

## **TASK ORDER No. 21**

**Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2012**

### **CITY PROJECT No. 11750**

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

Describing a specific agreement between the City of Fort Lauderdale (CITY) and Kimley-Horn and Associates, Inc. (CONSULTANT or KHA) in accordance with the terms of the agreement for professional services dated May 5, 2009 between CITY and CONSULTANT ("MASTER AGREEMENT") and amended and extended to May 14, 2013 by City Commission approval at its meeting on April 17, 2012.

#### **PROJECT BACKGROUND**

Taxiway Echo is a 6,000 feet long and 50 foot wide taxiway located south of and parallel to, Runway 8-26 at Fort Lauderdale Executive Airport. Taxiway Echo lies between Taxiway Alpha and the ramp areas on the south side of the airport and provides access to those ramps via several connectors. The connectors are not wide enough to meet the standards for D-III aircraft and will require widening and relocation of edge lights and signs.

The PCI values for Taxiway Echo east of Runway 13-31 ranged from 44-poor to 100-good. The PCI values for Taxiway Echo west of Runway 13-31 ranged from 21-serious to 100-good. The 100-good sections were found in the Runway 13-31 intersection. The taxiway connectors had PCI values that ranged from 19-serious to 81-satisfactory. The PCI prediction models categorized the pavement on Taxiway Echo and its connectors below the FAA recommended minimum levels of 70 for parallel taxiways. The PMP recommends major rehabilitation including base reconstruction for pavements with PCI's between 10 and 30. The PCI for the main Taxiway Echo pavement on the east and west side will need further evaluation to determine its existing condition.

#### **SPECIFIC SCOPE OF SERVICES**

The project requires professional engineering services for design of the pavement rehabilitation for Taxiway Echo and corresponding connectors to include rehabilitation of the existing taxiway; grading, and paving of the taxiway connector widening; pavement markings; lighting and signage; turfing; and associated work. The project will be designed in two separate phases east and west of Runway 13-31 in order to accommodate federal and state grant-funding programming. Services shall include the following tasks:

##### **Task 1.0 Pre-design Services**

During this task, CONSULTANT shall develop a construction phasing plan and preliminary typical sections for the taxiway rehabilitation, undertake preliminary coordination, define the necessary pre-design field survey and 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. Coordinate and administer early sub-consultant services.
3. Field review project site and pavement condition.

4. Review existing plans and as built data.
5. Prepare a written description for the project and define and list design criteria applicable to the project.
6. Define topographic survey limits, and obtain those surveys (see Task 8.0 Special Services).
7. Recover and restore base mapping of underground facilities from previous projects.
8. Define geotechnical investigation limits and requirements, and obtain those investigations (see Task 8.0 Special Services).
9. Based on the airport aircraft fleet mix for design (D-III design group), KHA will develop preliminary horizontal alignment for pavement modifications to the existing taxiway connectors.
11. Develop preliminary phasing plans.
12. Meet with City and stakeholders to review phasing options.
13. Identify preliminary construction access, MOT, and staging options.
14. Based on selected phasing options, prepare an order of magnitude opinion of probable construction cost for the project.
15. Establish the schedule for and conduct weekly in-house design meetings.
16. Establish the Quality Control program for the services being provided and QC the services of this phase.
17. Provide administration for the services including monthly reports, subconsultant coordination, record keeping, and invoicing.

**Deliverables:**

CONSULTANT shall provide as many as two copies each of the following for CITY review and written approval:

- Design criteria listing
- Preliminary horizontal alignment
- Phasing alternatives
- Preliminary access, MOT and staging plan
- Written project description
- Order of magnitude opinion of probable construction cost

## **Task 2.0 Conceptual Design (30% Plans)**

This task consists of the fieldwork, functional layouts, and preliminary plan development 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 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. Prepare base mapping for the project.
2. Review field survey data, geotechnical reports, as-built drawings, and other available data.
3. Develop taxiway pavement geometry to 30% design level.
4. Prepare a preliminary pavement design and typical sections for the pavement.
5. Prepare a taxiway grading concept and conceptual typical sections for grading.
6. Refine project phasing plan and define construction project limits by phase
7. Develop a construction safety plan concept.
8. Conduct weekly in-house design meetings.
9. Prepare construction drawings to approximately 30% completion
10. Prepare draft outline technical specifications for the project.
11. Prepare draft outline of the Engineering Report.
12. Prepare an order of magnitude opinion of probable construction cost based on the 30%

13. Prepare a conceptual construction schedule.
14. Provide an independent Quality Assurance review for this phase.
15. Submit conceptual plans to the CITY for review.
16. Provide administration for the services including monthly reports, subconsultant coordination, record keeping, and invoicing.
17. Conduct concept design review and coordination meetings with the CITY.

**Deliverables:**

CONSULTANT shall provide as many as two copies each of the following for CITY review and written approval:

- Construction drawings at approximately 30% completion (24" x 36")
- CD containing cad files of 30% plans to verify conformance with current CITY CAD standards
- 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)**

During this task, CONSULTANT will continue designs and contract documents, to 60% completion, that consist of construction drawings, technical specifications, and engineering report. Tasks shall consist of the following:

1. Prepare Taxiway Echo and connecting taxiway profiles.
2. Finalize pavement design 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. Finalize pavement geometry.
6. Finalize limits of pavement demolition.
7. Develop phasing plans to 60%.
8. Prepare preliminary pavement marking plans.
9. Perform preliminary quantity take off.
10. Prepare preliminary opinion of probable construction cost.
11. Provide Quality Control review of the services being provided.
12. Prepare preliminary construction safety plan with details and notes.
13. Conduct weekly in-house design meetings.
14. Develop construction plans to 60% completion.
15. Prepare draft-engineering report.
16. Prepare draft technical specifications.
17. Submit plans, bid documents, engineering report, and opinion of probable construction cost to the CITY for review and comment.
18. Conduct preliminary design meeting(s) with the CITY.
19. Provide administration for the services including monthly reports, subconsultant coordination, record keeping, and invoicing.

**Deliverables:**

Deliverables for this task will consist of the following:

- 60% completion
  - Plan sets (24" x 36") – two sets.

- CD containing cad files of 60% plans to verify conformance with current CITY CAD standards.
- Engineering Report – one copy.
- Opinion of Probable Construction Cost – one copy.

#### **Task 4.0 –Design Development (90% Plans)**

During this task, CONSULTANT will complete designs and contract documents, to 90% completion, that consist of construction drawings, technical specifications, and engineering report. Tasks will consist of the following:

1. Finalize pavement marking plan layout.
2. Develop construction plans to 90% completion.
3. Finalize phasing plans and notes.
4. Finalize construction safety plan with details and notes.
5. Prepare a final quantity take off and opinion of probable construction cost.
6. Provide Quality Control review of the services being provided.
7. Conduct a plan-in-hand field review of the construction plans.
8. Finalize the technical specifications. Incorporate review comments previously received.
9. Finalize the engineering report. Incorporate review comments previously received
10. Provide plans, construction documents, and certifications to the CITY.
11. Provide administration for the services including monthly reports, record keeping, and invoicing.
12. Conduct design development meeting(s) with the CITY.

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

<u>Construction Set</u>	<u>Description</u>
1	Cover Sheet / Location Plan / Vicinity Map
2	Index of Drawings / General Notes
3	Summary of Quantities
4	Access and Safety Plan, 1"=400'
5	Safety Plan Notes and Details
7-10	Project Phasing and Safety Plans, 1"=200'
11	Phasing Summary
12-15	Existing Conditions Plan, 1"=40', single panel
16-17	Typical Sections
18-20	Horizontal Geometry Plan, 1"=40'
21-22	Demolition Plan, 1"=40'
23-26	Grading and Drainage Plan, 1"=40'
27-28	Grading and Paving Details
29-31	Paving Plans with Elevations, 1"=40'
32-34	Taxiway Profiles, 1"=40', double panel
35-37	Pavement Marking Plan, 1"=40'
38-39	Pavement Marking Details
40-43	Cross Sections
44	Boring Logs

#### **Deliverables:**

Deliverables for this task will consist of the following:

- 90% completion
- Plan sets (24" x 36") – two sets
- Bid Documents – one set
- Engineering Report – one set
- Opinion of Probable Construction Cost – one copy

- CD Containing PDF documents

### **Task 5.0 –Contract Document Preparation (100% Plans)**

During this task, CONSULTANT will complete designs and contract documents that consist of construction drawings, technical specifications, and engineering report. Tasks shall consist of the following:

1. Finalize design drawings.
2. Finalize technical specifications.
3. Finalize engineering report.
4. Develop bid forms with final quantities.
5. Prepare supplemental provisions.
6. Provide Quality Control review of the services being provided.
7. Provide administration for the services including monthly reports, record keeping, and invoicing.
8. Provide plans, construction documents, and certifications for the CITY to submit to the FAA and FDOT for approval and authorization to advertise for bids.

#### **Deliverables:**

Deliverables for this task will consist of the following:

- Final (100%) completion
  - Plan set (24" x 36") – two sets (each)
  - Plan set (electronic, including plot files)
  - Bid Documents (electronic) – One set
  - Engineering Report – two copies
  - Opinion of Probable Construction Cost – two copies

### **Task 6.0 - CAD Standards Review**

During this task, CONSULTANT will complete CITY CAD standard review of the 100% construction drawings. Tasks will consist of the following:

1. Processing CAD files to conform to CITY CAD standards after receiving CAD review comments from the CITY.
2. Resubmit CAD drawings to the CITY with processed CAD review. (1 Review)

#### **Deliverables:**

- Deliverables for this task will consist of the following:
  - Plan set (electronic, including plot files)
  - CD containing CAD files of 100% plans and plot files in PDF in conformance with current CITY CAD standards.

### **Task 7.0 –Bidding Phase Services**

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

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

## **Task 8.0 – Special Services**

### ***FIELD SURVEY AND MAPPING***

Field surveying will provide up-to-date field mapping of the proposed project site. Keith and Associates, Inc., as a subconsultant, will perform Field survey to develop topographic base mapping for the project.

Survey limits will consist of 100 feet north of the centerline of Taxiway Echo to the intersection with Runway 8 on the south and a width of 100 feet centered on the taxiway centerline, as well as areas for the taxiway connectors at E2, Hotel, and Quebec along Taxiway Echo.

The following services will be provided:

- Set adequate project horizontal control and references. Establish baselines for the rehabilitated taxiway.
- Set project benchmarks.
- Perform a topographic survey within the survey limits to locate all above-ground features and all evidence of below-ground features.
- Obtain elevations within the survey limits using a 20-foot grid.
- Locate and obtain surface elevations at soil borings.
- Confirm horizontal and vertical control prior to construction.
- Map the survey and provide files electronically and in hardcopy.

### ***GEOTECHNICAL INVESTIGATION & MATERIALS TESTING***

Geotechnical investigation will be performed to confirm the thickness of asphalt to be removed from the existing Taxiway Echo 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:

#### **Field Investigation**

- Ten (10) cores through existing Taxiway Echo pavement to determine pavement constituent thickness.
- Asphalt Extractions on core samples.
- 30 standard penetration test (SPT) borings to ten feet below existing grade to determine soil profile along the proposed taxiway alignment (one boring each 200 feet).
- Visual classification of the soils encountered.
- Depth to ground water and estimated depth to seasonal high ground water.
- Obtain soil samples for laboratory testing.

#### **Laboratory Testing**

Perform testing on soil samples representing each distinctly different soil type or strata

- Grain size analysis
- Atterberg Limits
- California Bearing Ratio (six minimum)
- Moisture-Density relationship

## **DBE MONITORING**

CONSULTANT shall, through its sub consultant, Dickey Consulting Services, Inc., provide the services of a DBE Liaison Officer (DBELO) for the design portion of the Project. Duties of the DBELO shall include:

1. Gather and report statistical data and other information as required.
2. Review third party contracts for compliance with the program.
3. Advise CITY on DBE matters and achievement.
4. Develop DBE forms for monitoring and compliance reporting to DOT DBE DOORS.
5. Review documents and perform interviews as required to monitor DBE compliance for the above Project.
6. Prepare and submit necessary compliance reports to CITY at end of project.

## **PROJECT ASSUMPTIONS**

1. Plans will be prepared on CAD overlays of the survey and will be in conformance with CONSULTANT's AUTO CAD Civil3D 2009 CAD standards and in coordination with the CITY current CAD standards. The CONSULTANT shall work with the CITY to provide modifications to CAD standards to be used.
2. CONSULTANT will provide CAD files during 100% plan submittal only to verify conformance with current CITY CAD standards expect the electrical engineering plans.
3. 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.
4. The CITY will provide existing plan data and as-built drawings of utilities, fiber optic and previous construction plans as required for the project upon which the CONSULTANT may rely on.
5. There are no permit applications required for this project.
6. There is no Wildlife Preservation Plan or survey included in this scope of work. Wildlife locations and assessments will be provided by the City.
7. The CITY will provide the electrical engineering plans, specifications, cost estimates and engineer report sections for the airfield electrical design. Coordination with the FAA to identify the FAA underground facilities will be conducted by the CITY.
8. The CONSULTANT will assist the CITY in completing the FAA Airport Development Safety Assessment Worksheet. The CITY will provide the CONSULTANT with the following information for the completion of the worksheet:
  - Potential interference with existing navigational equipment
  - Potential interference/loss with communications equipment
  - TERPS penetrations
  - Part 77 penetrations
  - Line of sight from the ATCT
  - Construction equipment movement and procedures (cranes, bulldozers, vehicle traffic)
  - Noise, smoke, dust and light generation
  - Air and ground operation procedures

### **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. Should additional stakeholder meetings be required, the meetings, meeting preparation, exhibit preparation and meeting documentation shall be considered as additional services.

### **PERFORMANCE SCHEDULE**

The CONSULTANT shall perform the services identified in Tasks 1 through 9 inclusive within 175 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.

### **TERMS OF COMPENSATION**

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

<b><u>Description</u></b>	<b><u>Labor</u></b>	<b><u>Sub-consultants</u></b>	<b><u>Totals</u></b>
Task 1	\$ 26,160.00		
Task 2	\$ 73,585.00		
Task 3	\$ 90,920.00		
Task 4	\$ 43,205.00		
Task 5	\$ 21,650.00		
Task 6	\$ 5,530.00		
Task 7	\$ 4,575.00		
<b>Total Labor (Not to Exceed)</b>	<b>\$ 265,625.00</b>		
<b>Reimbursable Expenditures (Not to Exceed)</b>			<b>\$ 6,150.00</b>
<b><u>Subconsultants</u></b>			
Tierra South Florida, Inc.		\$ 18,782.00	
Keith & Associates, Inc.		\$ 26,445.00	
Dickey Consultants, Inc.		\$ 18,802.50 (\$2,507.00 per month (Based on 7.5 months))	
<b>Total Sub Consultants</b>		<b>\$ 64,029.50</b>	
<b><u>Total Project Cost</u></b>			<b><u>\$335,804.50</u></b>



**CLOSURE**

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first written above.

**CITY**

WITNESSES:

CITY OF FORT LAUDERDALE:

\_\_\_\_\_

By \_\_\_\_\_  
JOHN P. "JACK" SEILER, Mayor

\_\_\_\_\_  
Print Name

\_\_\_\_\_

By \_\_\_\_\_  
LEE R. FELDMAN, City Manager

\_\_\_\_\_  
Print Name

(SEAL)

ATTEST:

\_\_\_\_\_  
JONDA K. JOSEPH, City Clerk

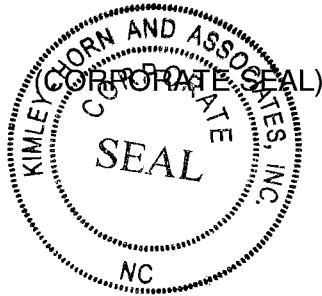
Approved as to form:

\_\_\_\_\_  
CARRIE L. SARVER, Assistant City Attorney

WITNESSES:

[Signature]  
Print Name

[Signature]  
Print Name.



**CONSULTANT**

KIMLEY-HORN AND ASSOCIATES, INC.

By: [Signature]

Name: David R. Bardt, P.E.

Title: Sr. Vice President

ATTEST:

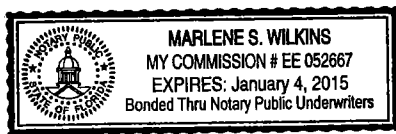
By: [Signature]

Name: Russell Barnes, P.E.

Title: Sr. Vice President

STATE OF FLORIDA:  
COUNTY OF PALM BEACH: Leon

David R. Bardt and Russell Barnes as Sr. Vice President and Sr. Vice President respectively, of Kimley-Horn and Associates, Inc, acknowledged the foregoing instrument before me this 30th day of August, 2012, on behalf of the corporation. They are personally known to me and did not take an oath.



[Signature]  
Notary Public, State of Florida  
(Signature of Notary taking Acknowledgement)

[Signature]  
Name of Notary Typed, Printed or Stamped

1-4-15  
My Commission Expires

EE 052667  
Commission No.

## MAN-HOUR ESTIMATE FOR

EXHIBIT NO. A TO FORM OF CONTRACT									
Kimley-Horn and Associates, Inc.									
Principal	Prof. Engineer	Engineer Analyst	CADD Tech	Clerical/ Admin.	Total Hours	Unit Cost	Labor Cost		
\$225.00	\$125.00	\$110.00	\$95.00	\$65.00					
TASK DESCRIPTION - BASIC ENGINEERING									
Task 1 - Pre-design Services (One Month)									
1	Attend and Participate in an Issues and Project Definition Meeting	4	4	2	11	\$ 105.91	\$ 1,165.00		
2	Coordinate and Administer Early Subconsultant Services	8		4	14	\$ 122.14	\$ 1,710.00		
3	Field Review Project Site	4	4		12	\$ 110.00	\$ 1,320.00		
4	Review existing plans and data	8	4	1	21	\$ 107.86	\$ 2,265.00		
5	Define and List Design Criteria for Project	4	4	1	5	\$ 113.00	\$ 565.00		
6	Define Field Survey Requirements and Obtain Surveys	4	3		9	\$ 137.22	\$ 1,235.00		
7	Recover and restore base mapping of underground facilities from previous projects.	4	3	1	18	\$ 102.50	\$ 1,845.00		
8	Define Geotech Requirements and Obtain those Investigations	6		1	7	\$ 116.43	\$ 815.00		
9	Develop preliminary horizontal layout	2	2		14	\$ 101.43	\$ 1,420.00		
10	Develop preliminary phasing plans	12	6	16	36	\$ 114.72	\$ 4,130.00		
11	Identify Preliminary Construction Access, MOT and Staging Options	4	2	4	10	\$ 110.00	\$ 1,100.00		
12	Prepare an Order of Magnitude Opinion of Probable Construction Cost	2	10		12	\$ 112.50	\$ 1,350.00		
13	Design Team Meetings - 4 (Weekly)	4	4	4	14	\$ 126.43	\$ 1,770.00		
14	Meetings with City Staff -1 (Monthly)	8	2		12	\$ 117.50	\$ 1,410.00		
15	Quality Assurance Review	4	4	4	16	\$ 138.75	\$ 2,220.00		
16	Administration	2	8	6	16	\$ 115.00	\$ 1,840.00		
	Subtotal	14	86	45	227	\$ 115.24	\$ 26,160.00		
Task 2 - Conceptual Design (30% Submittal) (One Month)									
1	Prepare Base Mapping	12	8		74	\$ 101.49	\$ 7,510.00		
2	Review Available Data	10	10	2	32	\$ 107.19	\$ 3,430.00		
3	Develop Geometry to 30% level	12	16		52	\$ 106.54	\$ 5,540.00		
4	Prepare Pavement Design & Typical Sections	10	10		32	\$ 109.06	\$ 3,490.00		
5	Develop Preliminary Grading Concept	8	36		70	\$ 109.86	\$ 7,690.00		
6	Refine project phasing plan and define construction project limits by phase	12	24		60	\$ 107.00	\$ 6,420.00		
7	Develop Construction Safety Plan - Conceptual	4	6		22	\$ 104.55	\$ 2,300.00		
8	Conduct Design Team Meetings - 4 (Weekly)	4	4		14	\$ 128.43	\$ 1,770.00		
9	Prepare Construction Plans to 30%	36	50	4	212	\$ 104.29	\$ 22,110.00		
10	Prepare Outline Technical Specifications	4	4	2	6	\$ 105.00	\$ 630.00		
11	Prepare Outline of Engineer's Report	6			6	\$ 125.00	\$ 750.00		
12	Prepare Order of Magnitude Opinion of Probable Cost	4	18		22	\$ 112.73	\$ 2,480.00		
13	Prepare Conceptual Construction Schedule	1	4	12	19	\$ 117.63	\$ 2,235.00		
14	Independent Quality Assurance Review	6	2	6	20	\$ 138.50	\$ 2,770.00		
15	Submit Plans to City for Review		1		7	\$ 90.71	\$ 635.00		
16	Administration	8		8	15	\$ 109.44	\$ 1,970.00		
17	Concept Design Meeting with City	1	8		18	\$ 123.67	\$ 1,855.00		
	Subtotal	16	145	204	681	\$ 108.05	\$ 73,585.00		

**MAN-HOUR ESTIMATE FOR**  
**Pavement Rehabilitation of Taxiway Echo and Widening Connectors**  
**City Project No. 11750**  
4/12/2012

EXHIBIT NO. A TO FORM OF CONTRACT										Labor Cost	
Kimley-Horn and Associates, Inc.											
TASK DESCRIPTION - BASIC ENGINEERING											
<b>Task 3 - Preliminary Design (60% Submittal) (Two Months)</b>											
1	Prepare Taxiway Echo and Connecting Taxiway Profiles										
2	Finalize Pavement Design & Sections	1	10	20	40					\$ 103.57	\$ 7,250.00
3	Finalize Grading Design & Sections	2	6	2	8					\$ 115.00	\$ 1,955.00
4	Develop Proposed Cross Sections for Pavements		8	12	16					\$ 112.22	\$ 4,040.00
5	Finalize Pavement Geometry		8	12	30					\$ 103.40	\$ 5,170.00
6	Finalize Demolition Limits		2	4	24					\$ 105.20	\$ 5,260.00
7	Develop Construction Phasing Plans to 60 %	2	12	18	36					\$ 105.00	\$ 1,260.00
8	Prepare Preliminary Pavement Marking Plans		8	10	24					\$ 108.09	\$ 7,350.00
9	Perform Quantity Take Off - Preliminary	2	12	40	12					\$ 104.29	\$ 4,380.00
10	Prepare Preliminary Opinion of Probable Construction Cost		4	12						\$ 113.48	\$ 7,490.00
11	Perform Quality Control Review	6	2	4	8					\$ 113.75	\$ 1,820.00
12	Prepare Preliminary Construction Safety Plan with Details and Notes		8	8	10					\$ 140.00	\$ 2,800.00
13	Design Team Meetings - 8 (Weekly)	4	8	8	8					\$ 107.50	\$ 2,580.00
14	Develop Construction Plans to 60%	4	40	45	160					\$ 122.33	\$ 3,670.00
15	Prepare Draft Engineering Report		2	8	2					\$ 104.62	\$ 26,050.00
16	Prepare Draft Technical Specifications		8	18	2					\$ 103.57	\$ 1,450.00
17	Submit Plans and Documents to City for Review		1		2					\$ 111.07	\$ 3,110.00
18	Design Meeting with City		6	2	2					\$ 89.00	\$ 445.00
19	Administration	4	16	2	2					\$ 116.00	\$ 1,160.00
	<b>Subtotal</b>	<b>25</b>	<b>165</b>	<b>241</b>	<b>388</b>					\$ 115.00	\$ 3,680.00
<b>Task 4 - Design Development (90% Submittal) (One Month)</b>											
1	Finalize Pavement Marking Plans		4	4	16					\$ 102.50	\$ 2,460.00
2	Develop Construction Plans to 90%	2	24	40	90					\$ 105.13	\$ 16,400.00
3	Finalize Phasing Plans and Notes		6	12	16					\$ 105.59	\$ 3,590.00
4	Construction Safety Plan with Details and Notes - Final		6	8	12					\$ 106.54	\$ 2,770.00
5	Final Quantity Take Off & Opinion of Probable Construction cost		4	16	18					\$ 102.50	\$ 4,100.00
6	Quality Control Review	8	6	8	8					\$ 139.67	\$ 4,190.00
7	Plan in Hand Review		8	4	4					\$ 113.75	\$ 1,820.00
8	Complete Technical Specifications to 90%		6	18						\$ 113.75	\$ 2,730.00
9	Complete Engineer's Report to 90%		4	8						\$ 115.00	\$ 1,380.00
10	Provide Plans and Documents to City		2		2					\$ 95.00	\$ 570.00
11	Administration	2	8							\$ 109.44	\$ 1,970.00
12	Design Development Meeting with City		6	2	2					\$ 111.36	\$ 1,225.00
	<b>Subtotal</b>	<b>12</b>	<b>84</b>	<b>120</b>	<b>168</b>					\$ 108.83	\$ 43,205.00

## MAN-HOUR ESTIMATE FOR

EXHIBIT NO. A TO FORM OF CONTRACT									
Kimley-Horn and Associates, Inc.									
Principal	Prof. Engineer	Engineer Analyst	CADD Tech	Clerical/ Admin.	Total Hours	Unit Cost	Labor Cost		
\$225.00	\$125.00	\$110.00	\$95.00	\$65.00					
TASK DESCRIPTION - BASIC ENGINEERING									
Task 5 - Contract Document Preparation (One Month)									
1	Finalize Design Drawings	18	40	8	74	\$ 105.14	\$ 7,780.00		
2	Finalize Technical Specifications	4		8	20	\$ 95.00	\$ 1,900.00		
3	Finalize Engineers Report	2		2	8	\$ 102.50	\$ 820.00		
4	Develop Bid Forms and Final Quantities	8	6	8	32	\$ 99.69	\$ 3,190.00		
5	Prepare Supplemental Provisions	6		2	8	\$ 121.25	\$ 970.00		
6	Provide Quality Control review of the services being provided.	6	8		32	\$ 145.00	\$ 4,640.00		
7	Provide plans for the CITY to submit to the FAA and FDOT.	2	4	2	8	\$ 95.00	\$ 760.00		
8	Administration	6		6	14	\$ 113.57	\$ 1,590.00		
	Subtotal	12	58	26	196	\$ 110.46	\$ 21,650.00		
Task 6 - CAD Standards Review (One week)									
1	Process CAD files to conform with CITY standards	2	40		44	\$ 97.05	\$ 4,270.00		
2	Resubmit CAD drawings to CITY	4	8		12	\$ 105.00	\$ 1,260.00		
	Subtotal	0	48	0	56	\$ 98.75	\$ 5,530.00		
Task 7 - Bidding Assistance									
1	Attend Pre-Bid Conference	4	2	2	10	\$ 104.00	\$ 1,040.00		
2	Responses to Bidder's Questions	10	8	3	31	\$ 114.03	\$ 3,535.00		
	Subtotal	2	10	5	41	\$ 111.59	\$ 4,575.00		
	Raw Labor Subtotal	81	550	672	2,437	\$ 109.00	\$ 265,625.00		
DIRECT EXPENSES									
A Postage, Express, Courier							\$800		
B- CADD Computer-Reimbursement							\$0		
C. Plots							\$850		
D. Prints-Plan Sheets							\$2,000		
E. Printing-Reports and Specifications							\$2,500		
TOTAL DIRECT EXPENSES							\$6,150.00		
SUBCONSULTANT EXPENSES									
A. Specialty Subconsultants-Design									
Keith and Associates, Inc.									
Tierra, Inc									
Dickey Consultants Inc.									
TOTAL SUBCONSULTANT EXPENSES							\$64,029.50		
TOTAL EXPENSES									
							\$70,179.50		
TOTAL PROJECT FEE							\$335,804.50		



March 14, 2012  
November 29, 2011

Kimley-Horn & Associates, Inc.  
1920 Wekiva Way, Suite 200  
West Palm Beach, Florida 33411

Attention: Ms. Eileen M. Velez-Vega, P.E.

Re: **Proposal for Geotechnical Services**  
**Proposed Taxiway Echo Rehabilitation Project**  
**Ft. Lauderdale Executive Airport**  
**Ft. Lauderdale, Florida**  
**TSF Proposal No.: 1111-391**

Dear Eileen:

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 Ms. Eileen M. Velez-Vega, P.E. dated November 23, 2011.

We understand that the improvement consist of rehabilitation of Taxiway Echo. The work will consist of milling and resurfacing Taxiway Echo and taxiway connectors.

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. As requested, based on our understanding of the project, we have been requested to obtain 10 (ten) pavement cores and drill a total of thirty (30) Standard Penetration Test (SPT) borings to a depth of 10 feet below existing grade. Additionally, we propose to perform 6 field CBR tests (Kessler Method). The following laboratory testing will be performed on selected samples:

Grain size analysis  
Soil Hydraulic Conductivity  
Atterberg limit tests  
Moisture-Density relationship

Borings and test locations will be approximately located in the field by our personnel based on information provided to us. Elevations at boring locations can be interpreted from topographic plans if furnished by others.

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 and the work will be conducted at night time to avoid disturbance to patrons.

Upon completion of the field exploration, laboratory testing will be performed on selected samples. A geotechnical engineer will evaluate the results of all drilling and laboratory testing. A report will be issued that contains the exploration data, laboratory data, and a discussion of the site and subsurface conditions and pavement data.

#### **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 **\$18,782.00**.

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 consisting with good engineering practice.

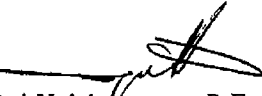
## SCHEDULE AND AUTHORIZATION

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 4 days to complete. The written report can be submitted in within three 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 2009/2010  
STANDARD UNIT FEE  
SCHEDULE

DAY TIME RATES

	Unit	# of Units	Unit Price	Total
<b>I. FIELD INVESTIGATION</b>				
Mobilization of Men and Equipment	Trip	1	\$ 350.00	\$ 350.00
Truck-Mounted Equipment	Trip	0	\$ 720.00	\$ 0.00
Specialized ATV/Mudbug	Trip	0	\$ 150.00	\$ 0.00
Support Vehicle	Trip	0	\$ 150.00	\$ 0.00
Standard Penetration Test Borings (By Truck-Mounted Equipment)				
Land: 0 - 50 ft depth	L.F.	300	\$ 12.00	\$ 3,600.00
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.	300	\$ 4.50	\$ 1,350.00
50 - 100 ft depth	L.F.	0	\$ 5.50	\$ 0.00
Field Permeability Tests	Test	3	\$ 275.00	\$ 825.00
Pavement Cores, Asphalt	Each	10	\$ 150.00	\$ 1,500.00
Pavement Cores, Concrete	Each	0	\$ 150.00	\$ 0.00
<b>II. LABORATORY TESTING</b>				
Visual Examination/Stratify	Per Hour	4	\$ 100.00	\$ 400.00
Natural Moisture Content Tests	Test	6	\$ 10.00	\$ 60.00
Grain-Size Analysis - Full Gradation	Test	5	\$ 65.00	\$ 325.00
Grain-Size Analysis - Single Sieve	Test	0	\$ 35.00	\$ 0.00
Organic Content Tests	Test	0	\$ 35.00	\$ 0.00
Atterberg Limit Tests	Test	3	\$ 75.00	\$ 225.00
Liquid Limit Tests (Only)	Test	0	\$ 52.00	\$ 0.00
Plastic Limit Tests (Only)	Test	0	\$ 33.50	\$ 0.00
Field CBR	Test	6	\$ 600.00	\$ 3,600.00
Grain-Size with Hydrometer	Test	0	\$ 115.00	\$ 0.00
Proctor Test a) Modified	Test	4	\$ 108.00	\$ 432.00
b) Standard	Test	0	\$ 102.00	\$ 0.00
Bitumen Extraction	Test	8	\$ 150.00	\$ 1,200.00
Bitumen Gradation	Test	0	\$ 150.00	\$ 0.00
<b>III. ENGINEERING/COORDINATION/MANAGEMENT</b>				
Project Manager	Hour	1	\$ 165.00	\$ 165.00
Principal Engineer	Hour	3	\$ 150.00	\$ 450.00
Senior Engineer	Hour	8	\$ 125.00	\$ 1,000.00
Project Engineer	Hour	15	\$ 100.00	\$ 1,500.00
Senior Technician	Hour	16	\$ 75.00	\$ 1,200.00
CADD	Hour	8	\$ 75.00	\$ 600.00
				\$ 18,782.00

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

  
Raj Krishnasamy, P.E.  
Principal Geotechnical Engineer

INDIVIDUAL PROJECT ORDER NUMBER \_\_\_\_\_

This Individual Project Order describes a specific agreement between Kimley-Horn & Associates, Inc. (the Consultant), and Dickey Consulting Services, Inc. (the Subconsultant) pursuant to the Master Agreement for Continuing Professional Services dated August 28, 2003, the terms of which are incorporated by reference.

Identification of Project and Consultant's Client:

Fort Lauderdale Executive Airport – Design Services for Pavement Rehabilitation of Taxiway Echo

Scope of Subconsultant's Services:

- Provide DBE Liaison Officer (DBELO) services including but not limited to DBE monitoring and reporting services
- Gather and report statistical data and other information as required
- Review third party contracts for compliance with the program
- Develop DBE forms for monitoring and compliance reporting to DOT DBE DOORS
- Review documents and perform interviews as required to monitor DBE compliance
- Advise City on DBE matters and achievement
- Prepare and submit necessary compliance reports to City at completion of project

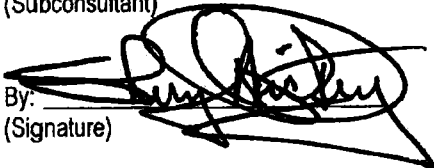
Schedule to be met by Subconsultant:

To be mutually agreed to with City of Fort Lauderdale

Subconsultant's Compensation:

Costs plus not to exceed \$2,507.00 per month

Dickey Consulting Services, Inc.  
(Subconsultant)

By:   
(Signature)

Sheryl A. Dickey, President / CEO  
(Print Name and Title)

December 5, 2011  
(Date)

Kimley-Horn and Associates, Inc.

By: \_\_\_\_\_  
(Signature)

David R. Bardt, P.E., Sr. Vice President  
(Print Name and Title)

\_\_\_\_\_  
(Date)



**Kimley-Horn & Associates, Inc.**  
**Fort Lauderdale Executive Airport – Pavement Rehabilitation of Taxiway Echo**

Dickey Consulting Services, Inc. Rate Schedule – Submitted March 15, 2012  
Labor costs not to exceed \$2,507.00 per month

Title	Rate	Monthly Hours	Total
DBE Principal	\$152.01	4	\$608.00
DBE Liaison Officer	\$90.42	21	\$1,899.00
<b>TOTAL</b>			<b>\$2,507.00</b>

November 23, 2011

Eileen M. Vélez-Vega, P.E.  
Engineer - Aviation  
Kimley- Horn and Associates, Inc.  
4431 Embarcadero Drive  
West Palm Beach, Florida 33407  
Ph:(561)840-0860-Fax:(561)863-8175  
[Eileen.velez@kimley-horn.com](mailto:Eileen.velez@kimley-horn.com)

RE: Agreement for Professional Services  
Project Name: Fort Lauderdale Executive Airport –Taxiway Echo  
Project Location: City of Fort Lauderdale, Florida  
Our Project/Proposal Number: 07202.03

Dear Ms. Vélez:

In accordance with your request and subsequent discussions between members of our association and yourself, this agreement between Keith & Associates, Inc. ("CONSULTANT"), and Kimley- Horn and Associates, Inc. ("CLIENT") for professional services is submitted for your consideration and approval. CONSULTANT will begin work after receipt of a fully executed copy of this Agreement.

## I. PURPOSE OF AGREEMENT/PROJECT DESCRIPTION

The purpose of this Agreement is to outline the scope of services recommended by CONSULTANT and accepted by CLIENT, and to establish the contractual conditions between CONSULTANT and CLIENT with respect to the proposed services.

CONSULTANT is to provide professional services associated with the rehabilitation of Taxiways Charlie and Delta at Fort Lauderdale Executive Airport.

## II. SCOPE OF SERVICES

### Section 1 - Engineering Services

Not a part of this Agreement.

### Section 2 - Planning Services

Not a part of this Agreement.

### Section 3 - Surveying Services

#### Task 001 Topographic Survey

Survey limits will consist of 100 feet north of the centerline of Taxiway Echo to the intersection with Runway 8 on the south and a width of 100 feet centered on the taxiway centerline, as well as areas for the taxiway connectors at E2, Hotel, and Quebec along Taxiway Echo.

The following services will be provided:

- Set adequate project horizontal control and references. Establish baselines at 100-foot stations for the rehabilitated taxiway.
- Set project benchmarks.
- Perform a topographic survey within the survey limits to locate all above-ground features and all
- evidence of below-ground features.
- Obtain elevations within the survey limits using a 20-foot grid.
- Locate and obtain surface elevations at soil borings.
- Confirm horizontal and vertical control prior to construction.
- Map the survey and provide files electronically and in hardcopy.

All surveying services shall conform to the applicable requirements of Rule 5J-17 of the Florida Administrative Code. The drawing will adhere to the City of Fort Lauderdale's CADD standards. Horizontal datum for the project will be North American Datum of 1983 with the National Spatial Reference System adjustment of 2007 applied (NAD83/NSRS2007). Vertical Datum for the project will be North American Vertical Datum of 1988.

The Lump Sum Fee for this Task is.....\$26,445.00

### Section 4 - Additional Services

The undertaking by CONSULTANT to perform professional services defined within this Agreement extends only to those services specifically described herein. If upon request of CLIENT, CONSULTANT agrees to perform additional services hereunder, CLIENT shall be obligated to pay CONSULTANT for the performance of such additional services an amount (in addition to all other amounts payable under this Agreement) based on an hourly fee in accordance with CONSULTANT'S current professional fee schedule, plus reimbursable expenses as incurred by CONSULTANT, unless a lump sum addendum to Agreement is executed by the parties to this Agreement which addresses the additional services.

Additional services shall include revisions to work previously performed that are required due to a change in the data or criteria furnished to CONSULTANT, a change in the scope or concept of

the project initiated by CLIENT, or services that are required by changes in the requirements of public agencies after work under this Agreement has commenced.

If the preceding scope of services includes public agency permitting, our quoted fees/hours include services to respond to the agency's first RAI (Request for Additional Information). Additional agency requests or requirements shall be considered an increase to our scope of services.

**PROJECT/TASK BUDGET HOURS WORKSHEET**

CLIENT NAME: Kimley Horn PROPOSAL # 07202.03

PROJECT NAME: FEX-Taxiway Echo PROJECT #

PROJECT MANAGER:

PROJECT START DATE: PROJECT END DATE:

TASK START DATE: TASK END DATE:

TASK COMPENSATION \$ AMOUNT (LS/T&amp;M/NTE)

TASK DESCRIPTION: Topographic Survey  
(Maximum 36 Characters)

TASK NUMBER:

TASK MANAGER:

Duty		Rate	
Code	Hours	Table	Total
1-Clerical Services		\$50.00	0.00
11-Technician	85	\$65.00	5525.00
16-Senior Technician		\$75.00	0.00
78-Professional Surveyor		\$105.00	0.00
79-Senior Professional Surveyor	16	\$120.00	1920.00
80-Field Crew Supervisor		\$90.00	0.00
81-2 Person Field Crew	200	\$95.00	19000.00
82-3 Person Field Crew		\$115.00	0.00
83-4 Person Field Crew		\$135.00	0.00
70-Principal		\$150.00	0.00
TOTAL			\$26,445.00

**DIRECT EXPENSES**

\_\_\_\_\_ sub Consultant  
\_\_\_\_\_ Blueprints/Repros  
\_\_\_\_\_ Permit Fees  
\_\_\_\_\_ Travel  
\_\_\_\_\_ Equipment/Supplies

\_\_\_\_\_ \$0.00 TOTAL DIRECT EXPENSES

\_\_\_\_\_ \$26,445.00

**REIMBURSABLE EXPENSES**

sub Consultant \_\_\_\_\_  
Blueprints/Repros \_\_\_\_\_  
Permit Fees \_\_\_\_\_  
Travel \_\_\_\_\_  
Equipment/Supplies \_\_\_\_\_

TOTAL REIMBURSABLE EXPENSES \_\_\_\_\_ \$0.00

GRAND TOTAL \_\_\_\_\_