PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDIES

LAKE JACKSON ECOPASSAGE

SCOPE OF SERVICES

SECTION I. PURPOSE

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and Leon County Metropolitan Planning Organization (MPO) in connection with the Project Planning (Corridor Location), Preliminary Engineering (Conceptual Design), and Environmental Studies necessary to comply with Department procedures.

The CONSULTANT shall perform those engineering services required for location/design studies, including consideration of all social, economic, environmental effects, and mitigation as required by the FHWA and/or the Project Development and Environmental Manual, along with the required environmental documents, engineering reports, preliminary plans, and public hearing.

The MPO will provide contract administration and provide management services and technical reviews of all work associated with the development and preparation of the engineering/environmental study reports for the transportation facility.

The Florida Department of Transportation (DEPARTMENT) District 3 (DISTRICT) is responsible for final quality assurance and the administrative processing of all environmental documentation.

SECTION II. STUDY OBJECTIVE

A. GENERAL OBJECTIVE:

The general objective of the study is to provide documented information necessary for the MPO to reach a decision on the type, design, and location of improvements to this transportation facility. The Project Development Process shall follow the Florida Department of Transportation Department publication titled "Project Development and Environment Guidelines", published 07-01-88 and all subsequent revisions. Throughout this Scope of Services portion of this CONSULTANT Contract, the publication will be referred to as the "PD&E Manual".

The PD&E Manual incorporates all the requirements of the National Environmental Policy Act (NEPA); Federal law and executive orders; applicable Federal regulations included in the Federal Highway Administration Federal-Aid Policy Guide; and applicable State laws and regulations including Chapter 339.155 of the Florida Statutes. The project documentation prepared by the CONSULTANT in accordance with the PD&E Manual shall therefore be in compliance with all applicable State and Federal laws, executive orders, and regulations.

Sections III, IV and V of the Scope of Services will establish which items of work described in the PD&E Manual are specifically included in this contract, and also which of the items of work will be the responsibility of the CONSULTANT or MPO.

B. SPECIFIC PROJECT OBJECTIVE:

The CONSULTANT is in the process of completing a Feasibility Study for the Lake Jackson Ecopassage and through the process completed an extensive evaluation of the corridor, the feasible alternatives with input from the public and the Lake Jackson Advisory Group throughout the study. Through this process a preferred alternative was developed. This study will evaluate the No Action and Preferred Alternative. The study will document the alternatives analysis process utilized in the Feasibility Study.

SECTION III. PUBLIC INVOLVEMENT

A. GENERAL:

Public involvement is an important aspect of the project development process. Extensive public involvement has occurred as part of the Feasibility Study. The Public Involvement Program implemented thus far will be summarized and incorporated into the PD&E study.

The CONSULTANT shall coordinate and perform the appropriate level of public involvement for this project as outlined in Part I, Chapter 8 of the PD&E Manual.

B. PUBLIC MEETINGS:

The CONSULTANT shall provide all support necessary for MPO to hold various public meetings, which may include:

- Interagency kick off meeting.
- Lake Jackson Advisory Group Meetings (meetings to continue bi-monthly)
- Public Information Meetings

For any of the above type meetings, the CONSULTANT shall prepare and/or provide:

- Scripts or agenda for presentation.
- Graphics for presentation.
- Minutes of the meetings.
- Meeting equipment set-up and tear-down.
- Legal and/or display advertisements. The CONSULTANT will pay the cost of publishing.
- Letters for notification of elected and appointed officials.

News releases, for use three to five days prior to meeting.

All postage will be paid by the CONSULTANT for all meeting notifications.

The CONSULTANT will attend the meetings with an appropriate number of his personnel to assist the MPO Project Manager.

C. PUBLIC HEARING:

The CONSULTANT shall provide all support necessary for the MPO to hold the Public Hearing required by the PD&E Manual.

The CONSULTANT shall provide all the support services listed in Paragraph III. B. above, and in addition shall prepare and/or provide:

- Property owner letters. (English Only) The CONSULTANT will provide marked tax maps of the project alternatives and identify the names and addresses of the property owners from county tax rolls. The CONSULTANT will prepare the letters, insert them in envelopes, and address the envelopes. The CONSULTANT will pay for postage.

- Displays of plans and report(s) for display to the public for 35 (approximate) days prior to the hearing.

- Brochures or handouts.

- Legal and/or display advertisements. The CONSULTANT will pay the cost of publishing. The CONSULTANT will draft public advertisements and provide to the District's Environmental Management Office for review before publication.

- Court reporter.

- Security (Off duty law enforcement officer)

The CONSULTANT will procure a verbatim transcript of the Public Hearing. The CONSULTANT will combine the transcript with any letters received by the MPO as part of the public hearing record, and affidavits of publication of legal ads, and will reproduce ten (10) copies of the transcript for the MPO use. The CONSULTANT will also prepare a Public Hearing Summary. The CONSULTANT will prepare a legal or display advertisement for Location and Concept approval notification. The CONSULTANT will pay the cost of publishing.

E. PUBLIC INVOLVEMENT DATA:

This scope assumes that the mailing lists, elected and appointed officials and permit and review agencies or other affected persons developed as part of the Feasibility Study will be appropriate for this study.

The collection of public input occurs throughout the life of the project and requires maintaining of files, updating the mailing list, newspaper clippings, letters, and especially direct contacts before, during and after any of the public meetings.

In addition to collecting public input data, the CONSULTANT shall assist MPO in preparing responses to any public inquires as a result of the public involvement process.

SECTION IV. ENGINEERING DATA COLLECTION, ANALYSIS AND REPORTS

A. GENERAL:

The CONSULTANT shall coordinate and perform the appropriate level of engineering analysis for this project as outlined in Part I, Chapter 9 of the PD&E Manual and the following sections.

B. ENGINEERING DATA COLLECTION:

Immediately following the Advance Notification, the CONSULTANT shall begin preliminary assessments of the study corridor from an engineering standpoint. This task is largely of a data gathering nature. This activity consists of collecting various information and materials relative to the performance of engineering analyzes within the study area. The information should include all data necessary to perform adequate evaluation of the location and design of a transportation facility.

1. EXISTING HIGHWAY CHARACTERISTICS:

The CONSULTANT shall be responsible to procure all the engineering data listed in Part I, Chapter 9, of the PD&E Manual necessary to conduct a PD&E study and prepare a Preliminary Engineering Report.

The CONSULTANT shall develop a Microstation CADD data base that includes all existing highway characteristics. CADD data base information shall be compatible for use on aerial photography used for public hearing presentations, corridor maps, and alternative plans.

2. UTILITIES AND RAILROADS:

The CONSULTANT shall identify the following existing and proposed utilities which may influence location and design considerations:

- Overhead: Transmission lines, microwave towers, telephone lines, etc.
- Underground: Water, gas, sanitary sewer, force mains, power cables, telephone cables, etc.

A preliminary utility contact shall be made by submitting twenty (20) sets of 11 x 17 aerial photo plan sheets to the Project Manager for processing through the District Utility Engineer.

3. SOILS SURVEY AND GEOTECHNICAL WORK:

The CONSULTANT shall be responsible for a complete geotechnical investigation. All work performed by the CONSULTANT shall be in accordance with FDOT standards, the Soils and Foundations Manual (February 1999), related directives, Federal Highway Administration Checklist and Guidelines for review of Geotechnical Reports and Preliminary Plans and Specifications, F.H.W.A. Work Zone Traffic Control Practices Manual and Pavement Coring and Evaluation Procedure(Topic No. 675-030-005-c). The County Engineer will make all determinations regarding FDOT geotechnical standards, policies and procedures. Soils surveys shall not be commenced until Location and Design Concept Acceptance has been received, unless special soils conditions or project requirements require subsoil investigations to assist in route preparation. Prior to beginning the investigation and no later than 30 days after the Notice to Proceed is given, the CONSULTANT shall meet with St Lucie County's County Engineer or representative to review the project scope and FDOT requirements.

1. Field Investigation - Roadway: The soils investigation for roadways shall include, but not be limited to:

    1. One 5 foot auger boring per 100 feet per each roadway.

    2. One 20-foot auger boring per 500 feet of alignment.

    3. Soil samples for laboratory soil testing will be obtained on a minimum frequency of 2 samples per stratum per 3000 feet.

    4. Soil samples for pipe corrosion testing will be obtained on a minimum frequency of 1 sample per stratum per 2500 feet of alignment.

    5. Pavement cores will be obtained as directed at the scope meeting.

    6. Use U.S.G.S. and S.C.S. maps to identify areas of organic soils.

    7. Determine the vertical and horizontal extent of compressible strata (i.e. muck, peat, clay, etc.).

2. Laboratory Testing(Roadway and Structures): All laboratory testing will be performed in accordance with Florida Sampling and Testing Methods (FSTM) or ASTM or by related directives. Laboratory testing will include the following as required by the needs of the project and the type of soils encountered during the investigation:

1. Organic Content (FM 1-T 267)

2. Moisture Content (FM1-T 265)

3. Sieve Analysis (FM 1-T 088)

4. Particle Size Analysis with hydrometer (FM 1-T 088)

5. Specific Gravity (FM 1-T 100)

6. Torvane Sensitivity
7. Atterberg Limits (FM 1-T 89/90)

8. Consolidation (FM 1-T 216) *

9. Triaxial (FM 1-T 234)

10. Corrosion Series
    PH (FM 5-550)
    Resistivity (FM 5-551)
    Chloride Content (FM 5-552)
    Sulfate Content (FM 5-553)

11. Limerock Bearing Ratio (FM 5-515)

12. Aggregate Gradation (FM 1-T 30)

13. Bitumen Extraction (FM 1-T 164)

* With an unload/reload cycle near the preconsolidation pressure.

3. Roadway Report: The roadway report shall include, but not be limited to:

1. Copies of U.S.G.S. and S.C.S. maps with project limits and beginning/ending station shown.

2. A report of tests sheet which summarizes the laboratory test results, the soil stratification(i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard

Indices 500 and 505. All soils should be classified according to the AASHTO Classification System.

3. Estimated seasonal high and/or low groundwater levels.

4. The design LBR value.

5. Permeability parameters for water retention areas.

6. The existing pavement section and asphalt composition for possible reuse or grade control, if warranted.

7. A description of the site and subsoil conditions, design recommendations and a discussion of any special considerations (i.e. removal of unsuitable material, recompression of weak soils, stabilization, estimated settlement time/amount, groundwater control etc.).

8. An appendix which contains stratified soil boring profiles, laboratory test data sheets, design LBR calculation/graphs, and any other pertinent information.

In addition to the roadway report, the CONSULTANT will also plot the stratified boring profiles on the original roadway cross-sections and have the Geotechnical Subconsultant review for completeness. A draft of the roadway report shall be submitted to the County Engineer for review prior to incorporation of the CONSULTANT's recommendations in the project design.

4. Field Investigation - Structures: The geotechnical investigation for structural foundations includes bridges, box culverts, retaining walls, sea walls, high mast lighting, Mastarms, overhead signing and high embankment fills as required. The investigation shall include, but not be limited to:

1. Standard Penetration Test (STP) borings or Cone Penetration Test (CPT) sounding at each bridge bent/pier location or at the maximum interval of 100 feet.

2. SPT borings or CPT soundings 100 feet behind each abutment as a minimum for exploration of high fill areas.

3. SPT borings or CPT soundings at a maximum interval of 150 feet along proposed retaining wall locations.

4. At least 2 SPT borings at proposed box culvert locations.

5. All SPT borings are to be sampled on maximum intervals of 2.5 to 3 foot centers.

6. Continuous SPT sampling is recommended in the top 15 feet unless the material is unacceptable as a foundation material.

7. Undisturbed samples of cohesive soils obtained in accordance with FDOT standards.

8. Rock coring when hard rock is encountered. A Standard Penetration Test (SPT) shall be performed at the bottom of each core run. Core runs shall not be longer than 6 feet.

9. Additional specialized field testing as required by needs of project.

Field sampling and testing is also to include the testing of soils, and/or water for the determination of environmental class for the substructure and superstructure, and measurement of d50 and evaluation of angle of repose for channel bed soils.

SPT borings or CPT soundings including an analysis of foundation alternates shall be performed if justified by the inclusion of signing and/or lighting foundations. This effort shall include field work, lab testing, data reduction, analysis and recommendations.

5. Structures Report: The structures report shall contain the following discussions as appropriate for the assigned project:

1. Summary of structure background data.
2. Analysis of structure foundation alternatives including the following:

- Spread footings

-Prestressed concrete piling - various sizes (SPT97.EXE)

- Steel H-piles (SPILE)

- Steel pipe piles (STP97.EXE)

-Drilled shafts - various sizes (FHWA Drilled Shaft Manual - Reese/O'Neill or UF Research Report D647F as appropriate)

- Other feasible foundation types

3. Recommendations for most practical foundations types will be given along with the basis for selection.

4. Analysis of allowable and/or ultimate foundation capacity and settlement potential for all feasible alternatives. Foundation capacity analyses shall be performed using the methods listed above or a County approved alternate. For pile foundations, provide graphs of design soil resistance versus estimated minimum/maximum pile tip elevations (Adjusted for scour if necessary).

5. Analysis of lateral load capacities.

6. Evaluation of external stability for conventional retaining walls and retained/reinforced earth wall systems (FHWA-RD-89-043, 11/90).

7. Evaluation of Embankment Slope Stability (PCSTABL) and Settlement.

8. Evaluation of Sheet Piling (CWALSHT)

9. Draft of detailed boring/sounding standard sheet, including environmental classification and specialized construction requirements, for inclusion in final construction plans.

10. Summary of soil test results including the following:

(1) Unit Weight

(2) Consolidation parameters

(3) Cohesion

(4) Friction angle for cohesionless soils

(5) Strain at 50% stress level from UU Triaxial compression

(6) Modulus of subgrade reaction

(7) Other pertinent test results

11. Evaluation of lateral earth pressures on underground structures (i.e. box culverts, retaining walls, etc.).

12. Shallow foundation bearing capacity(i.e. allowable bearing pressure, minimum footing width, and minimum embedment depth).

13. Construction information addressing the following items:

(1) Estimated maximum driving resistance anticipated for pile foundations.

(2) Recommendations for footing or shaft installation, or other site preparation soils-related construction considerations with plan sheets as necessary.

(3) Recommend quantity, location and length of test piles with or without instrumentation and a recommendation on the use of load tests.

14. An Appendix which includes SPT and CPT boring/sounding profiles, data from any specialized field tests, laboratory test data sheets, engineering analysis notes/sample calculations and any other pertinent information.

A draft of the structures report shall be submitted to the County Engineer for review prior to incorporation of the CONSULTANT's recommendations in the project design.

1. Final Analysis and Reports: Separate final engineering reports will be submitted for roadway and structures projects. These final reports will incorporate comments of the St. Lucie County Engineer and contain any

additional field or laboratory test results, recommended foundation alternatives along with design parameters and special provisions for the construction plans. These reports will be submitted to the County Engineer for review prior to project completion. After review by the County Engineer, the reports will be submitted in final form and will include the following:

1. Six copies of the Structures report.

2. All original plan sheets.

3. One set of reproducible mylars.

4. Two sets of record prints.

5. Six sets of any special provisions.

6. Two copies of Roadway reports.

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

The final roadway and structure reports, as well as plan sheets, will be signed and sealed by a Professional Engineer registered in the State of Florida.

2. Provisions for Work: The proposal will show the base unit costs and shall state the upset limit fee estimated to complete this activity. Negotiated unit estimates may vary to meet the project requirements. Prices will adhere to the fee schedule and remain under the upset limit. Actual payment for the geotechnical investigation will be based on the work actually performed at the unit prices stipulated in the price proposal.

8. SURVEYS:

1. General:

The CONSULTANT shall perform a English field survey necessary to prepare the Right of Way Control Survey, Engineering Design and/or Construction Plans. This work must comply with the "Minimum Technical Standards for Land Surveyors", Chapter 61G17-6, Florida Administrative Code, pursuant to Florida Statutes, Section 472.027; the Department of Environmental Protection requirements for State Jurisdiction Boundary Surveys, pursuant to Chapter 177.25 - 177.40,

Florida Statutes; and any special instructions from the District Location Surveyor and the District Right of Way Surveyor.

1. All survey work shall be made to conform to the Florida State System of Plane Coordinates, using the North American Datum of 1983 (1990 or most recent adjustment) for horizontal control, and the North American Vertical Datum of 1988 (NAVD 1988) for vertical control.

The surveyor shall comply at all times with applicable Federal, State, and local laws, provisions and policies governing safety and health. This includes Title 29, Code of Federal Regulations, Parts 1910 and 1976, Occupational Safety and Health Regulations, including confined space entry requirements for General Industry and Construction, including any subsequent revisions and updates. To safely conduct the public through the work area full compliance with the current Department Roadway and Traffic Design Standards (600 Series) and Survey Safety Handbook is a minimum requirement.

B. Equipment:

The survey must be performed by using automated survey equipment that is compatible with the FDOT's Electronic Field Book Processing Standards. All field survey data shall be delivered to Kimley-Horn in an electronic format that can be directly input and used (without having to be edited) in FDOT's computer system.

C. Design Survey:

Design survey services shall be performed in a manner that will perpetuate the control and reference system through the construction and final activities. These activities may include, but shall not be limited to, the following:

C. <u>ENGINEERING</u> <u>ANALYSIS:</u>

Utilizing the data collected as part of this scope of work, the CONSULTANT shall perform the engineering analysis necessary to complete the project development process described in Part 1, Chapter 9 of the PD&E Manual. The task of engineering analysis will be ongoing throughout the duration of the project and will be performed with consideration to the results of the environmental impacts analysis.

1. PROJECT NEED:

The CONSULTANT shall establish and/or verify the purpose and need for the project as outlined in Part 2, Chapter 5 of the PD&E Manual.

2. CONCEPTUAL DESIGN ANALYSIS:

After selection of viable corridor(s), the CONSULTANT shall develop and analyze alternate conceptual design alignments as described in Part 1, Chapter 9 of the PD&E Manual. Up to *three* alternate alignments may be developed in each corridor.

3. COST ANALYSIS:

The CONSULTANT shall develop cost estimates for the preferred design alternative, including:

- Construction cost estimates for all alternatives.
- Estimates of right-of-way acquisition costs, including cost estimates for relocations and business damages.
- Estimates of "life cycle" costs for operation and maintenance of alternatives.

4. COMPARATIVE ANALYSIS OF DESIGN ALTERNATES:

This scope assumes that the Preferred Alternative and the No Build alternative are the alternatives being evaluated. The MPO will determine which viable alternative(s) will be evaluated further through the public involvement process and environmental analysis. The possibility exists that the No-Build alternate may be selected at this point.

5. ACCESS MANAGEMENT:

The CONSULTANT shall review FDOT Access Management Policies and Guidelines and determine the application to the project.

6. CONCEPTUAL TRAFFIC CONTROL PLANS

The CONSULTANT shall develop conceptual traffic control plans (TCP) that consider staged construction costs, and temporary impacts. The CONSULTANT shall meet with the MPO to discuss the proposed CP. The conceptual TCP will be discussed in the Preliminary Engineering Report.

7. PREPARE FINAL RECOMMENDATION:

The CONSULTANT shall recommend a preferred alternative based on a review and analysis of all engineering, environmental, and public involvement issues related to the project.

D. ENGINEERING REPORTS:

The CONSULTANT shall document the results of the data collection efforts and the engineering analysis performed as part of this scope of work. The engineering reports and documents shall be prepared as outlined in Part 1, Chapter 9 of the PD&E Manual. The task of documentation includes the preparation of draft and interim reports prepared by the CONSULTANT for review and comment upon by the MPO prior to producing final reports and documents.

1. PROJECT CONCEPT SUMMARY:

The CONSULTANT shall prepare a Project Concept Summary (PCS) according to the PD&E Manual, as discussed in Part I, Chapter 9 regarding the PE Report.

The suggested table of contents noted below:

1. PROJECT STATUS
   - 1.1 Project Location and Logical Termini
   - 1.2 Current Funding Amounts and Years Programmed.
   - 1.3 Work Program Update
     - 1.3.1 Construction Cost Estimate
     - 1.3.2 Right of Way Cost Estimate
     - 1.3.3 Project Schedule
     - 1.3.4 Project Limits and Description

2. PD&E STUDY APPROACH AND SCHEDULE
   - 2.1 Design Criteria
   - 2.2 Constraints
   - 2.3 Issues
   - 2.4 Special Activities
   - 2.5 Needed PD&E Reports
   - 2.6 PD&E Schedule

3. NEED FOR IMPROVEMENT
   - 3.1 Deficiencies
   - 3.2 Safety
   - 3.3 Consistency with Transportation Plan

3.4 Social and Economic Demands

4. ALTERNATIVES TO BE DEVELOPED
   - 4.1 Typical Sections
   - 4.2 Special Roadway Improvements
   - 4.3 Non Roadway Improvements

2. PRELIMINARY ENGINEERING REPORT:

The CONSULTANT shall prepare a Preliminary Engineering (PE) Report. Included in that report will be Conceptual Plan drawings of the preferred alternative discussed in the Feasibility Study, including the recommended alternative. The Concept Plans included in the PE Report shall be folded to standard size sheets. The typical sections will be bound in the PE Report.

Report all of the alternative structural design concepts considered, and the basis for their further consideration or their rejection as being unfeasible or not cost effective.

3. UTILITY AND RAILROAD COORDINATION PACKAGE:

The CONSULTANT shall prepare a utility request package as described in Part 2, Chapter 10 of the PD&E Manual.

E. QUALITY CONTROL:

The CONSULTANT shall provide the necessary quality control for each phase of the project. A quality assurance review must be performed by the CONSULTANT prior to any submittal.

SECTION V .ENVIRONMENTAL ANALYSIS AND REPORTS

A. GENERAL:

The CONSULTANT shall perform the services outlined in this section necessary to assess the environmental consequences or impacts of the No Build and Preferred Alternative that are being considered to satisfy the project's need. This effort consists of supplementing existing data collected during the Feasibility Study, comparing the alternatives, and documenting environmental impacts and recommendations. The CONSULTANT shall coordinate and

perform the appropriate level of environmental analysis for this project as outlined in the PD&E Manual and the following sections.

B. ANALYSIS OF SOCIAL IMPACTS:

1. LAND USE INFORMATION:

The CONSULTANT is responsible for the following:

a. Collect data regarding past and present land usage as well as future land use plans, proposed developments, zoning guidelines, municipal comprehensive plans, and observed growth trends.

b. Collect data required to prepare existing and future land use map(s) indicating as a minimum, residential, commercial, industrial, public, agricultural, and undeveloped areas adjacent to the alignment.

c. Collect data on active development activity in the highway corridor, especially preliminary and filed plats which have the potential for dedication of highway right-of-way. The CONSULTANT must update information on any plat activity every three months.

d. Determine if provisions of Coastal Barrier Resources Act apply and provide documentation as described in PD&E Manual Part 2 Chapter 26.

2. CULTURAL FEATURES:

The CONSULTANT shall collect the data necessary to identify the Community Facilities listed in Part 2, Chapter 9 of the PD&E Manual, and also to identify any Section 4(f) lands (parks, recreation areas, wildlife refuges). This scope does not include a separate Section 4(f) applicability documentation.

3. ANALYSIS OF SOCIAL-ECONOMIC IMPACTS:

The CONSULTANT shall perform an analysis of the social-economic impacts of all proposed alternatives as described in Part 2, Chapter 9, of the PD&E Manual. This scope assumes that the data collected during the Feasibility Study including data regarding past and present land usage as well as future land use plans, proposed developments, zoning guidelines, municipal comprehensive plans, observed growth trends and their economic results will be sufficient for this analysis.

4. ARCHAEOLOGICAL AND HISTORICAL FEATURES:

The CONSULTANT shall collect data necessary to completely analyze the impacts to all cultural resources by the proposed alternatives and prepare a Cultural Resource Assessment Request Package as described in Part 2, Chapter 12, of the PD&E Manual.

6. DETERMINATION OF SECTION 4(F) INVOLVEMENT:

The CONSULTANT shall determine if Section 4(f) applies to any properties affected by any proposed alternatives and if so, evaluate the impacts to the Section 4(f) property as described in Part 2, Chapter 13, of the PD&E Manual. This scope does not include a separate Section 4(f) applicability documentation.

7. VISUAL AND AESTHETIC IMPACT ANALYSIS:

The CONSULTANT shall analyze the visual and aesthetic impacts of the proposed alternatives as described in Part 2, Chapter 15, of the PD&E Manual.

8. FARMLANDS IMPACT ANALYSIS:

The CONSULTANT shall determine if a farmland evaluation is required by the preferred alternative as described in Part 2, Chapter 28, of the PD&E Manual.

C. ANALYSIS OF NATURAL IMPACTS:

1. HYDROLOGIC AND NATURAL FEATURES:

The CONSULTANT shall supplement all existing data collected during the Feasiblity Study to perform an assessment of the impacts of the proposed alternatives in the following areas:

- Wetlands (Part 2, Chapter 18 of the PD&E Manual).
- Aquatic Preserves (Part 2, Chapter 19 of the PD&E Manual).
- Water Quality (Part 2, Chapter 20 of the PD&E Manual).
- Outstanding Florida Waters (Part 2, Chapter 21 of the PD&E Manual).
- Wild & Scenic Rivers (Part 2, Chapter 23 of the PD&E Manual).
- Floodplains and Floodways (Part 2, Chapter 24 of the PD&E Manual).

2. IDENTIFY PERMIT CONDITIONS:

In conjunction with the collection of data related to wetlands the CONSULTANT shall also obtain permit-related information about sites which may require dredge and fill

permits, water quality permits, or stormwater discharge permits. This includes identifying all involved permit agencies.

3. WETLAND IMPACT ANALYSIS:

The CONSULTANT shall analyze the impacts to wetlands for all proposed alternatives as described in Part 2, Chapter 18, of the PD&E Manual.

4. CONCEPTUAL MITIGATION PLANS:

The CONSULTANT shall prepare conceptual mitigation alternatives, if required, as described in Part 2, Chapter 18, of the PD&E Manual. The conceptual mitigation shall be documented as part of the Wetland Evaluation Technical Memorandum.

5. BIOLOGICAL ASSESSMENT DATA:

The CONSULTANT shall collect data necessary to perform a Biological Assessment for the proposed alternatives as described in Part 2, Chapter 27, of the PD&E Manual.

6. WILDLIFE AND HABITAT IMPACT ANALYSIS:

The CONSULTANT shall analyze the impacts to wildlife and habitat by all proposed alternatives as described in Part 2, Chapter 27, of the PD&E Manual.

D. ANALYSIS OF PHYSICAL IMPACTS:

1. AIR QUALITY DATA COLLECTION AND IMPACT ANALYSIS:

Based on discussions with FDOT, District 3 and FHWA, a statement regarding air quality will be included in the Preliminary Engineering Report. Air quality data collection and analysis will not be required.

2. NOISE IMPACT DATA COLLECTION AND IMPACT ANALYSIS:

Based on discussions with FDOT, District 3 and FHWA, a statement regarding noise impacts will be included in the Preliminary Engineering Report. Noise data collection and analysis will not be required.

3. CONTAMINATION IMPACT ANALYSIS:

The CONSULTANT shall perform the necessary analysis to complete the Contamination Screening Evaluation for all proposed alternatives as described in Part 2, Chapter 22, of the PD&E Manual.

4. WATER QUALITY IMPACT ANALYSIS:

The CONSULTANT shall analyze the impacts to water quality by all proposed alternatives as described in Part 2, Chapter 20, of the PD&E Manual.

5. FLOODPLAIN IMPACT ANALYSIS:

The CONSULTANT shall analyze the significance of any encroachments to floodplains and floodways by all proposed alternatives as described in Part 2, Chapter 24, of the PD&E Manual.

6. CONSTRUCTION IMPACT ANALYSIS:

The CONSULTANT shall analyze the construction impacts of the No Build and Preferred Alternative as described in Part 2, Chapter 30, of the PD&E Manual.

7. COASTAL BARRIER IMPACT ANALYSIS:

The CONSULTANT shall determine if the provisions of the Coastal Barrier Resources Act apply to any of the proposed alternatives a s described in Part 2, Chapter 26 of the PD&E Manual.

E. ENVIRONMENTAL REPORTS:

The CONSULTANT shall document the results of the data collection efforts and the environmental analysis performed as part of this scope of work. The Environmental Documents prepared by the CONSULTANT will comply with all the procedures listed in the PD&E Manual, Part 1, and will also follow the format and include all content described in Part 2 of the PD&E Manual. Especially important to the CONSULTANT'S work effort will be the "impact" sections of the Environmental Document which provide the scientific and analytic basis for the comparison of alternatives. The CONSULTANT shall provide all the necessary content for these sections as specifically listed in Part 2, Chapters 9 through 12 and Chapters 14 through 30 of the PD&E Manual. The task of documentation includes the preparation of draft and interim reports prepared by the CONSULTANT for review and comment upon by SLC prior to producing final reports and documents. The DEPARTMENT is responsible for final quality assurance and the administrative processing of all environmental documentation. All environmental documents must be submitted to FHWA and the Agencies by the DEPARTMENT.

1. ADVANCE NOTIFICATION:

The CONSULTANT shall prepare the Advance Notification Package as described in Part 1, Chapter 2, of the PD&E Manual for submittal by MPO through FDOT.

2. Categorical Exclusion

A Categorical Exclusion is the expected level of environmental documentation required for this project. The determination of the Class of Action is the responsibility of the DEPARTMENT in consultation with the FHWA Transportation Engineer. The CONSULTANT will do the work required for preparation of the Class of Action Determined form. The CONSULTANT shall prepare a CE as described in Part 1, Chapter 3, of the PD&E Manual.

3. OTHER ENVIRONMENTAL REPORTS:

The CONSULTANT shall provide the following separate reports as required by the PD&E Manual:

- Wetland Evaluation Technical Memorandum (PD&E Manual, Part 2, Chapter 18).
- Contamination Screening Technical Memorandum (PD&E Manual, Part 2, Chapter 22).
- Biological Assessment Technical Memorandum (PD&E Manual, Part 2, Chapter 27).

This scope assumes that the environmental documentation required to support the CE will be a technical memorandums.

SECTION VI. STUDY REQUIREMENTS AND PROVISIONS FOR WORK

A. PROJECT SCHEDULE:

Within ten (10) days after the Notice to Proceed, the CONSULTANT shall provide a schedule of calendar deadlines accompanied by an anticipated payout curve. Said schedule and anticipated payout curve shall be prepared in a format prescribed by SLC.

B. KEY PERSONNEL:

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

C. PROGRESS REPORTING:

The CONSULTANT shall provide written progress reports which describe the work performed on each task on a weekly basis. Progress reports shall be delivered to MPO in the format utilized during the Feasibility Study. Judgment on whether work of sufficient quality and quantity has been accomplished will be made by the Project Manager by comparing the reported percent complete against actual work accomplished.

D. QUALITY CONTROL

The CONSULTANT shall be responsible for insuring that all work products conform to FDOT standards and criteria. This shall be accomplished through an internal Quality Control (QC) process performed by the CONSULTANT. This QC process shall insure that quality is achieved through checking, reviewing, and surveillance of work activities by objective and qualified individuals who were not directly responsible for performing the initial work.

E. CORRESPONDENCE:
Copies of all written correspondence between the CONSULTANT and any party pertaining specifically to this study shall be provided to the MPO for their records within one (1) week of the receipt of said correspondence.

F. LIAISON OFFICE:

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

G. SUBMITTALS:

The CONSULTANT shall provide copies of the required documents as listed below. These are the anticipated printing requirements for the project. This tabulation will be used for estimating purposes, and the Project Manager will determine the number of copies required prior to each submittal.

Engineering Items:	Copies:
Draft Preliminary Engineering Report	10

Preliminary Engineering Report (Signed and Sealed)	10

Environmental Items:	Copies:
Advance Notification Package	5
Class of Action Determination	5
Contamination Assessment Technical Memorandum	5
Public Hearing Transcript	10
Biological Assessment Technical Memorandum	5
Wetlands Evaluation Technical Memorandum	5
Draft Categorical Exclusion	10
Final Categorical Exclusion	10
Cultural Resource Assessment	5

Upon completion of the study, the CONSULTANT shall deliver to the MPO, in an organized manner, all project files, maps, sketches, worksheets, and other materials used or generated during the study process.

SECTION VIII. SERVICES TO BE PERFORMED BY THE MPO

MPO will provide those services and materials as set forth below:

A. Project data currently on file.

B. Engineering standards and review services.

C. Environmental standards and review services.

D. All available information in the possession of MPO pertaining to utility companies whose facilities may be affected by the proposed construction.

E. All future information which may come to MPO pertaining to subdivision plans so that the CONSULTANT may take advantage of additional areas that can be utilized as part of the existing right-of-way.

G. Process Advance Notification through FDOT.

H. Coordinate with the State Historic Preservation Officer.

I. Process all environmental and engineering documents