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DOCUMENT ROUTING FORM

NAME OF DOCUMENT: HDR Engineering, Inc. Task Order 2

Approved Comm. Mtg. on 1/21, 2015 CAM# 14-1639 ITEM: CM-7

Routing Origin: CAO PUBLIC WORKS DEPARTMENT/ENGINEERING

Also attached: copy of CAR ACM Form 3 ORIGINALS

1) **City Attorney's Office:** Approved as to Form # 3 Originals and Delivered to City Manager on _____

CIP FUNDED YES NO
Capital Investment / Community Improvement Projects

Capital Investment / Community Improvement Projects defined as having a life of at least 10 years and a cost of at least \$50,000 and shall mean improvements to real property (land, buildings, fixtures) that add value and/or extend useful life, including major repairs such as roof replacement, etc. Term "Real Property" include: land, real estate, realty, real.

2) **City Manager:** Please sign as indicated and forward 3 originals to Mayor.

3) **Mayor:** Please sign as indicated and forward 3 originals to Clerk for attestation and City seal.

INSTRUCTIONS TO CLERK'S OFFICE

4) **City Clerk:** Retains one original and forwards 2 original documents to:
(Individual, Dept & Ext)

Original Route form to Meredith CAO

1/28

TASK ORDER No. 02

Dated this 21 day of JANUARY, 2015

CITY PROJECT No. 11861

FORT LAUDERDALE PUBLIC WORKS DEPARTMENT

**FORT LAUDERDALE EXECUTIVE AIRPORT
DESIGN SERVICES FOR PAVEMENT REHABILITATION OF TAXIWAY SIERRA**

PROFESSIONAL SERVICES

This Task Order is pursuant to the Agreement between the City of Fort Lauderdale (CITY) and HDR Engineering, Inc. (CONSULTANT or HDR), a Nebraska corporation authorized to transact business in the State of Florida for General Engineering Aviation Consultant services, dated August 19, 2014, and expiring on August 18, 2016, between CITY and CONSULTANT (collectively, "MASTER AGREEMENT").

PROJECT BACKGROUND

Taxiway Sierra is an approximately 1,400 foot long and 50 foot wide taxiway located north of Runway 26 at Fort Lauderdale Executive Airport (Exhibit 1). Taxiway Sierra has several connectors, taxilane S-1, S-2 and S-3 providing access to the airfield for several Airport tenants.

The Pavement Condition Index (PCI) values for Taxiway Sierra and its connectors ranged from 35 (Very Poor) to 64 (Fair) based on the Florida Department of Transportation (FDOT) Statewide Airfield Pavement Management Program (PMP) completed in 2012. The PCI prediction models categorized most of the pavement on Taxiway Sierra and its connectors below the FDOT's recommended minimum level of 65 for taxiways. The PMP recommends mill and overlay as the option for rehabilitating the pavement.

SPECIFIC SCOPE OF SERVICES

The project requires professional engineering services for design of the pavement rehabilitation along Taxiway Sierra and its corresponding connectors to include rehabilitation of the existing taxiway pavement, grading, paving of the taxiway connectors, and pavement markings. Services shall include the following tasks:

Task 1.0 Pre-design Services

CONSULTANT, in coordination with their sub-consultant, AVCON, shall develop a construction phasing plan and preliminary typical sections for the taxiway rehabilitation, undertake preliminary coordination, define the necessary geotechnical investigation, and will establish communications with the parties and agencies known to CONSULTANT that will be involved or affected by the project. Specific tasks shall consist of the following:

1. Meet with the CITY to fully define project elements, phasing requirements, and project issues.
2. Field review project site and pavement condition.
3. Review existing plans and as-built data.
4. Define and list design criteria applicable to the project.
5. Define geotechnical investigation limits and requirements, and obtain those investigations (see Task 6.0 Special Services).
6. Develop preliminary construction phasing plans.
7. Meet with City and stakeholders to review phasing options.
8. Identify preliminary construction access, MOT, and staging options.

Deliverables:

CONSULTANT shall provide copies of the following for CITY review and written approval:

- Design criteria listing
- Preliminary horizontal alignment
- Phasing alternatives
- Preliminary access, MOT and staging plan

Task 2.0 Conceptual Design (30% Plans)

CONSULTANT, in coordination with their sub-consultant, AVCON, shall develop the preliminary plans necessary to achieve approximately 30% design completion for the project. Drawings will be in Civil 3D based on CITY's current CAD standards. Technical specifications, the engineering report, and other written documents will be in Word. Designs will be in accordance with Federal Aviation Administration (FAA) Regulations and Advisory Circulars, and will conform to FDOT guidelines. The engineering report will conform to the FAA format. Specific tasks shall consist of the following:

1. Review field survey data and geotechnical reports.
2. Prepare a preliminary pavement design and typical sections for the pavement.
3. Prepare a taxiway grading concept and conceptual typical sections for grading.
4. Refine construction phasing plan and define construction project limits by phase.
5. Develop a construction safety plan concept.
6. Prepare draft outline technical specifications for the project.
7. Prepare draft outline of the Engineering Report.
8. Prepare an order of magnitude opinion of probable construction cost based on the 30% plans.
9. Prepare a conceptual construction schedule.
10. Submit conceptual plans to the CITY for review.
11. Conduct concept design review and coordination meetings with the CITY.

Deliverables:

CONSULTANT shall provide the following for CITY review and written approval:

- Cad files of 30% plans to verify conformance with current CITY CAD standards along with plot files (24"x36") in pdf format.
- Outline of Technical Specifications.
- Outline of Engineering Report.
- Conceptual construction schedule.
- Order of Magnitude Opinion of Probable Construction Cost.

Task 3.0 – Preliminary Design (60% Plans)

CONSULTANT, in coordination with their sub-consultant, AVCON, shall continue designs and contract documents to 60% completion, that shall consist of construction drawings, technical specifications, and engineering report. Tasks shall consist of the following:

1. Prepare Taxiway Sierra and connecting taxiway profiles.
2. Finalize pavement design/geometry and typical pavement sections
3. Finalize grading concept and typical grading sections and details.
4. Develop proposed cross sections for the taxiway, including slopes for tie-in to existing grade.
5. Prepare preliminary pavement marking plans.
6. Perform preliminary quantity take off.
7. Prepare preliminary opinion of probable construction cost.
8. Prepare preliminary construction safety plan and schedule with details and notes.
9. Prepare draft-engineering report.
10. Prepare draft technical specifications.
11. Submit plans, bid documents, engineering report, and opinion of probable construction cost to the CITY for review and comment.
12. Conduct preliminary design meeting(s) with the CITY.

Deliverables:

Deliverables for this task will consist of the following:

- 60% completion
 - Cad files of 60% plans to verify conformance with current CITY CAD standards along with plot files (24"x36") in pdf format.
 - Engineering Report.
 - Opinion of Probable Construction Cost and Schedule.

Task 4.0 – Contract Document Preparation (100% Plans)

CONSULTANT, in coordination with their sub-consultant, AVCON, shall complete designs and contract documents that shall consist of construction drawings, technical specifications, and engineering report. Tasks shall consist of the following:

1. Finalize design drawings to 100% completion.
2. Finalize technical specifications.
3. Finalize engineering report.
4. Develop bid forms with final quantities.
5. Provide plans, construction documents, and certifications for the CITY to submit to FDOT for approval and authorization to advertise for bids.
6. Conduct one (1) review meeting with CITY.

Deliverables:

Deliverables for this task will consist of the following:

- Final (100%) completion
 - Plan set – One copy signed and sealed
 - Bid Documents (electronic)
 - Engineering Report – One copy signed and sealed
 - Opinion of Probable Construction Cost and Schedule
 - CD containing CAD files of 100% plans and plot files (24"x36") in PDF in conformance with current CITY CAD standards.

The anticipated sheets to be included in the construction drawings are as follows:

<u>Construction Set</u>	<u>Description</u>
1	Cover
2	General Notes and Drawing Index
3	Quantity Summary
4	Engineering Site Plan
5	Existing Utility/Conditions Plan x2
6	Survey/Horizontal Control
7	Boring Locations/Logs
8	Construction Access/Staging/Safety Notes
9	Storm Water Pollution Prevention Plan
10	Construction Phasing Plan x 2
11	Typical Sections
12	Taxiway Profiles x2
13	Taxiway Geometry x2
14	Proposed Grading Plan x2
15	Cross Sections x 2
16	Paving Plan
17	Pavement Details x 2
18	Proposed Pavement Marking x2
19	Pavement Marking Details

Task 5.0 –Bidding Phase Services

CONSULTANT shall assist the CITY in advertising and bidding the project. Upon receipt of authorization to advertise, CONSULTANT will do the following tasks:

1. Attend and conduct (1) pre-bid meeting with potential bidders and affected agencies and provide meeting minutes.
2. Respond in writing to bidders questions.

Task 6.0 – Special Services

GEOTECHNICAL INVESTIGATION & MATERIALS TESTING

Geotechnical investigation will be performed to confirm the thickness of asphalt to be removed from Taxiway Sierra as well as to establish the soil parameters for design of the rehabilitated taxiway pavement and taxiway connectors. Tierra South Florida, Inc., as a subconsultant, will provide the following services:

- Maximum of six (6) Standard Penetration Borings (SPT) thru the sub-base, to a depth of about 10 feet below grades. At each location, 6 asphalt pavement cores will be drilled and the results presented in table format denoting coring number, asphalt core thickness per layer, and photographs of each core documented;
- Perform 2 laboratory CBR tests; and
- Coring Logs in AutoCAD format denoting coring number.

PROJECT ASSUMPTIONS

1. Plans will be prepared on CAD overlays of the survey and will be in conformance with the CITY's current CAD standards. The CONSULTANT shall work with the CITY to provide modifications to CAD standards to be used.
2. Technical specifications, the engineering report, and other written documents will be in Word. The engineering report will conform to the FAA format. Designs will be in accordance with FAA Regulations and Advisory Circulars, and will conform to FDOT guidelines.
3. The CITY will provide existing plan data, surveys and as-built drawings of utilities, fiber optic and previous construction plans as required for the project upon which the CONSULTANT may rely on.

ADDITIONAL SERVICES

If authorized in writing by the CITY as an amendment to this Task Order, the CONSULTANT shall furnish, or obtain from others, Additional Services of the types listed in Article 8 of the Master Agreement. The CITY, as indicated in the Master Agreement, will pay for these services.

PERFORMANCE SCHEDULE

The CONSULTANT shall perform the services identified in Tasks 1 through 6 inclusive within 100 working days of written Notice to Proceed.

PROJECT FUNDING

Performance of this project is at the City's discretion and may be contingent upon receipt by the City of funding from Federal Aviation Administration (FAA) and/or the Florida Department of Transportation (FDOT) under the applicable federal grant and/or Joint Participation Agreement (JPA), respectively, and work shall not begin until funding sources for this project are in place.

METHOD OF COMPENSATION

The services performed will be accomplished using the Not-to-Exceed method of compensation. Reimbursable expenses associated with these services are not included in the fees and will be itemized separately, subject to an established Not-to-Exceed limit. The total hourly rates payable by the CITY for each of the CONSULTANT's employee categories, reimbursable expenses and sub-consultant fees are shown on Exhibit "A" attached hereto and made a part hereof.

TERMS OF COMPENSATION

Services will be provided for the following Not-to-Exceed amounts:

<u>Description</u>	<u>Labor</u>	<u>Sub-consultants</u>	<u>Totals</u>
Task 1	\$ 4,173.50	\$ 4,228.00	\$ 8,401.50
Task 2	\$ 7,718.00	\$ 15,105.00	\$22,823.00
Task 3	\$ 7,718.00	\$ 27,125.00	\$34,843.00
Task 4	\$ 5,720.50	\$ 19,148.00	\$24,868.50
Task 5	\$ 1,198.50	\$ 1,294.00	\$ 2,492.50
Task 6	\$ 0.00	\$ 5,155.00	\$ 5,155.00
Total Labor (Not to Exceed)			\$ 98,583.50

CITY CONTACTS

Requests for payments should be directed to City of Fort Lauderdale Accounts Payable via e-mail to AcctsPayable@FortLauderdale.gov. All other correspondence and submittals should be directed to the attention of Fernando Blanco, Airport Engineer, at the address shown below. **Please be sure that all correspondence refers to the City project number and title as stated above.**

City of Fort Lauderdale
City Hall, 4th Floor Engineering
100 North Andrews Avenue
Fort Lauderdale, FL 33301

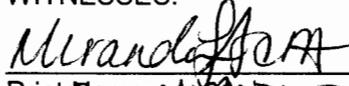
CONSULTANT CONTACTS

HDR Engineering, Inc.
3250 West Commercial Blvd.
Suite 100
Fort Lauderdale, FL 33309
John Neff, P.E., Senior Project Manager
Email: John.Neff@hdrinc.com
Phone: 954-647-4542
Fax: 954-233-4953

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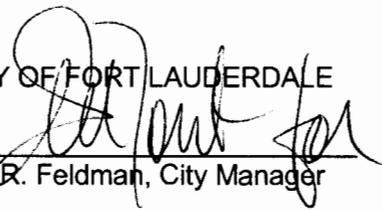
IN WITNESS WHEREOF, the parties execute this Task Order as follows:

WITNESSES:


Print Name: ~~MIRANDA SCOTT~~

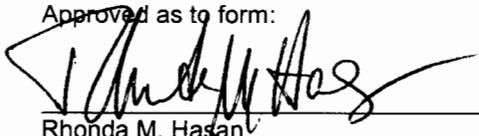

Print Name: ~~ANA PENELO~~

CITY OF FORT LAUDERDALE

By: 
Lee R. Feldman, City Manager


JONDA K. JOSEPH, City Clerk

Approved as to form:


Rhonda M. Hasan
Assistant City Attorney

WITNESSESS:

Podchura Suppramai
Print Name:

Jean F. L. [Signature]
Print Name

CONSULTANT:

HDR ENGINEERING, INC.,
A Nebraska Corporation

By: [Signature]
Charles T. Sinclair
Sr. Vice President

ATTEST:

Bonnie J. Kudron
Bonnie J. Kudron

Assistant Secretary
(CORPORATE SEAL)

STATE OF Florida :
COUNTY OF Broward :

The foregoing instrument was acknowledged before me this 9 day of Dec, 2014, by Charles T. Sinclair as Sr. V. President for HDR Engineering, Inc., a Nebraska corporation authorized to transact business in the State of Florida.

(SEAL)

Tatiana Guingue V.
Notary Public, State of Florida
(Signature of Notary Public)



Tatiana Guingue V.
Name of Notary Typed, Printed or Stamped

Personally Known X OR Produced Identification _____
Type of Identification Produced _____

EXHIBIT 1



PROJECT LOCATION

EXHIBIT NO. A TO FORM OF CONTRACT	Sr. Project Manager	Senior Engineer	Eng. Intern	Sr. Admin. Asst.	Total Hours	Labor Cost
HDR Engineering, Inc.	\$212.50	\$178.50	\$72.25	\$63.75	0	
TASK DESCRIPTION						
Task 1- Pre-design Services						
1 Attend and Participate in an Issues and Project Definition Meeting	1				1	\$ 212.50
2 Field Review Project Site & Pavement Condition	1	1			2	\$ 391.00
3 Review existing plans and data		2	4		6	\$ 646.00
4 Define and List Design Criteria for Project	0.5	2			2.5	\$ 463.25
5 Define Geotech Requirements and Obtain those investigations	0.5				0.5	\$ 106.25
6 Develop preliminary construction phasing plans		6	8	1	15	\$ 1,712.75
7 Meetings with City Staff to Review Phasing Options	1	1	1		3	\$ 463.25
8 Identify Preliminary Construction Access, MOT and Staging Options		1			1	\$ 178.50
Subtotal	4	13	13	1	31	\$ 4,173.50
Task 2- Conceptual Design (30% Submittal)						
1 Review Field Survey & Geotechnical Report	1				1	\$ 212.50
2 Prepare Pavement Design & Typical Sections	0.5				0.5	\$ 106.25
3 Develop Preliminary Grading Concept	1	8	8		17	\$ 2,218.50
4 Refine project phasing plan and define const. project limits by phase	1	8	8		17	\$ 2,218.50
5 Develop Construction Safety Plan - Conceptual	1	3	4		8	\$ 1,037.00
6 Prepare Outline Technical Specifications	0.5	1			1.5	\$ 284.75
7 Prepare Outline of Engineer's Report	0.5	1			1.5	\$ 284.75
8 Prepare Order of Magnitude Opinion of Probable Cost	0.5	1	2		3.5	\$ 429.25
9 Prepare Conceptual Construction Schedule		1			1	\$ 178.50
10 Submit Plans to City for Review	1		2		3	\$ 357.00
11 Design Review Meeting with City	1	1			2	\$ 391.00
Subtotal	8	24	24	0	56	\$ 7,718.00
Task 3 - Preliminary Design (60% Submittal)						
1 Prepare Taxway Sierra and Connecting Taxway Profiles	0.5	4	4		8.5	\$ 1,109.25
2 Finalize Pavement Design/Geometry & Sections					0	\$ -
3 Finalize Grading Design & Sections	2	4	10		16	\$ 1,861.50
4 Develop Proposed Cross Sections for Pavements					0	\$ -
5 Prepare Preliminary Pavement Marking Plans	1	2	4		7	\$ 858.50
6 Perform Quantity Take Off - Preliminary	0.5	1	4		5.5	\$ 573.75
7 Prepare Preliminary Opinion of Probable Construction Cost	0.5	1	2		3.5	\$ 429.25
8 Prepare Preliminary Const. Safety Plan with Details and Notes	1	4			5	\$ 926.50
9 Prepare Draft Engineering Report	1	4			5	\$ 926.50
10 Prepare Draft Technical Specifications		1			1	\$ 178.50
11 Submit Plans and Documents to City for Review	0.5	2			2.5	\$ 463.25
12 Design Meeting with City	1	1			2	\$ 391.00
Subtotal	8	24	24	0	56	\$ 7,718.00
Task 4 - Contract Document Preparation (One Month)						
1 Finalize Design Drawings (100%)	1	4	4		9	\$ 1,215.50
2 Finalize Technical Specifications	2	8	8		18	\$ 2,431.00
3 Finalize Engineers Report	0.5	2	2		4.5	\$ 607.75
4 Develop Bid Forms and Final Quantities		2	2		4	\$ 501.50
5 Provide plans for the CITY to submit to FDOT.		2	2		4	\$ 501.50
6 Conduct Review Meeting with City	1	1	1		3	\$ 463.25
Subtotal	5	19	19	0	43	\$ 5,720.50
Task 5 - Bidding Assistance						
1 Attend Pre-Bid Conference	1				1	\$ 212.50
2 Responses to Bidder's Questions	1	2	4	2	9	\$ 986.00
Subtotal	2	2	4	2	10	\$ 1,198.50
Raw Labor Subtotal	27	82	84	3	196	\$ 26,528.50
DIRECT EXPENSES						
A Postage, Express, Courier						\$0
B. Plots						\$0
C. Prints-Plan Sheets						\$0
D. Printing-Reports and Specifications						\$0
TOTAL DIRECT EXPENSES						\$0.00
SUBCONSULTANT EXPENSES						
A. Specialty Subconsultants-Design						
Terra, Inc						\$5,155.00
AVCON						\$66,900.00
TOTAL SUBCONSULTANT EXPENSES						\$72,055.00
TOTAL EXPENSES						\$72,055.00
TOTAL DESIGN FEE						\$98,583.50

EXHIBIT NO. A TO FORM OF CONTRACT	Project Manager	Senior Engineer	Engineer	Clerical	Total Hours	Labor Cost
AVCON	\$150.00	\$125.00	\$99.00	\$50.00	0	
TASK DESCRIPTION						
Task 1 - Pre-design Services						
1 Attend and Participate in an Issues and Project Definition Meeting	1		1		2	\$ 249.00
2 Field Review Project Site & Pavement Condition		4	4		8	\$ 896.00
3 Review existing plans and data		4	13		17	\$ 1,787.00
4 Define and List Design Criteria for Project	2	2	4	2	10	\$ 1,046.00
5 Define Geotech Requirements and Obtain those investigations		2			2	\$ 250.00
6 Develop preliminary construction phasing plans					0	\$ -
7 Meetings with City Staff to Review Phasing Options					0	\$ -
8 Identify Preliminary Construction Access, MOT and Staging Options					0	\$ -
Subtotal	3	12	22	2	39	\$ 4,228.00
Task 2 - Conceptual Design (30% Submittal)						
1 Review Field Survey & Geotechnical Report	2	4	8		14	\$ 1,592.00
2 Prepare Pavement Design & Typical Sections	10	42	48		100	\$ 11,502.00
3 Develop Preliminary Grading Concept					0	\$ -
4 Refine project phasing plan and define construction project limits by phase					0	\$ -
5 Develop Construction Safety Plan - Conceptual					0	\$ -
6 Prepare Outline Technical Specifications		4	4		8	\$ 896.00
7 Prepare Outline of Engineer's Report			4		4	\$ 396.00
8 Prepare Order of Magnitude Opinion of Probable Cost			6		6	\$ 594.00
9 Prepare Conceptual Construction Schedule					0	\$ -
10 Submit Plans to City for Review					0	\$ -
11 Design Review Meeting with City		1			1	\$ 125.00
Subtotal	12	51	70	0	133	\$ 15,105.00
Task 3 - Preliminary Design (60% Submittal)						
1 Prepare Taxiway Sierra and Connecting Taxiway Profiles					0	\$ -
2 Finalize Pavement Design/Geometry & Sections	16	36	80		132	\$ 14,820.00
3 Finalize Grading Design & Sections					0	\$ -
4 Develop Proposed Cross Sections for Pavements	4	10	16		30	\$ 3,434.00
5 Prepare Preliminary Pavement Marking Plans					0	\$ -
6 Perform Quantity Take Off - Preliminary		4	10	4	18	\$ 1,690.00
7 Prepare Preliminary Opinion of Probable Construction Cost		4	4		8	\$ 896.00
8 Prepare Preliminary Construction Safety Plan with Details and Notes					0	\$ -
9 Prepare Draft Engineering Report		4	16		20	\$ 2,084.00
10 Prepare Draft Technical Specifications	2	8	24	8	42	\$ 4,076.00
11 Submit Plans and Documents to City for Review					0	\$ -
12 Design Meeting with City		1			1	\$ 125.00
Subtotal	22	67	150	12	251	\$ 27,125.00
Task 4 - Contract Document Preparation						
1 Finalize Design Drawings (100%)	8	20	48		97	\$ 12,757.00
2 Finalize Technical Specifications	2	4	24	24	54	\$ 4,376.00
3 Finalize Engineers Report		4	10	8	22	\$ 1,890.00
4 Develop Bid Forms and Final Quantities					0	\$ -
5 Provide plans for the CITY to submit to FDOT.					0	\$ -
6 Conduct Review Meeting with City		1			1	\$ 125.00
Subtotal	10	29	82	32	174	\$ 19,148.00
Task 5 - Bidding Assistance						
1 Attend Pre-Bid Conference					0	\$ -
2 Responses to Bidder's Questions		4	6	4	14	\$ 1,294.00
Subtotal	0	4	6	4	14	\$ 1,294.00
Raw Labor Subtotal	47	163	330	50	611	\$ 66,900.00



November 7, 2014
August 11, 2014

HDR
3250 W Commercial Boulevard, Suite S-100
Fort Lauderdale, Florida 33309

Attention: Mr. Timothy Fish, P.E.
Florida Aviation Market Sector Leader

Re: **Proposal for Geotechnical Services**
Proposed Taxiway Sierra Rehab
Fort Lauderdale Executive Airport
Fort Lauderdale, Florida
TSF Proposal No.: 1408-371 Revised

Dear Tim:

As requested, **Tierra South Florida, Inc. (TSF)** is pleased to submit this proposal for the above-referenced project. The proposal is based on e-mail from Mr. Timothy Fish, P.E. of HDR dated August 8, 2014 and Task Order No. 1, indicating proposed scope of services.

We understand that pavement cores and Standard Penetration borings will be performed at FXE Taxiway Sierra for pavement rehabilitation. This proposal includes an outline of our proposed scope of work, an estimate of the total fees, and our anticipated schedule for completion of the work.

PROPOSED SCOPE OF WORK

All work performed by TSF will be in general accordance with Advisory Circular AC 150/5335-5B. As outlined in the above mentioned email, our scope of work will consist of:

- Maximum of six (6) Standard Penetration Borings (SPT) thru the sub-base, to a depth of about 10 feet below grades. At each location, 6 asphalt pavement cores will be drilled and the results presented in table format denoting coring number, asphalt core thickness per layer, and photographs of each core documented;
- Perform 2 laboratory CBR tests;
- Coring Logs in AutoCAD format denoting coring number;

- Attending One (1) Airport Design Kick-Off Meeting; and
- Preparation of geotechnical data report summarizing findings.

Borings and test locations will be located in the field by HDR prior to starting field work. Closure of the runway will be done by Airport's staff. TSF to provide all lights for the night work and cold patch the boreholes.

Prior to drilling at the project site, TSF will notify the local utility companies and request that underground utilities be marked. Our experience, however, is that the utility companies will not mark privately owned utilities. We believe that significant coordination will likely be required to perform the field operations. Our field work will be performed by TSF personnel with a security badge. It is our understanding that all work will be coordinated with the Airport's Operations staff.

A geotechnical engineer will evaluate the results of all drilling and testing. A report will be issued that contains the exploration data, laboratory data, depth to ground water and estimated depth and the results of the geotechnical findings.

ESTIMATED FEES

It is proposed that the fee for the performance of the services outlined above is determined on a unit price basis in accordance with the attached Fee Schedule and that the work be performed pursuant to Tierra's General Conditions enclosed herewith and incorporated into this proposal. On the basis of the proposed quantities, it is estimated that the total fee will be approximately **\$5,155.00**.

Our estimate covers the work needed to present our findings and recommendations in a formal report. Not included are reviews of foundation drawings, preparation of construction specifications, special conferences and any other work requested after submittal of our report.

Boring, sampling, and testing requirements are a function of the subsurface conditions encountered. Therefore, the estimated fee previously indicated is approximate, and compensation for the exploration will be based on the actual work and tests performed. We will endeavor to keep the exploration cost at a minimum consistent with good engineering practice.

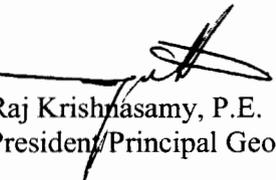
SCHEDULE AND AUTHORIZATION

TSF will proceed with the work after receipt of a signed copy of this proposal. With our present schedule, we can commence work within several days of project approval (weather permitting) and fieldwork will take about 1 night to complete. The work will be performed between the hours of 2:00am to 6:00am during night time hours of operation. The written report can be submitted within two weeks after completion of the field exploration, depending on the extent of the laboratory-testing program. Verbal preliminary recommendations can be made to appropriate parties prior to submittal of the written report.

We at TSF appreciate the opportunity to submit this proposal and look forward to working with you on this project. If you should have any questions concerning our proposal, please contact our office.

Respectfully submitted,

TIERRA SOUTH FLORIDA, INC.


Raj Krishnasamy, P.E.
President/Principal Geotechnical Engineer

Attachments: 1. Fee Estimate

AUTHORIZED BY:	INVOICE TO:
Name:	Firm:
Title:	Name:
Date:	Address:

**TIERRA SOUTH FLORIDA, INC.
UNIT RATE FEE SCHEDULE**

NIGHT RATES

	Unit	# of Units	Unit Price	Total
I. FIELD INVESTIGATION				
Mobilization of Men and Equipment				
Truck-Mounted Equipment	LS	0	\$ 350.00	\$ 0.00
Specialized ATV/Mudbug	LS	0	\$ 720.00	\$ 0.00
Support Vehicle	DAY	0	\$ 150.00	\$ 0.00
Standard Penetration Test Borings (By Truck-Mounted Equipment)				
Land: 0 - 50 ft depth	L.F.	60	\$ 12.00	\$ 720.00
50 - 100 ft depth	L.F.	0	\$ 14.00	\$ 0.00
Grout-Seal Boreholes (By Truck-Mounted Equipment)				
Land: 0 - 50 ft depth	L.F.	60	\$ 4.50	\$ 270.00
50 - 100 ft depth	L.F.	0	\$ 5.50	\$ 0.00
Double Ring Infiltration Test	Test	0	\$ 500.00	\$ 0.00
Field Permeability Tests	Test	0	\$ 300.00	\$ 0.00
Pavement Cores, Asphalt	Each	6	\$ 150.00	\$ 900.00
Pavement Cores, Concrete	Each	0	\$ 175.00	\$ 0.00
Field CBR	Each	0	\$ 600.00	\$ 0.00
II. LABORATORY TESTING				
Natural Moisture Content Tests	Test	0	\$ 10.00	\$ 0.00
Grain-Size Analysis - Full Gradation	Test	0	\$ 65.00	\$ 0.00
Grain-Size Analysis - Single Sieve	Test	0	\$ 35.00	\$ 0.00
Organic Content Tests	Test	0	\$ 35.00	\$ 0.00
Atterberg Limit Tests	Test	0	\$ 75.00	\$ 0.00
LBR	Test	0	\$ 275.00	\$ 0.00
Laboratory CBR + Sampling	Test	2	\$ 300.00	\$ 600.00
Grain-Size with Hydrometer	Test	0	\$ 115.00	\$ 0.00
Proctor Test a) Modified	Test	0	\$ 108.00	\$ 0.00
b) Standard	Test	0	\$ 102.00	\$ 0.00
Bitumen Extraction	Test	0	\$ 150.00	\$ 0.00
Bitumen Gradation	Test	0	\$ 150.00	\$ 0.00
III. ENGINEERING/COORDINATION/MANAGEMENT				
Project Manager	Hour	1	\$ 165.00	\$ 165.00
Principal Engineer	Hour	0	\$ 150.00	\$ 0.00
Senior Engineer	Hour	2	\$ 125.00	\$ 250.00
Project Engineer	Hour	12	\$ 100.00	\$ 1,200.00
Senior Technician	Hour	10	\$ 75.00	\$ 750.00
CADD	Hour	4	\$ 75.00	\$ 300.00
Badging/training	Hour	0	\$ 65.00	\$ 0.00
			\$	5,155.00

The unit rates provided are those for both public and private sectors.


Raj Krishnasamy, P.E.
 Principal Geotechnical Engineer