the segment of interstate described in this project.

The Scope of Services is comprised of preparing civil design, structural design, foundation design, mechanical design, electrical design, communication design, surveying services, soil and geotechnical services, utility investigation, construction plans, cost estimates, specifications and permits for the entire project, production of a Project Systems Engineering Management Plan (PSEMP), system testing and acceptance plan, a Project Intelligent Transportation System Architecture (PITSA) Plan and providing system documentation of all work done in design.

The Department has developed one integrated and readily scalable system configuration for future District-wide ITS deployments. The overall project, herein referred to as the Tampa Bay SunGuide (TBSG) FMSPhase IV, shall be designed to operate from the Tampa Bay SunGuide Regional Transportation Management Center (RTMC) and incorporate such functional capabilities as an IDS, VDS, TTS management, advanced traveler information system, advanced traffic management system and data storage, retrieval and analysis. The overall project shall encompass a myriad of advanced technologies including software integration, MVDs, closed-circuit television (CCTV) cameras, Dynamic Message Signs (DMS), fiber optic communications and wireless communications. The Tampa Bay SunGuide (TBSG) Center houses the operations of the FMS and also serves as the district Emergency Operations Center (EOC) and the District Seven ITS Program Office. It also incorporates elements of law enforcement joint dispatch facilities (Regional Communications Center-RCC), operated by the Florida Highway Patrol (FHP) and Florida Fish and Wildlife Agency.

The TBSGC FMS-Phase IV will be designed to be seamlessly integrated with the Phase I TBSG

FMS and Center and Phase II and Phase III TBSG FMS. The field deployment for the Tampa Bay SunGuide Phase IV shall be done on this Item/Segment (FPN) with the contract phases of Phase 32, Phase 52, Phase 53 and Phase 62 for installation of the ITS field devices and communication links including, but not limited to, CCTV cameras at 1-mile intervals, MVDs at ½-mile intervals, DMSs in advance of major interchanges, and interconnecting conduits with fiber optic cable, DMSs and may also include a wireless communication system. The Item/Segment is:

I/S# 407233-6-52-01: I-275 from I-75 (Milepost 0.00) to S. Sunshine Skyway Bridge (Milepost 6.411) in Manatee County.

Vehicle Detection System Devices

The VDS and IDS devices will be equivalent to those deployed by the TBSG Phases I, II and III projects. The devices will be installed on both sides of I-275 (SR 93) mainline at every ½ mile, unless full coverage can be attained from installation on one side. For rural areas, 1 mile spacing should be considered for a more cost effective implementation, but this option should only be employed at the direction of the FDOT District Seven ITS Program Office.

Travel Time System Devices

TTS devices for the FMS will be Non Invasive magnetic Detectors (NIMD) and Microwave Vehicle Detectors (MVDs) equivalent to what is currently deployed throughout District Seven FMS. The MVDs will be installed at all DMS (DMSs) locations and on both sides of the mainline at all existing and future interchanges and points in between for detector installations at least one every mile.

TTS device deployments will be co-located with proposed devices wherever possible for the most cost effective project. Where possible, all new device locations will be placed within close proximity to a splice vault.

A Concept Report has been developed for the project and will be provided to the short-listed consultant Firms for the project. The exact number, location and types of ITS field devices and fiber optic cable connection points will be determined by the consultant during the ITS project design phase.

The selected consultant shall design the FMS project to operate from the District Seven ITS Regional Traffic Management Center (RTMC) facilities located at 11201 N. McKinley Dr., Tampa, FL using the District Seven ITS SunGuide Software.

The consultant shall prepare a complete set of construction plans and a specifications package, signed and sealed by a Florida-licensed professional engineer, all in accordance with the requirements of this Scope of Services. The consultant shall be responsible for designing this project in coordination with all existing and planned projects within Districts One and Seven that may impact the project.

The consultant shall demonstrate good project management practices while working on this project. These include regular communication with the District Seven ITS Project Manager and others as necessary, management of time and resources, and complete design documentation. All work shall be in compliance with the latest applicable standards, manuals, guidelines (unless modified herein), and the desires of the Department as made known to the consultant. All consultant deliverables shall be considered completed only upon acceptance by the District Seven ITS Project Manager.

The District Seven ITS Project Manager will provide contract administration, management services, and quality acceptance reviews of all work associated with the project. The District Seven ITS Project Manager will provide job specific information and/or functions as outlined in this document.

II. OBJECTIVES

The consultant shall design and prepare a complete set of construction plans, specifications package, and technical special provisions for all ITS devices and supporting infrastructure and equipment defined in this Scope of Services for District Seven to receive legitimate bids. Elements of work shall include: providing communications design, ITS software and hardware design, technical specifications, design plans, traffic control plans, engineer's cost estimates, utility coordination, quantity computation booklet, design documentation report, environmental permitting, development of a system testing and acceptance plan and incidental items as applicable to this project. The consultant shall be responsible for survey, geotechnical investigation, design, acquisition of all permits not acquired by the District Seven ITS Program Office, and any required modification of permits acquired by the District Seven ITS Program Office.

The design services provided by the consultant shall include:

- Preparation of complete Plans, Specifications & Estimates (PS&E) for the construction contract to install the subsystems that are within the scope of the project.
- Hardware configuration analysis and design including system architecture, interfaces, communications, equipment, devices and computers. This design shall be consistent with previous District Seven ITS projects.
- Development of proper sequencing and coordination of the various subsystem deployments.
- Development of system testing and acceptance plan.
- ITS design coordination and post design services.

The consultant shall prepare contract plans for this project that will include (1) ITS subsystems including DMSs, CCTV cameras, vehicle detection systems, travel time detection, and communications, and (2) any additional infrastructure to support the ITS field devices.

The consultant shall develop a system testing and acceptance plan on the local level, subsystem level, and system level. These system tests and acceptance procedures shall be developed taking

into consideration the FDOT Central ITS Program Office standards and procedures and the Traffic Engineering Research Laboratory (TERL) testing procedures and results.

All plans shall be prepared in accordance with the current Department's memorandums, District Seven ITS Design Guidelines and Procedures, Department's Plans Preparation Manual, Department's Quality Control Manual, current FDOT Roadway and Traffic Design Standards, Department's Facilities Design Manual, Department's Standard Specifications as modified, all Federal, State and County applicable building codes or approved procedures and the desires of the Department as made known to the consultant. Plans shall be accurate, legible and complete in design, furnished in electronic delivery format, complete and suitable for bidding purposes.

All plans, technical special provisions, and design documentation for this project shall be prepared in English units of measure.

III. SERVICES

The Department shall authorize, utilizing task work orders, the services to be performed under this agreement. No work shall begin until a task work order has been authorized in writing by the Department. The below list of tasks provides a brief description of tasks and their sequence to produce a complete and integrated TBSG FMS. Some of the tasks shall be performed as optional services and the issuance of these task work orders will be dependent on the authorization of funds for the various work segments and the consultant's satisfactory performance of previously assigned tasks.

A tentative outline of the tasks and sequence of the work is as follows:

- Prepare a set of contract plans for the installation of ITS field devices for I/S# 407233-6-52-01 on I-275 (SR 93) From I-75 (Milepost 0.00) to S. Sunshine Skyway Bridge (Milepost 6.411).
- Perform post design services, including review of cut sheets, review of proposed procurements for compatibility with the existing SunGuide system and review of the contractors work on executing the test and acceptance plan, but not be limited to, coordination of this contract in TBSG Phase IV with the three contracts in TBSG Phase III, the four construction contracts in TBSG Phase II and the five construction contracts in TBSG Phase I. For the devices installed under TBSG Phase IV, additional SunGuide Software Driver development may be necessary to coordinate with the TBSG Center.

The following list of services is intended to indicate the major efforts that will be needed to accomplish the above tasks. Each service listed may be modified or non-preformed as the individual task work orders are assigned.

The sequence and details of the services for each task work order shall be influenced by the results derived from other previous or on-going task work orders.

A. System Designer Services

The consultant's roles and responsibilities as a System Designer include:

1. Preparation of PS&E for the Tampa Bay SunGuide FMS Phase IV construction contract to install field devices.
2. Requirements of hardware configuration analysis and design including system architecture, interfaces, communications, equipment selection, devices, and computers.
3. Development of proper sequencing and coordination of the various subsystems.
4. PSEMP for integration at the local level, at the subsystem level and at the system level.
5. Technical support during project procurement and management phases.
6. Review of procurement documents to provide support to the Department to ensure all equipment and devices, including software dependent hardware to be used in this project are compatible with the existing SunGuide software system.
7. Develop a system testing and acceptance plan which is part of the approved PSEMP.
8. Coordinate and assist the District Seven ITS Program Office in conducting and documenting the acceptance testing, the configuration of all devices, equipment and hardware installed by contractors.
9. Coordinate with the TERL in determining and implementing all state-approved Management Information Bases (MIBs), such as the MIB for Permanent DMSs.

B. Preparation of Construction Contract Plans and Procurement Packages

The consultant shall prepare contract plans for this project that will: (1) install the ITS field devices including, but not limited to, DMSs, CCTV cameras, MVDs, and fiber optic communication equipment; and (2) construct, as needed, the infrastructure to support the ITS field devices.

The consultant shall prepare all contract plans and specifications packages in an electronic format that will be compatible with the FDOT electronic delivery/bidding procedures.

The consultant shall provide the necessary engineering and design services required to prepare the construction contract plans. The plans shall conform to the latest standards and the desires of the Department, as made known to the consultant. The District Seven ITS Office, at intervals specified by the District Seven ITS Project Manager, shall review construction plans prepared by the consultant. The sequence of reviews and the content of

the submittals will follow, as much as possible, the phases as outlined in the FDOT Plans Preparation Manual. All submissions, as applicable, shall be in an electronic format for eventual electronic advertisement/letting. The consultant shall submit the requested number of paper copies and electronic copies (requested by the District Seven ITS Project Manager) of the PS&E packages at each Phase submission milestone, as well as the required number of final plans and specifications in electronic format.

The plans shall be prepared to include as a minimum: plotting of the existing survey data (as applicable), plotting of other District One and or District Seven ITS construction projects (as applicable), key sheet and map, tabulation of quantities including computation booklet, general notes, plan sheets, interchange/intersection details (as necessary), interconnect communication plans with interconnect plan location sheets, fiber optic allocation tables, wireless communication plans and other detail sheets necessary to convey the intent of the Scope of Services as described herein. The plans shall be accurate, legible, furnished in reproducible form and shall be complete and suitable for bidding purposes.

The consultant shall coordinate with the District Seven ITS Project Manager to obtain and use plans and specifications from other District One and/or District Seven ITS Projects to assure uniformity and design consistency of the District One and/or District Seven ITS System as a single entity operated by and from the District Seven ITS Traffic Management Center (TMC) facilities at 11201 N. McKinley Dr, Tampa, FL 33612.

To maintain uniformity and design consistency for the deployment of ITS on the FIHS Limited-Access Facilities, the District Seven ITS Program Office has developed Design Criteria Packages, Performance Criteria and ITS Standards and Specifications. The consultant shall coordinate with the District Seven ITS Program Office to make use of these documents in the development of the contract plans and procurement packages for this project. The consultant shall also coordinate with the District Seven ITS Project Manager to obtain and apply from the Tampa Bay SunGuide Phase I, Phase II and Phase III plans and specifications the necessary items to assure uniformity and design consistency of the TBSG FMS as a single entity operated by and from the TBSG Center.

Cost Estimates: The consultant shall be 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 60% plans and completion of quantities, the Department's Long Range Estimate (L.R.E.) system will be used to produce a conceptual estimate, according to the District Seven ITS policy. Once the quantities have been developed (beginning at 60% plans and no later than 90% plans) the consultant shall be responsible for providing the pay items and quantities for District Seven ITS input into TRNS*PORT PES (Proposal Estimating System). A Summary of Pay Items sheet shall be prepared with all required Phase II, III, and IV Plans submittals.

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 current workbook of implemented modifications.

A Technical Special Provision shall not modify the first nine sections of the Standard Specifications for Road and Bridge Construction and implemented modifications in any way. All modifications to other sections must be justified to the District Seven Specifications Office to be included in the Project's specifications package, typically as modified special provisions and not as technical special provisions.

The Technical Special Provisions shall be technical in nature and 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 Seven Specifications Office for initial review at the time of the Phase IV plans review submission to the District Seven ITS 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 Package. The District Seven Specifications Office will forward the Technical Special Provisions to the District Seven Legal Office for its review and comment. All comments will be returned to the consultant for correction and resolution. Final Technical Special Provisions shall be electronically signed and sealed in accordance with applicable Florida Statutes.

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

Field Reviews: Includes all trips required to obtain necessary data for all elements of the Project.

Quality Assurance/Quality Control: It is the intention of the District Seven ITS Program Office that design consultants are held responsible for their work, including plans review. Detailed checking of consultant plans or assisting in designing portions of the Project for the consultant is not the intent of having external consultants. The purpose of consultant plan reviews is to ensure that consultant plans follow the plan preparation procedures outlined in the Plans Preparation Manual, that State and Federal design criteria are followed with the District Seven ITS concepts, and that the consultant submittals are complete.

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 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 may be one utilized by the consultant as part of its normal operation or it may be one specifically designed for this Project. The consultant shall submit a Quality Control Plan for approval within 20

calendar days of the written Notice to Proceed. A marked up set of prints from a Quality Control Review indicating the reviewers for each component (structures, drainage, geotechnical, and surveys, etc.) and a written resolution of comments on a point-by-point basis will be required with each phase submittal. The responsible Professional Engineer, Landscape Architect, or Professional Surveyor that performed the Quality Control review will sign a statement certifying that the review was conducted.

The consultant shall, without additional compensation, correct all errors, omissions and/or deficiencies in the designs, maps, drawings, specifications, other services or documentation and respond to all comments in writing.

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

The District Seven ITS Design Guidelines contains a QA/QC check sheet and design details. The consultant shall use the methods contained there-in or any other method that provides the same or better level of QA/QC.

Written resolution of review comments shall be input into the District Seven Electronic Review Comments (ERC) system located on the Internet at www2.dot.state.fl.us/fdotd7erc/.

Independent Peer Review: *(Not Required)*

Supervision: Includes all efforts required to supervise all technical design activities.

Coordination: Includes all efforts to coordinate with all disciplines of the Project and other projects in the area to produce a final set of construction documents.

Specifications Package Preparation: The consultant shall prepare and provide a complete specifications package, including applicable Technical Special Provisions, for all items and areas of work.

The District Seven ITS Program Office will provide the necessary workbook and electronic files, in Microsoft Word 2007 format, for proper completion of the specifications package. The actual work effort will entail utilization of the supplied electronic files, including updates of new files that may be issued from time to time as mandatory specifications changes, and assembling the package in accordance with the District Seven Specification Package Preparation Training. The District Seven ITS Program Office may also require inclusion of special provisions necessary to convey particular District Seven ITS needs.

The Standard Specifications for Road and Bridge Construction and Special Provisions or Supplemental Specifications from the applicable workbook of implemented modifications may not be modified unless absolutely necessary to control project-specific

requirements. Proposed modifications to these listed documents must be drafted in redline strikethrough format along with justification of the project specific need, an executive summary and a cost analysis of the proposed changes, and shall be coordinated with District Seven Specifications Office, which will obtain District Seven ITS Program Office and Legal input, and approval by the State Specifications Engineer, prior to inclusion in the final project specifications package.

The specifications package must be submitted for initial review to the District Seven Specifications Office at least 30 days prior to the contract package to plans processing due date, or sooner if required by District Seven Specifications Office. This submittal does not require signing and sealing and shall be coordinated through the District Seven ITS Project Manager. Submittal materials shall consist of (1) the complete specifications package, (2) a copy of the marked-up workbook used to compile the package, (3) a copy of the final Project plans, and (4) a copy of the Contract Estimating System sheet utilized with the Project.

Final submittal of the complete specifications package must occur at least 10 working days prior to the contract package to plans processing due date. This submittal shall be electronically signed, dated and sealed in accordance with applicable Florida Statutes. The submittal materials shall consist of two CDs. The first CD shall contain an electronic specification project file that includes the specification package and if applicable, all individual electronically signed and sealed Technical Special Provisions, electronically signed, sealed and secured using PEDDS. The second CD shall contain a "print file" of the specification package combining, if necessary, all Technical Special Provisions, in a consecutively numbered package secured using PEDDS.

The FDOT ITS Program Office has developed ITS standards (see www.floridait.com). To maintain uniformity and design consistency for the deployment of ITS on the Florida Interstate Highway System (FIHS) Limited-Access Facilities, the consultant shall must use these standards when developing the Procurement Package.

C. Community Awareness Plan

Since the construction and installation of the ITS field devices on existing roadways will not have an immediate, direct impact on the public, a complete Community Awareness Plan will not have to be developed by the consultant. For these projects, the consultant shall prepare and maintain fact sheets explaining the project, its schedule, its cost and its construction duration. The consultant shall attend any meetings, prepare displays, develop and deliver presentations, etc. to assist the Department in presenting the projects to the local government agencies or interested organizations.

D. System Testing and Acceptance

The consultant shall develop a system testing and acceptance plan and be responsible for conducting and documenting testing on the local level, subsystem level, and final system level from test plans developed during the design phase. The system testing and acceptance plan shall be developed by the consultant and reviewed by the District Seven ITS Program Office. The consultant shall coordinate equipment testing procedures with

TERL. The consultant shall coordinate with the ITS Program Office and obtain additional SunGuide Software Drivers for the devices installed under TBSG FMSPHase IV if the drivers are necessary to coordinate with the TBSC. The consultant shall review system acceptance test results for, but not limited to, the center equipment, CCTV camera equipment, DMS equipment, MVD equipment and system communications to determine whether each subsystem has been installed and integrated properly. System acceptance tests will be approved by the Department upon receiving satisfactory test results in accordance with the requirements documented in the PSEMP. Following successful completion of all testing, the consultant shall perform the conditional acceptance so that the system may enter the burn-in period.

E. System Burn-In, Integration and Operation

The consultant shall monitor and review testing and test results for all communications equipment, system software, and field devices periodically during the burn-in period. Daily logs of system tests shall be reviewed by the consultant to determine if the system is operating satisfactorily. The consultant shall notify the Department at regular intervals regarding status of the system tests. Copies of the daily logs shall be obtained by the consultant and where the test results are satisfactory to the consultant they shall be signed and sealed by a professional engineer registered in the state of Florida and then provided to the Department. The consultant shall provide additional services during the integration period to ensure that the Contractor performs work necessary to ensure that the FMS components within the center are properly completed and made operational.

IV. PROVISIONS FOR WORK

A. Governing Regulations

The services performed by the consultant shall be in compliance with all applicable manuals and guidelines, including those of the FDOT, Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and additional requirements specified in this document. The current edition, including updates, of the following manuals and guidelines shall be used in the performance of this work. "Current edition" is defined as the edition in place at the date of advertisement of this contract. It shall be the consultant's responsibility to acquire and utilize the necessary manuals and guidelines that apply to the work required to complete this project. The governing regulations include, but are not limited to:

1. Florida Department of Transportation Roadway Plans Preparation Manual;
2. Florida Department of Transportation Design Standards;
3. Florida Department of Transportation ITS Typical Construction Drawings;
4. Florida Department of Transportation Location Survey Manual;
5. Florida Department of Transportation EFB User Guide (Electronic Field Book);
6. Florida Department of Transportation Drainage Manual;
7. Florida Department of Transportation Soils and Foundations Handbook;
8. Florida Department of Transportation LRFD Structures Design Guidelines;
9. Florida Department of Transportation Computer Aided Design and Drafting (CADD) Production Criteria handbook Roadway Standards;

10. Florida Department of Transportation Production Criteria handbook CADD Structures Standards;
11. Florida Department of Transportation Structures Manual including Temporary Design Bulletins;
12. Florida Department of Transportation Roadway CADD Handbook;
13. AASHTO – A Policy on Geometric Design of Highways and Streets;
14. Manual on Uniform Traffic Control Devices;
15. Elders Road User Program;
16. Americans with Disabilities Act;
17. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications, and/or Special Provisions;
18. Florida Highway Landscape Guide;
19. Florida Department of Transportation Structures Design Standard Drawings;
20. Florida Department of Transportation Florida Sampling and Testing Methods;
21. Florida Department of Transportation Pavement Coring and Evaluation Procedure;
22. Florida Department of Transportation District Seven ITS Design Guidelines;
23. Florida Department of Transportation Utility Accommodation Manual;
24. AASHTO – Specifications for Highway Bridges;
25. Florida Department of Transportation Construction Project Administration Manual;
26. Florida Department of Transportation Flexible Pavement Design Manual;
27. Florida Department of Transportation Rigid Pavement Design Section Manual;
28. Florida Department of Transportation Pavement Type Manual;
29. Florida Department of Transportation Right of Way Manual;
30. Florida Department of Transportation Intelligent Transportation System Integration Guide Book;
31. Florida Department of Transportation Community Awareness Procedures;
32. Federal Highway Administration Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications;
33. Florida Department of Transportation Bicycle Facilities Planning and Design Handbook;
34. Federal Highway Administration Hydraulic Engineering Circular Number 18 (HEC 18);
35. Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways;
36. Florida Department of Transportation Preparation and Documentation Manual;
37. Florida Department of Transportation Review and Administration Manual;
38. Florida Department of Transportation Computation for Design, Construction and Final Estimates;
39. Florida Statutes; and
40. SunGuide ITS System Architecture Description and Communication Master Plan.
41. AASHTO – Standard Specification for Structural Supports for Highway Signs, Luminairs and Traffic Signals 5th Edition

B. Consultant

The consultant shall perform all project design functions. The responsibilities of the consultant overlap the design, construction and integration phases and include development of the design, preparation of the PS&E package, development of the test procedures and review of all test results, including but not limited to testing of all systems and subsystems as a total operating system.

C. Preparation of Construction Contract Plans and Procurement Packages

The consultant shall provide the necessary engineering and design services required to prepare the construction plans for the project. The plans shall conform to the latest standards as developed by the Department and the ITS Program Office. The Department, at intervals specified by the Department, shall review the plans. The sequence of reviews and the content of the submittals will follow, as much as possible, the phases as outlined in the Department Plans Preparation Manual. This is further specified in section VI. of this Scope of Services. All submissions, as applicable, shall be in an electronic format, for eventual electronic letting/bidding.

D. Community Awareness

The consultant shall use the state-approved Public Involvement Plan which includes Community Awareness on Federal Aid Projects. The Community Awareness will include, but not be limited to, development of fact sheets for the various projects explaining the projects and providing information on schedule, cost and duration of construction. These fact sheets will assist the Department when answering public inquiries. The consultant shall attend meetings, prepare displays, make presentations, etc. to assist the Department in presenting the projects to local government agencies and interested organizations.

E. System Testing and Acceptance

The consultant shall develop a system testing and acceptance plan in accordance with Department Standards. The consultant shall represent the District in establishing the procedures and as needed, will either conduct and/or assist the District Seven ITS Program Office in conducting the test.

F. Geotechnical Services

The consultant shall be responsible for identifying and performing Geotechnical consultant Services, including any subsurface investigation, geotechnical design and analyses, as dictated by the project needs. The services shall include all aspects of the project in accordance with FDOT standards, policies, procedures and governing regulations. Soil borings, soil testing, subsurface utility engineering (SUE), test pits, and other applicable methods to complete the design shall be used, as dictated by the project needs. Existing subsurface information may be used, if approved by the District Geotechnical Engineer.

G. Permitting and Environmental Services

The consultant shall provide the required environmental permitting services that will include acquisition of permits from all agencies with jurisdiction (i.e.: the Southwest

Florida Water Management District (SWFWMD), Florida Department of Environmental Protection, U. S. Army Corps of Engineers (USACE), U. S. Coast Guard, U. S. Environmental Protection Agency and/or any Department authorized local agencies).

1. Preliminary Field Review

The consultant shall perform a preliminary field review and shall be responsible for early identification and coordination with the appropriate regulatory agencies to assure that design efforts are properly directed toward permit requirements.

2. Agency Coordination (Includes all Phases)

The consultant shall notify the District Environmental Permit Office in adequate time to schedule a representative to attend all meetings with the regulatory agencies and shall copy in the District Environmental Permit Administrator and the District Seven ITS Project Manager on all permit-related correspondence and meetings.

The consultant shall provide the District Environmental Permit Administrator with a complete advance copy of all permit packages submitted to the environmental agencies including a copy of the cover letter (detailing contents of the submittal) prepared by the consultant. In addition, the consultant shall provide copies of all correspondence transmitted and received and copies of any other sketches, plans, details or other information provided to the environmental agencies during the permitting process. The consultant shall be responsible for the payment of all permit application fees.

3. Establish Wetland Jurisdictional Lines

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

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

- a. Determine the jurisdictional boundaries of wetlands and surface waters as defined by the appropriate rules of the SWFWMD, USACOE, and any other permitting authority which is processing a Department permit application.
- b. Prepare aerial maps showing the jurisdictional boundaries of wetlands and surface waters. Aerial maps shall be reproducible, of a scale no greater than 1"=200' and be recent photography. Photocopies of maps are not generally acceptable to the environmental agencies. All jurisdictional boundaries are to be tied to the project's baseline of survey. Jurisdictional maps shall be signed and sealed by a Registered Land Surveyor.
- c. Determine and locate water elevations (i.e., seasonal high, normal pool, existing water, grade elevations) for each wetland within the project limits. These elevation points will be coordinated and surveyed as part of the wetland jurisdictional surveys.

- d. Prepare a written assessment of the current condition and relative value of the function being performed by wetlands and surface waters. Prepare data in tabular form which includes an identification number for each wetland impacted, size of wetland to be impacted, type of impact and identify any wetland within the project limits that will not be impacted by the project. Use of appropriate Environmental Resource Permit wetland forms is required.
- e. The consultant shall provide the following at the time of the Phase I plans submittal:
 - Surveyed jurisdictional boundaries on plan sheets.
 - Detailed estimate of wetland impacts, including but not limited to the acreage and type of impact. This shall be provided in writing to the Environmental Permit Administrator based on the approved jurisdictional boundaries.
 - For projects with wetland impacts UMAM assessments shall be provided to the Environmental Permit Administrator for submittal to SWFWMD for mitigation (373.4137, F.S.) coordination.

4 Agency Field Review

- a. The consultant shall be responsible for coordinating regulatory agency field reviews of wetland boundaries and water elevations. The consultant shall notify the District Environmental Permit Office in adequate time to schedule a representative to attend these meetings.
- b. The consultant shall acquire written verification of jurisdictional lines from the appropriate environmental agencies. If verification should include property not within existing Department right of way (i.e., stormwater pond sites), letters of permission shall be sent to the appropriate landowners.

5. Complete and Submit All Required Permit Applications

- a. The Consultant shall prepare permit packages as identified in the Project Description section.
- b. The Consultant shall collect all of the data and information necessary to obtain the environmental permits required to construct the project.
- c. The Consultant shall prepare each permit application for Department approval in accordance with the rules and/or regulations of the environmental agency responsible for issuing a specific permit and/or authorization to perform work.
- d. The Consultant will submit all permit applications, as directed by the Department, and be responsible for payment of all permit fees.

6. Environmental Resource Permit Application (ERP) (SWFWMD and USACE)

If required, The consultant shall prepare a permit package for acquisition of an

Environmental Resource Permit. The ERP package shall be submitted for review by the Department concurrently with the Phase II (60%) plans submittal.

The consultant shall be responsible for, but not limited to, the following general activities for preparing an Environmental Resource Permit application:

- a. Reviewing the construction plans to determine what permits are required.
- b. Identifying wetlands and surface waters and assess impacts and provide written documentation of wetland impact minimization and avoidance.
- c. Coordinate and conduct pre-application meetings and field reviews with the appropriate permit agencies.
- d. Preparation of permit application forms and transmittal letters in accordance with the rules and/or regulations of the environmental agency responsible for issuing a specific permit.
- e. Compilation, duplication and submittal of all data and information (i.e.: surface water, storm water, wetlands, etc.) required by each individual agency.
- f. Coordinate or initiate all revisions, information, meetings and correspondence necessary to satisfy agency requests for additional information.

The consultant shall provide the following items as they relate to the environmental portion of the ERP:

- a. Preparation of 8 1/2" x 11" permit sketches signed and sealed by a Professional Engineer.
- b. Calculation of jurisdictional dredge and fill volumes.
- c. Calculation of jurisdictional dredge and fill areas.
- d. Names and addresses of property owners adjacent to wetland impact areas and those from whom the Department will be acquiring right of way.
- e. Most recent aerial photography of 1"=200' or better which include surveyed agency jurisdictional boundaries and the existing and proposed right of way.
- f. Mitigation plans (under the supervision of a qualified environmental scientist), when required.

The consultant shall provide the following items as they relate to the management and storage of surface waters portion of the ERP:

- a. Compiling the appropriate number of construction plans and surface water calculations. These will be signed and sealed by a Professional Engineer in accordance with the requirements of each specific agency.
 - b. All plans submitted to the permitting agencies shall have any references to the phase of the plans removed prior to submittal. No stamps stating "Preliminary, Subject to Change" or "For Permitting Purposes Only" shall be used on any plans submitted to the various agencies.
- 7. U. S. Army Corps of Engineers Permit Application

When a USACE permit is required, the consultant shall submit a complete ERP application in 8-1/2" x 11" format to the SWFWMD to be forwarded to the USACE. Fifteen days after the permit submittal, the consultant shall contact the USACE to assure that they are in possession of a copy of the ERP application. The consultant shall continue working directly with the USACE to obtain the required permit or a letter stating that no permit is required.
- 8. Local Permit Applications

The consultant shall be responsible for review of the project with the District Environmental Permit Administrator to determine which local agencies have authorized permitting requirements (i.e., the Tampa Port Authority, Environmental Protection Commission of Hillsborough County). The consultant shall prepare all of the data and information necessary to obtain the required permit(s) from the authorized local agencies.
- 9 Other Agency Permit Applications

The consultant shall prepare all of the data and information necessary to obtain any other required environmental permit(s) from the agencies with jurisdiction as described in Section G.5.A.
- 10. National Pollutant Discharge Elimination System Permits (NPDES)
 - a. Evaluate the project to determine if a "Stormwater Discharges Associated with Industrial Activities Permit" is required as defined in 40 CFR Part 122.26(b)(14)(x) and/or 62-621.300(4)(a) FAC. If no permit is required, this determination shall be documented to the District Environmental Permit Administrator and to the Project Manager in writing. If a permit is required the consultant shall prepare a Storm Water Pollution Prevention Plan for the construction project.
 - (1) Prepare Storm Water Pollution Prevention Plan (SWPPP) in accordance with the latest edition of the Department's Roadway Plans Preparation Manual, Volume I, Chapter 11.
 - (2) The consultant's attention is directed to the fact that additional requirements for the use of the EPA General Permit in Florida are described in the Federal Register dated Tuesday, March 31, 1998.

- (3) The preliminary SWPPP shall be included in the construction plans and shall be submitted for review in the Phase II (60%) plans submittal. The completed SWPPP shall be submitted for review with the Phase III (90%) plans submittal.

11. Establish Wetland Jurisdictional Lines

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

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

- a. Determine the jurisdictional boundaries of wetlands and surface waters as defined by the appropriate rules of the SWFWMD, USACE, and any other permitting authority which is processing a Department permit application.
- b. Prepare aerial maps showing the jurisdictional boundaries of wetlands and surface waters. Aerial maps shall be reproducible, of a scale no greater than 1"=200' and be recent photography. Photocopies of maps are not generally acceptable to the environmental agencies. All jurisdictional boundaries are to be tied to the project's baseline of survey. Jurisdictional maps shall be signed and sealed by a Registered Land Surveyor.
- c. Determine and locate water elevations (i.e., seasonal high, normal pool, existing water, grade elevations) for each wetland within the project limits. These elevation points will be coordinated and surveyed as part of the wetland jurisdictional surveys.
- d. Prepare a written assessment of the current condition and relative value of the function being performed by wetlands and surface waters. Prepare data in tabular form which includes an identification number for each wetland impacted, size of wetland to be impacted, type of impact and identify any wetland within the project limits that will not be impacted by the project. Use of appropriate Environmental Resource Permit wetland forms is required.

12. U. S. Army Corps of Engineers Permit Application

When a USACE permit is required, the consultant shall submit a complete ERP application in 8-1/2" x 11" format to the SWFWMD to be forwarded to the USACE. Fifteen days after the permit submittal, the consultant shall contact the USACE to assure that they are in possession of a copy of the ERP application. The consultant shall continue working directly with the USACE to obtain the required permit or a letter stating that no permit is required.

13. Agency Field Review

The consultant shall be responsible for coordinating regulatory agency field reviews

of wetland boundaries and water elevations. The consultant shall notify the District Environmental Permit Office in adequate time to schedule a representative to attend these meetings.

The consultant shall acquire written verification of jurisdictional lines from the appropriate environmental agencies. If verification should include property not within existing Department right of way (i.e., stormwater pond sites), letters of permission shall be sent to the appropriate landowners.

14. Local Permit Applications

The consultant shall be responsible for review of the project with the District Environmental Permit Coordinator to determine which local agencies have authorized permitting requirements (i.e., the Tampa Port Authority, Environmental Protection Commission of Hillsborough County). The consultant shall prepare all of the data and information necessary to obtain the required permit(s) from the authorized local agencies.

15. Mitigation Coordination and Meetings

The consultant shall coordinate with the District Environmental Permit Office prior to approaching any environmental permitting or reviewing agencies with regard to mitigation issues. Mitigation will typically be via 373.4137, F.S. If a mitigation plan other than 373.4137, F.S. will be used for the project the mitigation plan shall be approved by the Department. Once a mitigation plan has been reviewed and approved by the Department, the consultant shall be responsible for coordinating the proposed mitigation plan with the appropriate environmental agencies.

The consultant shall provide complete and timely responses to the Department's semi-annual requests for updated information for the project if it will have, or potentially will have impacts to be mitigated for using the Wetland Impact Inventory (F.S. 373.4137). The consultant shall inform the Department immediately of wetland impact changes that could affect the project's status on the mitigation inventory between formal update requests. The consultant shall communicate to the Department any design or jurisdictional review issues that may impact their wetland impact estimates as the project progresses through design.

16. Special Services

Environmental services in support of the NPDES permit process may include the following:

a. Well Survey

The consultant shall perform a well survey to locate any wells within 100 feet of the roadway, stormwater ponds, wetland mitigation areas, or floodplain compensation areas. The wells will be described and located on the construction plans and shall include a note requiring the possible closure of some wells by the contractor under SWFWMD rule 40D - 3.531 FAC.

b. Sovereign Submerged Land Easements

If a sovereign submerged land easement is required, the consultant shall track the easement process to ensure timely receipt of the fully executed easement document. For projects in Hillsborough County, the TPA has jurisdiction over sovereign submerged land. For all other counties in District Seven, FDEP has jurisdiction.

For easements to be granted by the TPA, the consultant shall coordinate directly with TPA to track the easement process. The consultant shall also coordinate the easement process with the Department's Environmental Permit Office, Survey and Mapping Office and Right-of-Way Office.

For easements to be granted by the FDEP, data required in the ERP application (Section G) submitted to the SWFWMD starts the easement process but is separated from permit issuance after the initial review of the application by the SWFWMD. The Submerged Land Easement document is forwarded to the FDEP by the SWFWMD and then processed in Tallahassee by FDEP Land Management Division. The FDEP has no time clock to which to adhere for granting the easement document. The consultant shall coordinate the easement process with the Department's Environmental Permit Office, Survey and Mapping Office and Right-of-Way Office.

c. Erosion and Sediment Control Plans

The consultant shall prepare an erosion and sediment control (E&SC) plan using best management practices for inclusion in the plans. Locations of the E&SC devices may be shown on the plan and profile sheets or on separate sheets especially for E&SC purposes.

H. Verification of Existing Conditions

The consultant shall be responsible for verification of existing conditions, including research of all existing District Seven ITS Program Office records, District One ITS Program Office records and other information. The consultant shall perform adequate investigations of existing site conditions sufficient to support the design developed by the consultant. Any information provided by the District Seven or District One ITS are to merely to assist the consultant in completing adequate site investigations. Notwithstanding any other provision in the contract documents to the contrary, no additional compensation shall be paid in the event of any inaccuracies in the preliminary information.

I. Traffic Control Plans

The consultant shall design a safe and effective Traffic Control Plan (TCP) to move vehicular traffic during all phases of construction. The plans shall include, but are not limited to, construction phasing, utility relocation, appropriate signing and pavement marking and itemized quantities. The Traffic Control Plan shall address how to assist with maintenance of traffic (MOT) throughout the duration of the contract.

The Traffic Control Plan shall be prepared by a certified designer who has completed the FDOT's training course (Advanced Level), and be a Florida-licensed professional engineer and be in accordance with the FDOT Design Standards and the Roadway Plans Preparation Manual.

The consultant shall utilize Index Series 600 of the FDOT's Design Standards where applicable. The consultant shall prepare plan sheets, notes, and details to include the following: typical section sheet(s), general notes and construction sequence sheet(s), typical detail sheet(s), and traffic control plan sheet(s). The Traffic Control Plan shall also be consistent with the Departments Lane Closure Policy.

There shall be an overall presentation of each construction phase in plan and narrative forms. This will typically be accomplished with a single schematic plan for each phase, supplemented by plan notes. The construction centerline shall be shown for reference on each plan sheet. The consultant shall submit the conceptual TCP phases to the District Seven ITS Construction Section with the Phase II submittal.

Detailed sheets such as cross sections, construction staging, profiles, drainage structures and lighting shall be developed when necessary to ensure that the Contractor will implement the TCP concept envisioned by the consultant. Where special detail sheets for specific aspects of the TCP plan are not necessary, general details shall be included on scaled sheets (provide larger scale where congestion of detail requires).

Traffic shall be maintained at all times throughout the construction duration of the projects. When lane closures are required to complete any portion of the construction, the consultant shall complete lane closure worksheets to determine off peak hours for construction for insertion in the Plans. The number of work sheets prepared shall be sufficient to ensure adequate and safe maintenance of traffic. All lane closure calculations and information shall be provided to the District Seven ITS Construction Section on compact disks (CD) in Microsoft Excel.

The consultant shall develop a construction schedule that shall consider whether the time of the letting should be restricted. The schedule should consider restriction of working hours during peak hours, longer workdays, night work, weekend work, holiday restrictions, delivery restrictions, and incentive/ disincentive clauses. The consultant shall work with the District Seven ITS Construction Section for compliance with the requirements for construction schedules.

Based on the aforesaid schedule, the consultant shall develop the contract time in calendar days for this project. The consultant shall submit an Engineers Estimate of the quantities for controlling items of the work at the Phase II submittal. The consultant shall submit to the District Seven Construction Section with the Phase III submittal, the estimate of the construction contract time on a CD using the current version of the Primavera Project Planner.

The consultant shall provide a schedule of all MOT related items and break down the

quantities per phase of construction, which shall be included in the computation book.

J. Utilities

The consultant shall identify utility facilities and secure agreements, utility work schedules, and plans from the Utility Agency Owners (UAO) ensuring no conflicts exist between utility facilities and the District Seven ITS construction project. The consultant shall certify all utility negotiations have been completed with arrangements made for utility work to be undertaken.

1. Kickoff Meeting

Prior to any contact with the UAO(s), the consultant shall meet with the District Seven Utility Office (UO) to receive guidance, as may be required, to assure that all necessary coordination will be accomplished in accordance with District Seven Utilities Office procedures. The consultant shall bring a copy of the design project work schedule reflecting utility activities.

2. Identify Existing UAO(s)

The consultant shall identify all utilities in the corridor, check with Maintenance for Permits, Sunshine State One Call, Subsurface Utility Engineering (SUE) Report, Design Location Survey, and Existing Plans.

3. Make Utility Contacts

First Contact: The consultant shall send letters and two sets of plans to each utility, one set for the utility office and one set each to construction and maintenance, if it is required. Include in the letter the contact information of the consultant, including a phone for meeting coordination. The consultant shall request information on the type, size, location, proposed relocation, easements, cost for compensable relocation and justification for any utility exceptions from each involved utility. Include with in the letter, the meeting schedule (if applicable), the design schedule and a typical meeting agenda. This shall be accomplished after the consultant has corrected the Phase I plans.

Second Contact: At a minimum of four weeks prior to the meeting, the consultant shall transmit two complete sets of Phase II plans to each UAO having facilities located within the Project limits, and one set to the District Seven Utility Offices as required by the District Seven Utility Office. This shall be completed after the consultant has corrected the Phase II plans. An electronic copy of the plans shall also be submitted to those utility companies that are computer automated.

Third Contact: Identify agreements and assemble packages. Send agreements, letters and two sets of 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.

At the completion of the Phase III plans and at the time of submission of the plans to the District Seven Utility Office, the consultant shall submit to each utility one CD

(or two hard copies if preferred by the utility) of the Phase III plans for each utility depicted on the plans. The computer disk shall be as described above.

4. Exception Coordination

The consultant shall be responsible for transmitting/coordinating the appropriate design reports including, but not limited to, the Resurfacing, Restoration and Rehabilitation (RRR) report, Project Scope and/or the Concept Report (if applicable) to each UAO in order to identify any clear and control zone violation that may require a Utility Exception. The consultant shall coordinate the processing of design exceptions involving Utilities with the UAO and the District Seven Utility Administrator. Coordinate and process per the Utility Accommodations Manual.

5. Preliminary Utility Meeting

The consultant shall schedule (time and place), notify participants, and conduct a preliminary utility meeting with all affected UAO(s) for the purpose of presenting the Project, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each utility, and discuss any future design issues that may impact utilities. This is also an opportunity for the UAO(s) to present proposed facilities. The consultant shall keep accurate minutes and distribute a copy to all attendees.

6. Individual/Field Meetings

The consultant shall meet with each UAO separately throughout the Project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, optional clearing and grubbing work, and assist in the development of the UAO(s) 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. Collect and Review Plans and Data from UAO(s)

Make determinations (Compensable Interest, Easements, Coordinate, Analyze). Ensure information (utility type, material and size) is sent to the designer for inclusion in the plans. Coordinate programming of funds.

8. Subordination of Easements Coordination

The consultant, if requested by the District Seven Utility Office, shall transmit to and secure from the UAO the executed subordination agreements prepared by the appropriate District Seven ITS office. The consultant shall coordinate with the District Seven Utility Office the programming of the necessary work program funds to compensate the UAO.

9. Utility Design Meeting

At a minimum of three weeks prior to the meeting, the consultant shall transmit two complete sets of Phase II plans to each UAO having facilities located within the Project limits, one set to the District Seven Utility Offices as required by the District

Seven ITS Office and one set to the District One Utility Offices as required by the District One ITS Office. The consultant shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s). The consultant shall be prepared to discuss drainage, maintenance of traffic (construction phasing), review the current design schedule and letting date, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each utility, discuss any future design issues that may impact utilities, etc., to the extent that they may have an effect on existing or proposed utility facilities with particular emphasis on drainage and maintenance of traffic with each UAO. The intent of this meeting shall be to identify and resolve conflicts between utilities and proposed construction prior to completion of the plans, including utility adjustment details. Also recommend resolution between known utility conflicts with proposed construction plans as practical. The consultant shall keep accurate minutes of all meetings and distribute a copy to all attendees.

10. Review Utility Markups, Work Schedules and Processing of Schedules and Agreements
Review utility marked up plans individually as they are received for content and coordinate review with the designer. Send color markups and schedules to the appropriate District Seven office for review and comment if required by the District Seven Utility Office. Coordinate with the District Seven Utility office for execution. Distribute Executed Final Documents, prepare Work Order for UAO(s) and coordinate programming of funds.
11. Utility Coordination/Follow-up
This item includes follow-up, interpreting plans, and assisting in the completion of the UAO(s) work schedule 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 known conflicts. This task can be applied to all phases of the Project.
12. Utility Constructability Review
Review utility schedules against construction contract time, and phasing for compatibility. Coordinate with construction office.
13. Additional Utility Services
The work under this item includes the preparation of a Technical Memorandum summarizing the type of utility, size, general location, owner, contact and cost per mile of relocation (note-moved from PD&E section).
14. Processing Utility Work by Highway Contractor (UWHC)
The UWHC was formerly called the Utility Joint Participation Agreement (JPA). This includes coordination of utility design effort between the District Seven Utility Office and the UAO(s). Determine the District Seven Utility cost participation, additional coordination meetings, prepare, negotiate, and process the agreements, review tabulation of quantities, prepare Summary of Pay Items (TRNS*PORT) - UWHC, perform UWHC constructability and bidability review, TSP review. This does not

include utility design effort. This item is not usually included in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified.

15. Certification/Close-Out

This includes hours for transmitting utility files to the District Seven ITS Office and preparation of the Utility Certification Letter. The consultant shall certify to the appropriate District Seven Utility representative the following:

All utility negotiations (Full execution of each agreement, approved Utility Work Schedules, technical 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.

District One Utility Office Responsibility

The District Seven Utility Office will furnish any or all of the following items as appropriate for performance of the required services:

- a. The District Seven Utility Office shall make available all necessary agreements, relocation schedules, and other documents required to clear utility negotiations on each project.
- b. Project plans, which shall include, but not be limited to, phase II prints, initial review set, multiple utility sets and plans required for preparation of special agreements, if available.
- c. The District Seven ITS Project Manager shall be the single point of contact for this contract.
- d. While it is expected that the consultant shall seek/receive advice from various state, regional and local agencies, the final direction on all matters of a technical nature will remain with the District Seven ITS Project Manager. However, all matters pertaining to contract administration lie with the District Seven Professional Services Administrator.
- e. All correspondence on file, which is determined by the District Seven Utility Office to be relevant to the utility negotiations.
- f. Right-of-Way Maps where available.

K. Optional Services

Design Assistance

At the option of the District Seven ITS Program Office, the consultant shall perform additional services in the area of design assistance. Fees will be negotiated at the time of need. (Refer to attached Exhibit B, Optional Services, for compensation provisions.) Upon satisfactory completion of the negotiations, a Supplemental Agreement shall be executed with the consultant. No work shall be done prior to execution of the Supplemental Agreement by the District Seven ITS Program Office.

Services may include, but be not limited to: Plans Maintenance

Plans Maintenance - The consultant shall perform engineering analysis and/or make revisions to original "on-shelf" tracings and TSPs as requested by the District Seven ITS Program Office to reflect changing conditions prior to letting. Whenever original tracings are changed, the consultant shall submit to the District Seven ITS Program Office, one set of revised sheets signed and sealed by a registered professional engineer. This requirement is in addition to all other reproduction and delivery instructions given by the District Seven ITS Project Manager in specific instances.

Construction Assistance

The District Seven ITS Program Office may at its option, negotiate with the consultant for certain Construction Assistance Services. Upon satisfactory completion of the negotiations, a Contract addendum shall be executed with the consultant. In the event that an agreement cannot be reached between the District Seven ITS Program Office and the consultant regarding the Optional Services, the District Seven ITS Program Office reserves the right to acquire professional engineering services in accordance with Section 287.055, Florida Statutes, and DOT Procedures. Services may include, but are not limited to: Construction Assistance, Review of Shop Drawings, Performance and Impact Evaluation of the New System, and Post Design Services.

L. Project Schedule

Within 10 days after issuance of a Notice to Proceed the consultant shall provide a schedule of project milestones for the project in accordance with the District Seven ITS Primavera Schedule.

Within five days following acceptance of the project milestone schedule for the project, the consultant shall prepare and submit a detailed CPM schedule for consultant activities. For purposes of scheduling, the consultant shall allow three weeks for the District Seven ITS Program Office of review time for each submittal. All schedules shall be updated and resubmitted for District Seven ITS Program Office approval at any time prior to schedules becoming obsolete.

M. Key Personnel and Staffing

The consultant work shall be performed and directed by key personnel identified in the proposal presentations by the consultant. Any changes in the indicated personnel shall be subject to review and approval by the District Seven ITS Project Manager. The consultant shall have available a professional staff that meets the minimum training and experience

set forth in Chapter 455, Florida Statutes, and applicable standards.

N. Meetings and Progress Reporting

The consultant shall meet on a monthly basis with representatives of the District Seven ITS Program Office at the TBSG Center for the purpose of reviewing the status of the project. The consultant shall meet regularly with the District Seven ITS Project Manager to coordinate the ITS communications architecture to be used for the project design. The consultant shall provide summary minutes within five working days after each meeting for review and approval by the District Seven ITS Project Manager. The consultant shall also attend the phase II field walk through with the District Seven ITS Project Manager and other District Seven ITS Program Office staff responsible for the plan reviews.

The consultant shall, on a monthly basis, provide written progress reports that describe the items of concern and the work performed on each task.

O. Quality Management Plan

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 under this contract.

The consultant shall provide a Design Quality Management Plan (QMP), which describes the Quality Control (QC) procedures to be utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as a part of the contract. In addition, the QMP shall establish a Quality Assurance (QA) program to confirm that the QC procedures are followed. The consultant shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The QMP may be one utilized by the consultant as part of their normal operations, or it may be one specifically designed for this project. The consultant shall submit a QMP within 15 working days of the written Notice to Proceed. A marked-up set of prints from the QC review shall be sent in with each review submittal. The responsible Professional Engineers or Professional Surveyor that performed the QC review, as well as the QA manager, shall sign a statement certifying that the review was conducted.

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

P. Liaison Officer

The District Seven ITS Project Manager and the consultant shall designate a Liaison Officer and a Project Manager, who shall be the representatives of their respective organizations, for the project.

Q. Computer Automation

The project shall be developed utilizing computer automation systems in order to facilitate the development of the contract plans. Various software and operating systems were developed to aid in assuring quality and conformance with FDOT policies and

procedures. Seed Files, Cell Libraries, User Commands, MDL Applications, and related programs developed for roadway design and drafting are available in MicroStation format. However, it is the responsibility of the consultant to obtain and utilize current FDOT releases of all Computer-Aided Drafting and Design (CADD) applications.

The consultant's role and responsibilities are defined in the FDOT CADD Manual. The consultant shall be required to submit final documents and files that shall include complete CADD design and coordinate geometry files in MicroStation format, as described in the above-referenced document.

The archived submittal shall also include either a TIMS database file, CADD Index file (generated from RDMENU), or documentation that shall contain the project history, file descriptions of all (and only) project files, reference file cross references, and plotting criteria (e.g., batch, level symbology, view attributes, and display requirements). A printed directory of the archived submittal shall be included. Also, final plans shall be submitted in electronic format.

R. Phase Reviews

The project plans shall be reviewed by the District Seven ITS Project Manager at intervals specified by the District Seven ITS Project Manager, including a minimum of three phase submittals for the field installation contracts. The content of phase submittals shall conform to the current FDOT Plans Preparation Manual, unless otherwise approved by the District Seven ITS Project Manager.

The consultant shall be responsible for all phase review coordination. A joint office phase review meeting with District Seven ITS Program Office personnel, District One ITS Program Office personnel, other appropriate agencies, and the consultant's staff shall be scheduled to resolve critical issues and/or design problems affecting the project. At the completion of the Phase II review, a field walk-through review, by the consultant Project Manager, District Seven ITS Project Manager, other District Seven ITS Program Office personnel and District One ITS Program Office personnel shall be conducted.

The consultant shall transmit phase review plan sets to locations as indicated by the District Seven ITS Project Manager. A consultant transmittal letter shall also be delivered to the District Seven ITS Project Manager for each submittal. The consultant responses to comments from the previous phase reviews by the District Seven ITS Program Office shall be submitted to the District Seven ITS Program Office no later than one week prior to the next phase submittal. A marked set of prints indicating the peer reviewers for each component set shall be required with each phase submittal.

S. Construction Cost Estimates and Quantities

The consultant shall prepare an Engineer's Estimate (EE) covering the major pay items for the assigned task. Using the EE as a basis, the District Seven ITS Program Office shall input a Long Range Estimate (LRE) into the FDOT's computer system within three weeks after the Notice to Proceed. Each of the EE items shall be included in the LRE. In order to accomplish this, x or ex items may be required. Individual item costs on the EE

and the LRE should be within 5% while the overall difference between the EE and LRE should be not more than 2%. No contingency items are permitted on the LRE. The EE prepared by the consultant shall be compared to the current FDOT's LRE, to ensure the consultant's understanding of the project scope. If more than a 5% difference exists, the consultant shall notify the District Seven ITS Project Manager, who, in coordination with the District Seven ITS Estimates Engineer, shall evaluate the increase or decrease and determine how the District will proceed within the scope.

The EE and LRE shall be updated immediately prior to Phase II submittal and at any time, during the development of the project, that the scope of work is changed in a manner that would impact the estimated cost of construction. Also the consultant shall update the estimate each year after the FDOT updates the prices in the computer files so that the estimate is based on current prices. The consultant shall also update the FDOT's PPR form and indicate the reasons for the estimate's increase or decrease.

Before the Phase III, Phase IV, and Final Plans submittals, the consultant shall input the Pay Items and estimated quantities into the FDOT's Contracts Estimates System (CES) or Transport Estimating System (whichever is in use at the time). Phase IV, and Final Plans submittals, shall include all required Pay Items and estimated quantities. An EE spreadsheet shall also be submitted which includes unit prices for each pay item to support the estimated cost of construction.

The consultant shall expend the necessary effort to ensure that the cost estimates submitted are accurate and current with all known conditions at the time of the submittal. If costs increase or decrease, the consultant shall explain this on the "Transmittal of Construction Cost Estimate".

T. Coordination with Other Projects

The consultant shall coordinate this project work with any and all projects that are impacted by or impact the project. It is anticipated that the projects to coordinate with will include, but not be limited to the following:

1. 414730-2 & 414732-2: Sarasota/Manatee County I-75 Freeway Management System Design/Build Criteria Package Development.
 - Design Schedule: January 2010 – December 2010 Construction Schedule: July 2011 – December 2013
2. 407233-5 SunGuide ITS Phase II, I-275 from S. Sunshine Skyway Bridge to 54th Avenue South.
 - Construction Schedule: November 2013 – August 2015

U. Storm Water Pollution Prevention Plans

The consultant shall prepare an erosion control plan that complies with the Storm Water Pollution Prevention Plan (SWPPP) as required by the National Pollutant Discharge Elimination System (NPDES). The consultant shall refer to the Plans Preparation Manual for information on the SWPPP and Florida Department of Environmental Protection (FDEP) Rule 62-25, FAC, for requirements on the erosion control plan. Detailed limits of

the erosion control items will be necessary, but may be shown on the roadway plans sheets. This plan shall be submitted, along with the consultant's Certification, at least twenty-one calendar days prior to beginning construction activities.

V. Survey

The consultant shall perform all survey services necessary to complete the project. At a minimum, this shall include surveying of each IDS location requiring the installation of a new pole. Survey services must comply with all pertinent Florida Statutes and applicable rules in the Florida Administrative Code. All field survey data shall be furnished in a digital format, readily available for input and use in CADD design files.

All survey work must be accomplished in accordance with the FDOT's *Location Survey Manual*. This work must comply with the Minimum Technical Standards for Land Surveyors, FAC, pursuant to Section 472.027, Florida Statutes, and any special instructions from the Department. This survey also must comply with the Department of Environmental Protection Rule, Chapter 18-5, FAC, pursuant to Chapter 177, Florida Statutes, and the Department of Environmental Protection State Jurisdiction Boundary Surveys where applicable.

V. GENERAL

A. Meetings

The consultant shall meet on a monthly basis with representatives of the TBSG Center for the purpose of reviewing the status of the project. Only representatives from the consultant firms that are actively engaged in the work effort on a currently assigned task will need to attend the individual monthly meetings. Attendance by a representative of the consultant shall be as needed to maintain project continuity. The consultant shall provide summary minutes within five working days after each meeting for review and approval by the Department. The minutes shall include a list of action items citing the responsible party and the date assigned and completed. The consultant's Principal shall also attend the phase II field walk through with the District Seven ITS Project Manager and other Department staff responsible for the plan reviews.

B. Consultant's Schedule of Activities

Within 10 days after issuance of a task work order the consultant shall provide a schedule of project milestones for the assigned task in accordance with the Department's Primavera Schedule. The schedules shall be prepared in a format acceptable to the Department.

Within five days following acceptance of the project milestone schedule for the assigned task, the consultant shall prepare and submit a detailed CPM schedule for consultant activities. For purposes of scheduling, the consultant shall allow four weeks' Department review time for each submittal. All schedules shall be updated and resubmitted for Department approval at any time prior to the schedule becoming obsolete.

C. Coordination with Other Consultants

The consultant shall coordinate his work with any and all adjacent and integral consultants so as to effectively complete a set of homogeneous plans and specifications for the projects described herein and any related projects.

D. Construction Cost Estimates and C.E.S. Quantities

The consultant shall prepare an Engineer's Estimate (EE) covering the major pay items for the assigned task. This shall be done immediately following the issuance of a Task Work Order. Using the EE as a basis, the consultant shall input a Long Range Estimate (LRE) into the Department's computer system within three weeks after the NTP. Each of the EE items shall be included in the LRE. In order to accomplish this, x or ex items may be required. Individual item costs on the EE and the LRE should be within 5% while the overall difference between the EE and LRE should be not more than 2%. No contingency items are permitted on the LRE.

The LRE prepared by the consultant shall be compared to the current Department's LRE, to ensure the consultant's understanding of the projects scope. If more than a 5% difference exists, the consultant shall notify the Department's Project Manager, who, in coordination with the District Estimates Engineer, shall increase or decrease the Department's proposed budget or issue instructions to the consultant on how to proceed within the scope.

The EE and LRE shall be updated immediately prior to Phase II submittal and at any time, during the development of the project, that the scope of work has changed in a manner that would impact the estimated cost of construction. Also the consultant shall update the estimate each year after the Department updates the prices in the computer files so that the estimate is based on current prices. The consultant shall also update the Department's PPR form and indicate the reasons for the estimates increase or decrease.

Before the Phase III, Phase IV, and Final Plans submittals, the consultant shall input the Pay Items and estimated quantities into the Department's Contracts Estimates System (CES) system or Transport Estimating System (whichever is in use at the time). Phase IV, and Final Plans submittals, which shall include all required Pay Items and estimated quantities. An EE spread sheet shall also be submitted which includes unit prices for each pay item to support the estimated cost of construction. The consultant shall be responsible for producing a construction cost estimate (Engineer's Estimate and LRE or TRNS*PORT estimate) and reviewing and updating those cost estimates within 21 days after Notice-To-Proceed, when scope changes occur, at production milestones of the project, for the annual Work Program Update Cycle, and when directed by the Department Project Manager. Prior to phase II plans and completion of quantities, the Department's 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 pay items and quantities into TRNS*PORT PES (Proposal Estimating System) as approved by the Department through the use of the Department's Designer Interface. A Summary of Pay Items sheet shall be prepared with all required Phase II, III, and IV Plans submittals. Each Engineer's Estimate and LRE/TRSN*PORT submittal shall be accompanied by an equal number of copies of the Preliminary Project Report (PPR) updated by the consultant in the District standard format, including the updated Record Page. Within two weeks after the Notice-To-Proceed, the consultant shall schedule a meeting with the Department Project Manager, District PS&E Manager and the General

Engineering Consultant (GEC) who prepared the most recent construction cost estimate for the Department during the annual Work Program Update Cycle. The purpose of this meeting shall be to review the Department's estimate and transfer maintenance and update responsibility for the estimate to the consultant during design. When modifications to the estimate are recommended by the consultant, such modifications shall be detailed by the consultant and reviewed by the District PS&E Manager prior to any Work Program Update requests.

Note: The consultant shall expend the necessary effort to ensure that the cost estimates submitted are as accurate and current as all known conditions at the time of the submittal. If costs increase or decrease, the consultant shall explain on the 'Transmittal of Construction Cost Estimate'. The consultant shall be prepared to defend the estimate and the differences in the estimated construction costs.

E. Technical Special Provisions/Specification Package

The consultant shall prepare and provide a complete Specification Package, including Technical Special Provisions for all items of work. Permits obtained by the Department and Utility Relocation schedules/utility TSPs will be provided to the consultant for inclusion. The current Supplemental Specifications and Special Provisions are available on the Internet. Standard Specifications, Supplemental Specifications, or Special Provisions should not be modified unless absolutely necessary to control specific project requirements. The District Specification Office must approve any modifications to these standards in order to be included in the Project's Specification Package. The Specification Package shall be unbound, with text on one side only, on 8-1/2" x 11" sheets. The Specification Package shall be signed, sealed, and dated in accordance with Chapter 471 or Chapter 481, Florida Statutes, as appropriate.

The Specification Package must be submitted to the District Specification Office by the first mail date. The Specification Package must be submitted for legal review at least 14 days before the second mail date. The legal review must be obtained, comments resolved, and the submittal of the final, signed and sealed Specifications must occur at least five days prior to the second Mail Date.

F. Professional Endorsement

After the Department accepts the final plans, the original reproducible set of plans plus two sets of record prints on xerographic bond shall be furnished to the Department along with an electronic copy of the plans set on CD. The consultant shall signify, by affixing an endorsement of embossed seal and original signature on every sheet of the record sets, that the work shown on the endorsed sheets was produced by a Florida-registered professional engineer. The original set of plans shall have the title block placed on each sheet, an original signature shall be placed on the key map, and an original or stamped signature on all other plan sheets.

The consultant shall also submit with final plans the following items, signed and sealed by the responsible Florida-registered professional engineer:

1. Original Computation Book.

2. One copy of Computation Book.
3. One set of CES Quantity Sheets.
4. One set of Systems Design Documentation.
5. One set of Structural & Site Engineering Design Documentation.

G. Plans and Documentation Reproduction

The consultant shall furnish, as required, the number of plans on xerographic bond as required for each phase submittal for the project by the Department to adequately control, coordinate, and approve the plans for both utility and design considerations.

The consultant shall also furnish, as required, the following items for the project:

1. Five copies of Design Documentation.
2. Seven copies of Summary of Pay Items.
3. Seven copies of Computation Book.
4. Fourteen copies of Comment Responses.
5. One copy of Peer Review Plans.

The consultant shall contact the FDOT Project Manager before submittal to verify the exact quantity for each item and the location(s) where the material shall be delivered. The consultant shall be responsible for sorting and packaging all submittal material and delivering all packages to location(s) furnished by the FDOT Project Manager. The consultant shall utilize a standard submittal letter provided by the Department to organize and accompany each submittal package delivered.

H. Design Documentation

1. Project Design Report

To facilitate design and quality assurance/control reviews, the consultant shall develop a written Project Design Report for the project at the onset of services. A copy of this document for the project shall be submitted to the Department within two weeks of issuance of a task work order.

The purpose of the Project Design Report is to provide the Department with a clear understanding of project objectives, design criteria, and procedural approaches. Also, this document assists the consultant, and the Department, in assuring conformance to established criteria.

The Project Design Report shall provide a detailed description of the project requirements as set forth in the technical criteria established for this project. This report shall also include an ongoing narrative detailing the design assumptions and decisions made during the project. This document shall also include the findings and recommendations from the safety review and a copy of any other pertinent supporting data. This document shall be periodically updated (at least with each phase submittal) and resubmitted as design notes, computations, and additional criteria are established

during the project and shall also serve as the basis for reports, design analyses, and plan preparation.

The report shall be prepared on 8-1/2" x 11" pages, one sided, and shall be bound on the left-hand side. A title page shall be included and should provide the following information. A table of contents shall also be included:

- a. Project Design Report.
- b. Florida Department of Transportation.
- c. Financial Project ID.
- d. Federal Project ID.
- e. County Name.
- f. County Section Number.
- g. Project Description.
- h. Date Prepared/Date Updated.
- i. Consultant's name and address.

At the project completion, a final Project Design Report, signed and sealed by the responsible Florida registered professional engineer, shall be submitted with the record set of plans and tracings.

2. Design Notes and Computations

The consultant shall submit to the Department, design notes and computations to document the design methodology conclusions made during the development of the project design and construction plans. Design notes and computations may be included as part of the Project Design Report.

The design notes and computations shall be recorded on one-sided 8-1/2" x 11" computation sheets, fully titled, numbered, dated, indexed and signed by the designer and checker. Computer output forms and other oversized sheets shall be reduced to 8-1/2" x 11". The data shall be bound, indexed and titled for submittal to the Department.

A minimum of six copies of the design notes and computations shall be submitted to the Department with each phase submittal. At the project completion, a final set of design notes and computations, signed and sealed by the responsible Florida registered professional engineer, shall be submitted with the record set of plans and tracings.

The design notes and calculations shall include, but are not limited to, the following data as applicable:

- a. Design criteria used for the project.
- b. Traffic analyses.
- c. Calculations of quantities not included in the computation book or on the plans.
- d. Calculations showing cost comparisons of various alternatives considered.
- e. Structural calculations.

- f. Cost estimates.
- g. Voltage drop calculations for the system being designed.

I. Phase Reviews

Plans shall be reviewed by the Department at intervals specified by the Department, including a minimum of three phase submittals (II, III, and IV) for the field installation contract. The content of phase submittals shall conform, as much as possible, to the current Department Plans Preparation Manual. There is sufficient information available in the “ITS Study and Implementation Plan for District Seven Interstates” for the consultant to start with a Phase II submittal.

The consultant shall be responsible for all phase review coordination. A joint office phase review meeting with Department personnel, other appropriate agencies, and the consultant’s staff (including their Constructability Reviewers) shall be scheduled to resolve critical issues and/or design problems affecting the project. At the completion of each Phase Review, a field-walk through review, by the consultant Project Manager, FDOT Project Manager, and other appropriate FDOT personnel (including Construction and Maintenance) shall be conducted. After the final review, a field walk-through review by the consultant Principal, consultant Project Manager, FDOT Project Manager, and other appropriate FDOT personnel (including Construction and Maintenance) shall be conducted.

The consultant shall transmit phase review plan sets to locations as indicated by the Department's Project Manager. A consultant transmittal letter shall also be delivered to the FDOT Project Manager for each submittal. The consultant responses to comments from the previous phase reviews by the Department shall be submitted to the Department no later than one (1) week prior to the next phase submittal. A marked set of prints indicating the peer reviewers for each component set shall be required with each phase submittal. The comments and responses to each Phase review shall be made using the District Seven Engineering Review Comment (ERC) System.

Attention is directed to Chapters 16 and 17 of the Plans Preparation Manual. The consultant and Department staff shall follow these guidelines. It is the intention of the Department that the consultants are held responsible for their work, including plans review. Detailed checking of the consultant plans or assisting in designing portions of the project for the consultant is not the intent of having external design consultants. The purpose of consultant plans reviews are to ensure that consultant plans follow the plans preparation procedures outlined in the Design Manual, that State and Federal design criteria are followed with the Department concept, and that the consultant submittals are complete.

J. Disposition of Plan Review Comments

The consultant shall submit to the Department, at the time of the filing of the final plans, the disposition of all plan review comments in the ERC system.

K. Americans with Disabilities Act

All pedestrian features included in this project shall be designed in full compliance to the Americans with Disabilities Act (ADA).

L. Computer Disk Scanning

All disks shall be scanned for viruses prior to submitting to FDOT. Failure to scan for and remove viruses may result in a lower consultant work performance evaluation.

VI. DEPARTMENT RESPONSIBILITIES

The Department, at its option, may delegate any or all Department functions and responsibilities to a general consultant which shall act as an extension of the Department's staff and should receive the same courtesies and cooperation as the Department.

The Department shall furnish any or all of the items listed below as appropriate for the performance of the required services:

- As-Built plans which are obtainable from FDOT District 7 file of highway segments and ITS infrastructure.
- Coordination and processing of permit applications, as necessary.
- Available Straight Line Diagram for the corridor within the project limit.
- All available roadway plans, bridge plans/inspection reports, survey, right of way maps, studies and other available information pertinent to the project.
- Provide phase reviews on all plans.
- Central software and hardware information.
- Permit the consultant to utilize the Department's data processing and computer services for programs requested by the consultant and approved by the Department.

These documents will be provided for informational purposes only. It shall be the consultant responsibility to verify the accuracy and completeness of information contained within these documents. Additionally, it shall be the responsibility of the consultant to obtain all plans and reports necessary to complete design activities for construction and deployment that is outside of the Departments Right-of-Way. The Department will support coordination with other FDOT districts and other agencies as necessary.

VII. COMPUTER SERVICES

The use of Computer-Aided Drafting and Design (CADD) is mandatory for the performance of services required in connection with this project. Services will conform to "CADD Roadway Standards" (FDOT Topic No. 625-010-007)", "Plans Preparation Manual" (FDOT Topic No. 625-00-101), "Roadway and Traffic Design Standards" (FDOT Topic No. 625-010-003), "Structures Design Office Standard Drawings" (FDOT Topic No. 625-020-300) "Structures Design Guidelines" (FDOT Topic No. 625-020-150) and "Structures Detailing Manual" (FDOT Topic No. 625-020-200).

Electronic deliverables for this project shall be in English Units of Measure. They shall be submitted to the Department on one or more single session CD-ROM disk(s) written in ISO9660

format. Alternative delivery methods must have prior written approval by the District CADD Manager.

VIII. LENGTH OF SERVICES

The services to be rendered by the consultant will commence upon issuance of a task work order signed by the Department's Professional Services Administrator. The time for completion of each assigned task work order will be stated in the Scope of Services for the particular task. No work will be commenced by the consultant until a task work order has been issued. All services performed under this contract will be completed within 60 months from the date of this Agreement.