

**MODIFICATION NO. 4 TO ON-CALL AGREEMENT  
DATED JUNE 6, 2016  
(RFQ NO. 2015-300)**

**FOR PROFESSIONAL ENGINEERING SERVICES FOR THE AIRPORT**

**THIS MODIFICATION TO ON-CALL AGREEMENT** made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2016, by and between the City of Lee's Summit, Missouri (hereinafter "City"), and Crawford, Murphy and Tilly, Inc. (hereinafter "Engineer").

**WITNESSETH:**

**WHEREAS**, City and Engineer entered into an On-Call Agreement dated September 3, 2015 (RFQ No. 2015-300) for professional engineering services for the Airport (hereinafter "Base Agreement"); and

**WHEREAS**, the Base Agreement was modified with Modification No. 1 dated September 23, 2015; and

**WHEREAS**, the Base Agreement was modified with Modification No. 2 dated December 21, 2015; and

**WHEREAS**, the Base Agreement was modified with Modification No. 3 dated April 4, 2016; and

**WHEREAS**, City and Engineer desire to amend the provisions of the Base Agreement, as modified, as provided herein; and

**WHEREAS**, the amended engineering services contained in this Modification No. 4, were services originally contemplated by the City and the Engineer when entering into the Base Agreement, and which were included in the request for qualifications review that was conducted by the City when awarding the contract for the Base Agreement; and

**WHEREAS**, Engineer has submitted a proposal for the amended engineering services and an estimate of engineering costs to perform said services; and

**WHEREAS**, the City Manager is authorized and empowered by City to execute contracts providing for engineering services.

**NOW THEREFORE**, in consideration of the mutual covenants and considerations herein contained, **IT IS HEREBY AGREED** by the parties hereto to amend the following Articles contained in the Base Agreement as follows:

The Base Agreement is hereby modified and amended to include the AVIATION PROJECT CONSULTANT AGREEMENT, attached hereto as Exhibit A, and incorporated herein by reference.

1. The terms and provisions of Exhibit A shall only apply to the services to be provided which are set forth in Exhibit A.
2. In the event of a conflict between any provision of the Base Agreement and Exhibit A; Exhibit A shall control to the extent it affects any of the services to be performed pursuant to Exhibit A.

3. All other terms of the Base Agreement not amended by the Modification to On-Call Agreement shall remain in full force and effect.

This Modification No. 3 to On-Call Agreement shall be binding on the parties thereto only after it has been duly executed and approved by the City and Engineer.

**IN WITNESS WHEREOF**, the parties have caused this Modification to On-Call Agreement to be executed on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**CITY OF LEE'S SUMMIT**

\_\_\_\_\_  
Stephen A. Arbo, City Manager

APPROVED AS TO FORM:

\_\_\_\_\_  
Trevor L. Stiles, Chief of Litigation

**ENGINEER:**

\_\_\_\_\_  
BY: Dan Meckes  
TITLE: President

ATTEST:

\_\_\_\_\_

Airport Name: Lee's Summit Municipal Airport  
Project No.: 15-109A-3 & AIR 156-109A-3  
County: Jackson

**AVIATION PROJECT CONSULTANT SUPPLEMENTAL AGREEMENT NO. 2  
CONSTRUCTION SERVICES**

THIS SUPPLEMENTAL AGREEMENT NO. 2 for Construction Services is entered into by the City of **Lee's Summit** (hereinafter, "Sponsor") and **Crawford, Murphy & Tilly, Inc.** (hereinafter, "Consultant").

WITNESSETH:

WHEREAS, the Sponsor and the Consultant entered into an Agreement on **December 21, 2015**, to accomplish a project at the **Lee's Summit Municipal** Airport, (hereinafter, "Original Agreement"); and

WHEREAS, the Sponsor and the Consultant amended that Agreement on **April 4, 2016**; and

WHEREAS, the Sponsor and the Consultant now desire to enter into Supplemental Agreement No. 2 to otherwise complete, extend or continue the Original Agreement as provided herein.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and representations contained herein the parties agree as follows:

(1) SCOPE OF SERVICES:

(A) The Services to be provided by the Consultant under Supplemental Agreement No. 2 are additional services which are beyond the scope of services provided in the Original Agreement. These additional professional services are generally described and defined in Section (16)(State) or (17)(Federal) of the Original Agreement and Exhibit II - SA1, which is attached hereto and incorporated herein by reference.

(2) FEES AND PAYMENTS:

(A) The Consultant shall be reimbursed in accordance with Section (8)(State) or (9)(Federal) of the Original Agreement.

(B) The costs of Supplemental Agreement No. 2 shall be in addition to the cost of the Original Agreement and Supplemental Agreement No. 1.

(C) The cost plus fixed fee and maximum amount payable included in Section (8)(State) or (9)(Federal) of the Original Agreement are hereby modified to be as follows:

	ORIGINAL AMOUNT	SUPPLEMENTAL AGREEMENT NO. 1	SUPPLEMENTAL AGREEMENT NO. 2	TOTAL
Fixed Fee	\$73,927.42	\$0	\$77,983.19	\$151,910.61
Max. Fee Payable	\$626,522.65	\$7,000	\$880,924.77	\$1,507,447.42

(D) Estimated costs for the services in Supplemental Agreement No. 1 are defined in Exhibit IV - SA1 and Exhibit V - SA1, which are attached hereto and incorporated herein by reference.

(3) PERIOD OF SERVICE: Exhibit VI, Performance Schedule, of the Original Agreement is hereby revised to include time for the performance of these additional services. The total time to be added to Exhibit VI for completion of these additional services shall be 60 calendar days after final acceptance of the construction project.

(4) DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS:

(A) DBE Goal: The following DBE goal has been established for this Supplemental Agreement No. 1. The dollar value of services and related equipment, supplies, and materials used in furtherance thereof which is credited toward this goal will be based on the amount actually paid to DBE firms. The goal for the percentage of services to be awarded to DBE firms is 12 % of the total Supplemental Agreement No. 2 dollar value.

(B) DBE Participation Obtained by Consultant: The Consultant has obtained DBE participation, and agrees to use DBE firms to complete 19 % of the total services to be performed under this Supplemental Agreement No. 1 by dollar value. The DBE firms which the Consultant shall use, and the type and dollar value of the services each DBE will perform, is as follows:

DBE FIRM NAME, STREET AND COMPLETE MAILING ADDRESS	TYPE OF DBE SERVICE	TOTAL \$ VALUE OF THE DBE SUBCONTRACT	CONTRACT \$ AMOUNT TO APPLY TO TOTAL DBE GOAL	% OF SUBCONTRACT \$ VALUE APPLICABLE TO TOTAL GOAL
TSi Geotechnical	Material testing	\$175,446.00	\$175,446.00	19.9%

(5) SUBCONSULTANTS:

(A) The Consultant agrees that except for those firms and for those services listed below, there shall be no transfer of engineering services performed under this Supplemental Agreement No. 1 without the written consent of the Sponsor. Subletting, assignment, or transfer of the services or any part thereof to any other corporation, partnership, or individual is expressly prohibited. Any violation of this

clause will be deemed cause for termination of this Supplemental Agreement No. 1.

Exceptions (Subconsultant Information):

FIRM NAME	COMPLETE ADDRESS	NATURE OF SERVICES
TSi Geotechnical	8248 NW 101 <sup>st</sup> Terr #5 Kansas City, MO 64153	Material Testing
HG Consult Inc.	10512 N. Euclid Ave. Kansas City, MO 64155	Construction Observation Assistance
Kruger Technologies, Inc	8271 Melrose Drive Lenexa, KS 66214	Geotechnical
Anderson Survey Company	203 NW Executive Way Lee's Summit, MO 64063	Survey

(6) ORIGINAL AGREEMENT: Except as otherwise modified, amended, or supplemented by this Supplemental Agreement No. 2, the Original Agreement and Supplemental Agreement No. 1 between the parties shall remain in full force and effect and the terms of the Original Agreement shall extend and apply to this Supplemental Agreement No. 2.

IN WITNESS WHEREOF, the parties have entered into this Supplemental Agreement No. 2 on the date last written below.

Executed by the Consultant this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

Executed by the Sponsor this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

CONSULTANT

SPONSOR

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

ATTEST:

ATTEST:

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

Approved as to Form:

Approved as to Form:

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

**EXHIBIT II – SA2**  
**SCOPE OF SERVICES**

1. Preliminary
  - a. Prepare copies of the Construction Plans and Project Manual for use by the Contractor during construction.
  - b. Develop a **Federal-Construction Observation Program** in accordance with MoDOT requirements.
  - c. Provide a sealed, signed and dated copy of the Construction Observation Program (COP) 10 days prior to the pre-construction conference.
  - d. Attend and conduct a pre-construction conference. Minutes of the conference will be prepared and distributed to all attendees.
  
2. Provide construction administration, on-site construction observation, and material(s) testing per the COP:
  - a. Provide construction observation services, including preparation of weekly reports and other reports as required by the COP to document the prosecution and progress of the Project.
  - b. Review shop drawings and material certification submittals as provided by the Contractor.
  - c. Perform material(s) testing (field and laboratory) as required by the COP.
  - d. Respond to field issues throughout the duration of the project.
  - e. Prepare Contractor's progress estimates and Sponsor's request for reimbursement of funds.
  - f. Prepare change orders and supplemental agreements necessary for construction of the project.
  - g. Attend and conduct a final review of the Project with the Sponsor, MoDOT, and the Contractor
  
3. Project Closeout Phase
  - a. Prepare and submit to the Sponsor and MoDOT one (1) electronic set of record drawings on a compact disc (CD) in .pdf format copied to a single file.
  - b. Prepare and submit to the Sponsor and MoDOT a Final Testing Report as required by the COP.
  - c. Prepare and submit to the Sponsor an updated **Airport Layout Drawing (ALD)** showing as-built conditions. The sponsor will approve and sign as necessary and forward four (4) full size copies to MoDOT for approval.

MoDOT will distribute the copies as one (1) to the Sponsor, one (1) to MoDOT, one (1) to FAA, and one (1) to the Consultant. An electronic copy of the updated sheets will be submitted to both MoDOT and the City in .pdf format, with CADD files submitted to the City.

- d. Provide MoDOT with all closeout documents as required for project final acceptance.
- e. Provide an AGIS compliant post-construction survey of safety critical elements in accordance with FAA AC 150/5300-16A, 17C, and 18B and submit for approval to the FAA AGIS website. This scope item shall not include re-acquisition of obstruction data including aerial imagery.

**EXHIBIT IV – SA2**

**DERIVATION OF CONSULTANT PROJECT COSTS (CONSTRUCTION)**

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**EXHIBIT V – SA2**

**ENGINEERING CONSTRUCTION SERVICES-COST BREAKDOWN**



**EXHIBIT IV**  
**DERIVATION OF CONSULTANT PROJECT COSTS**  
**LEE'S SUMMIT MUNICIPAL AIRPORT**  
**WIDEN, RECONSTRUCT, AND EXTEND RUNWAY 18-36**  
**LEE'S SUMMIT, MISSOURI**  
**CONSTRUCTION PHASE SERVICES**

June 2, 2016

<u>Basic Services</u>	<u>Fixed Fee</u>	<u>Maximum NTE</u>	<u>Hours</u>
Construction Phase	\$73,985.23	\$847,791.45	5,866
<u>Special Services</u>	<u>Fixed Fee</u>	<u>Maximum NTE</u>	<u>Hours</u>
AGIS Post-Construction Survey	\$3,997.96	\$33,133.32	296
<b>Total</b>	<b>\$77,983.19</b>	<b>\$880,924.77</b>	<b>6,162</b>

EXHIBIT IV

DERIVATION OF CONSULTANT PROJECT COSTS

LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT, MISSOURI  
WIDEN, RECONSTRUCT AND EXTEND RUNWAY 18-36  
CONSTRUCTION PHASE SERVICES  
June 2, 2016

1 **DIRECT SALARY COSTS:**

<u>TITLE</u>	<u>HOURS</u>	<u>RATE/HOUR</u> (2016 rates)	<u>COST (\$)</u>
Principal	0	\$75.62	\$0.00
Senior Project Engineer	245	59.98	\$14,695.10
Project Manager	80	45.93	\$3,674.40
Senior Engineer	1676	35.55	\$59,581.80
Engineer	3547	28.25	\$100,202.75
Senior Planner	0	35.08	\$0.00
Planner	0	23.38	\$0.00
Registered Land Surveyor	0	41.60	\$0.00
Senior Technician	236	33.97	\$8,016.92
Technician II	0	24.29	\$0.00
Clerk/Secretary	82	21.51	\$1,763.82
	<u>5,866</u>		

Total Direct Salary Costs = \$187,934.79

2 **LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:**

Percentage of Direct Salary Costs @ 162.45 % = \$305,300.07

3 **SUBTOTAL:**

Items 1 and 2 = \$493,234.86

4 **PROFIT:**

15 % of Item 3 Subtotal = \$73,985.23 Lump Sum  
Subtotal = \$567,220.08

5 **OUT-OF-POCKET EXPENSES:**

a. Mileage	12775	Miles @	\$0.54	/ Mile =	\$6,898.50
b. Construction Vehicle	200	Days @	\$65.00	/ Day =	\$13,000.00
c. Meals	40	Days @	\$32.00	/ Day =	\$1,280.00
d. Motel	40	Nights @	\$112.00	/ Night =	\$4,480.00
e. Printing and Shipping				=	\$1,000.00

Total Out-of-Pocket Expenses = \$26,658.50 Not to Exceed

6 **SUBCONTRACT COSTS:**

a. Material Testing (Tsi Geotechnical)	=	\$175,446.00
b. Surveying (Anderson)	=	\$15,160.00
c. Geotechnical Inspection (KTI)	=	\$17,200.00
d. Construction Observation Assistance (HG Consulting)	=	\$46,106.87

= \$253,912.87

7 **MAXIMUM TOTAL FEE:**

Items 1, 2, 3, 4, 5 and 6 = \$847,791.45 Not to Exceed

EXHIBIT IV

DERIVATION OF CONSULTANT PROJECT COSTS

LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT, MISSOURI  
WIDEN, RECONSTRUCT AND EXTEND RUNWAY 18-36  
AGIS POST CONSTRUCTION SURVEY  
June 2, 2016

1	<b><u>DIRECT SALARY COSTS:</u></b>			
	<u>TITLE</u>	<u>HOURS</u>	<u>RATE/HOUR</u> (2016 rates)	<u>COST (\$)</u>
	Principal	0	\$75.62	\$0.00
	Senior Project Engineer	0	59.98	\$0.00
	Project Manager	10	45.93	\$459.30
	Senior Engineer	0	35.55	\$0.00
	Engineer	0	28.25	\$0.00
	Senior Planner	76	35.08	\$2,666.08
	Planner	40	23.38	\$935.20
	Registered Land Surveyor	80	41.60	\$3,328.00
	Senior Technician	60	33.97	\$2,038.20
	Technician II	30	24.29	\$728.70
	Clerk/Secretary	0	21.51	\$0.00
		<u>296</u>		
	Total Direct Salary Costs			= \$10,155.48
2	<b><u>LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:</u></b>			
	Percentage of Direct Salary Costs @		<u>162.45</u> %	= \$16,497.58
3	<b><u>SUBTOTAL:</u></b>			
	Items 1 and 2			= \$26,653.06
4	<b><u>PROFIT:</u></b>			
	15 % of Item 3 Subtotal			= \$3,997.96 Lump Sum
			Subtotal	\$30,651.02
5	<b><u>OUT-OF-POCKET EXPENSES:</u></b>			
	a. Mileage	600 Miles @	\$0.54 / Mile =	\$324.00
	b. Meals	5 Days @	\$32.00 / Day =	\$160.00
	c. Motel	5 Nights @	\$112.00 / Night =	\$560.00
	d. Survey Equipment - T.S.	5 Days @	\$100.00 / Day =	\$500.00
	e. Survey Equipment - GPS	2 Days @	\$250.00 / Day =	\$500.00
	f. Printing and Shipping		=	\$438.30
	Total Out-of-Pocket Expenses			= \$2,482.30 Not to Exceed
6	<b><u>SUBCONTRACT COSTS:</u></b>			
				= \$0.00
7	<b><u>MAXIMUM TOTAL FEE:</u></b>			
	Items 1, 2, 3, 4, 5 and 6			= \$33,133.32 Not to Exceed

**Exhibit V**

**LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT, MISSOURI**

**BASIC AND SPECIAL SERVICES  
WIDEN, RECONSTRUCT AND EXTEND RUNWAY 18-36**

June 2, 2016

Classification: Gross Hourly Rate:	Principal \$228.23	Senior Project Engineer \$181.03	Project Manager \$138.62	Senior Engineer \$107.30	Engineer \$85.26	Senior Planner \$105.88	Planner \$70.56	Registered Land Surveyor \$125.56	Senior Technician \$102.53	Technician \$73.31	Clerk/ Secretary \$64.92	Other Costs
<b>A. BASIC SERVICES</b>												
2. Design Phase:												
Prepare copies of plans/specs for use by Contractor during construction									4		2	
Prepare electronic files for contractor use									4			
Develop COP in accordance with MoDOT requirements		2			16							
Set up const. documentation paperwork, file folders, project binders, etc.					24							
Attend and conduct preconstruction conference and distribute minutes		10		10	8							
Review shop drawings, material certifications, Buy American Certifications				120								
Full time Onsite R.E. #1 (10 hour days for 5 days/week for 30 weeks)					1500							
Onsite Assistant R.E. #2 (10 hour days, 5 days/week, 23 weeks)					1150							
Onsite Assistant R.E. #3 (10 hour days, 5 days/week, 18 weeks)				900								
Onsite R.E.'s #1 #2 #3 PH3: Intersection Paving (13 hour days, 21 days)				273	546							
Onsite Assistant R.E. #4 PH3: Intersection Paving (13 hour days, 21 days)				273								
Onsite Assistant R.E. #5 PH3: Intersection Paving (13 hour days, 21 days)					273							
Office Support				40								
Prepare change orders, pay requests		16		40								
Review payrolls											80	
Senior Project Engineer Site Visits		80	80									
PM Attend Weekly Construction Meetings (1 hour/week for 33 weeks)		33										
Winter Shutdown - Restart Meeting		10		10	3							
Respond to field issues throughout duration of project		80										
Attend and conduct final inspection		10		10	3							
Verify completion of punch list (conducted by RE)					24							
Prepare and submit record drawings (188 sheets)									80			
Prepare and submit Final Testing Report / Closeout Report		2							120			
Final DBE Documentation		2							4			
Update & Submit ALP to show As Built Conditions									24			
Total hours =	5,866	0	245	80	1676	3547	0	0	236	0	82	(1, 2, 3, 4, 5)
Total =	\$847,791.45	\$0.00	\$44,352.38	\$11,089.98	\$179,828.30	\$302,429.43	\$0.00	\$0.00	\$24,196.47	\$0.00	\$5,323.52	\$280,571.37
<b>PART A SUBTOTAL = \$847,791.45</b>												
<b>B. SPECIAL SERVICES</b>												
1. Aeronautical Surveys for Approach Procedure Development:												
Establish project file						4						
Project Reporting			4			24	20					
Survey						24	16	80	60	30		
Instrument approach development			6			24	4					
Total hours =	296	0	0	10	0	76	40	80	60	30	0	(1, 2, 3, 4, 5)
Total =	\$33,133.32	\$0.00	\$0.00	\$1,386.25	\$0.00	\$0.00	\$8,046.70	\$2,822.60	\$10,044.49	\$6,151.64	\$2,199.34	\$0.00
<b>PART B SUBTOTAL = \$33,133.32</b>												
<b>GRAND TOTAL = \$880,924.77</b>												



8248 HW 101<sup>st</sup> Terr #5  
Kansas City, MO 64152  
816.599.7965 (tel)  
816.599.7967 (fax)  
www.tsigeotech.com

June 3, 2016

Mr. Ty Sander, PE  
**CRAWFORD, MURPHY & TILLY**  
Gateway Tower  
One Memorial Drive, Suite 500  
St. Louis, MO 63102

Re: **Proposal Construction Materials Testing**  
**Lee's Summit Airport – Runway 18-36**  
**Lee's Summit, Missouri**  
**TSi Proposal No.: KCM16059**

Dear Mr. Sander:

TSi Geotechnical, Inc. (TSi) is pleased to submit this proposal for construction materials testing services to Crawford, Murphy & Tilly (CMT) for the Lee's Summit Airport – Runway 18-36 project in Lee's Summit, Missouri.

#### **PROJECT DESCRIPTION**

The project includes the rehabilitation, widening and extension of the current Runway 18-36 located at the Lee's Summit Municipal Airport in Lee's Summit, Missouri. The northern portion of the taxiway to be rehabilitated is approximately 3900 feet long. We understand construction activities will consist of demolition of the existing runway, removal and replacement of unsuitable subgrade material as necessary, fly ash treatment of subgrade material, base rock placement, and Portland cement concrete paving. The existing runway will be widened approximately 25' when replaced. Approximately 1300' of new Portland cement concrete paving will also be placed the southern end of the existing runway. Additional areas will consist of bituminous asphalt pavement.

#### **SCOPE OF SERVICES**

TSi will provide one technician for construction materials testing on a primarily full-time basis, with additional personnel for concrete paving activities. More specifically, TSi will perform the following services:

PROFESSIONAL SERVICE SINCE 1989

#### EARTHWORK

- Observation of grading activities including subgrades and identify any unacceptable materials or soft zones prior to placement of fill. Observe and test remedial work in unsuitable areas that are found during subgrade evaluations.
- Collect samples of the proposed fill material for standard Proctor, fly ash treated Proctor and Atterberg limits testing in our laboratory.
- Measure the in-place density and moisture content of compacted fill and base rock material with a nuclear gauge.

#### CAST-IN-PLACE CONCRETE

- Concrete pavement will be tested on a frequency of one set of flexural beams (two beams per set) for each subplot of concrete placed. Additional foundation and structural concrete will be tested on a frequency of one set of compressive strength cylinders (four cylinders per set) for every 50 cubic yards of concrete placed, or for each day's production.
- Observe placement of concrete and complete field testing for slump, air content and temperature.
- Prepare flexural and compressive strength test specimens during placement of concrete.
- Collect flexural and compressive strength test specimens for return to our laboratory after initial curing.
- Complete laboratory flexural and strength tests on the concrete beam and cylinder samples at the specified times. The specimens will be cured in our laboratory per ASTM C31 until such time that they are designated to be tested.

#### ASPHALT PAVEMENTS

- Perform field density tests on new asphalt pavement.
- Collect samples of base and surface hot mix asphalt for Marshall stability and flow laboratory testing.
- Collect contractor obtained asphalt cores and perform asphalt thickness and density verification.

#### PROJECT MANAGEMENT

- Attend project meetings.
- Provide project management for our scope of services.
- Report the results of our services.

## **PROJECT STAFF AND DOCUMENTATION**

The on-site construction observation and testing described will be performed by a qualified TSi technician. A project manager from TSi will provide daily supervision of activities and provide engineering support to address specific problems that might arise, as needed. Supervision will consist of reviewing daily field reports, periodic site visits, and daily communication with the technician to determine that construction is being performed in accordance with the project plans, specifications, and good engineering practice. The project manager will also attend occasional project meetings, as necessary.

TSi will document the pertinent data and observations made daily in the field using handwritten forms. After office review, approved final copies of the field reports will be forwarded to the project team. Forms and summary reports will be forwarded by e-mail (PDF format) on a bi-weekly basis. A final report will be provided at the completion of the work. Any problems that arise during construction that are not being addressed in a suitable manner by the contractor or non-compliance with specifications and contract documents will be brought to the attention of the client or their designated representative and the contractor's personnel immediately.

## **SCHEDULE**

We have estimated the hours of work at the site requiring TSi's services based on a review of the preliminary plans, provided to us on May 18, 2016. Our fees provided herein are based on these preliminary plans. Travel time is included in the site visits. The number of hours and tests described in the cost estimate does not constitute a minimum or maximum number of tests or hours that may be required for this project. TSi's services will be performed on a full time basis, with additional TSi personnel scheduled when necessary for concrete paving activities. TSi will not be responsible for scheduling our services and will not be responsible for tests or observations that are not performed due to failure to schedule our services on the project outside normal work hours. Additional services required that are outside normal work hours should be scheduled a minimum of 24 hours in advance. Scheduling personnel will be on an as-available basis, which may require changes in personnel assigned to the project. All requests for services should be submitted to Shannon Stafford, (phone 816/599-7965) and should not be scheduled through our field personnel. We have made assumptions that some overtime and overnight shifts will be required during this project. Should additional overtime shifts be required, our estimated total fee may change.

We recommend that the scope of services described in this proposal be provided to the person(s) who will be responsible for scheduling so that they are aware of the services that are proposed.

## **FEE**

TSi's services for the project will be provided on a unit fee basis. Based on the scope of services described herein, our estimated fee is \$175,446.00. The estimated fee will be adjusted for the final scope of services based on the attached unit fee schedule. The fees for any additional services that may be necessary will be billed on a unit rate basis, in accordance with the attached Unit Fee Schedule.

If overtime is required due to the contractor's schedule, an additional fee of 50% of the technician's hourly rate will be billed. We have assumed overtime will be required for the duration of this project at various times, including a three week span of 24/7 testing for runway intersection activities. We may not be aware of additional overtime issues prior to their occurrence.

## **LIMITATIONS**

TSi will perform only those services described herein and only when requested by you. CMT and TSi may subsequently agree in writing to provide additional services under this agreement for additional compensation. Services provided by TSi will be consistent with the engineering standards prevailing at the time and in the area that the work is performed. No other warranty, expressed or implied, is intended.



Mr. Ty Sander, PE  
**CRAWFORD, MURPHY & TILLY**  
Page 5

**CLOSURE**

If this proposal and the attached Terms and Conditions are acceptable to you, please sign in the space provided below and return one copy to us. We sincerely appreciate the opportunity to present this proposal to you for your consideration. Please call us if you have any questions or if you wish to discuss it in greater detail.

Sincerely,  
**TSI GEOTECHNICAL, INC.**



Shannon Stafford  
Area Manager



Morris Hervey  
Principal

Attachments: Unit Fee Schedule and Fee Estimate  
Exhibit IV  
Terms and Conditions

Accepted by:  
**CRAWFORD, MURPHY & TILLY**

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

NOTE: The contents of this proposal are confidential and shall not be distributed to any person(s) other than those for whom this proposal was intended.

**Lee's Summit Municipal Airport Runway 18-36  
Lee's Summit, Missouri  
Construction Materials Testing  
Unit Fee Schedule**



Valid for work completed prior to December 31, 2017

	<b>Unit Cost</b>		<b>Qty</b>	<b>Estimated Amount</b>
<b><u>Personnel/Labor</u></b>				
Senior Engineer	\$ 153.00	hour	30	\$ 4,590.00
Project Manager	\$ 95.00	hour	140	\$ 13,300.00
Senior Technician	\$ 64.00	hour	1364	\$ 87,296.00
Senior Technician - Overtime (see Notes 2 &3)	\$ 96.00	hour	540	\$ 51,840.00
Vehicle Charge	\$ 30.00	day	196	\$ 5,880.00
			<b>subtotal</b>	<b>\$ 162,906.00</b>
<b><u>Laboratory Testing</u></b>				
Standard Proctor Compaction	\$ 180.00	each	8	\$ 1,440.00
Atterberg Limits	\$ 70.00	each	8	\$ 560.00
Compressive Strength of Concrete Cylinders	\$ 15.00	each	120	\$ 1,800.00
Concrete Flexural Strength - Beams	\$ 50.00	each	144	\$ 7,200.00
Aggregate Gradation Sieve Analysis	\$ 75.00	each	4	\$ 300.00
Flyash Proctor - Soil	\$ 180.00	each	4	\$ 720.00
Asphalt Marshall Stability and Flow	\$ 130.00	each	4	\$ 520.00
			<b>subtotal</b>	<b>\$ 12,540.00</b>
			<b>Total Fee Estimate</b>	<b>\$ 175,446.00</b>

**General Notes**

1. Field testing of fill density and moisture; concrete slump, air content, and temperature; and asphalt pavement density is included in the hourly rate for the field technician.
2. A 3 hour minimum will apply to all field technician services.
3. Overtime at a rate of 1.5 times the normal hourly rate will be charged for field personnel who work more than 8 hours per day or on weekends and holidays.
4. We can provide fees for services and testing not listed above upon request.

EXHIBIT IV - SA 1

DERIVATION OF CONSULTANT PROJECT COSTS

LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT, MISSOURI  
WIDEN, RECONSTRUCT AND EXTEND RUNWAY 18-36

CONSTRUCTION PHASE SERVICES

May 20, 2016

1

**DIRECT SALARY COSTS:**

<u>TITLE</u>	<u>HOURS</u>	<u>RATE/HOUR</u>	<u>COST</u>
Senior Engineer	30	\$ 51.85	\$ 1,555.55
Project Manager	140	\$ 32.20	\$ 4,507.45
Senior Technician	1364	\$ 21.69	\$29,585.16
Senior Technician (OT)	540	\$ 32.54	\$17,568.90
	2074		

Total Direct Salary Costs = \$53,217.06

2

**LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:**

Percentage of Direct Salary Costs @ 156.58 % = \$83,327.28

3

**SUBTOTAL:**

Items 1 and 2 = \$136,544.34

4

**PROFIT:**

15 % of Item 3 Subtotal = \$20,481.65 Fixed Fee

Subtotal \$157,026.00 Not to Exceed

5

**OUT-OF-POCKET EXPENSES:**

a. Vehicle Charge	196	Days @	\$30.00 / Day =	\$5,880.00
b. Standard Proctor - Soil	8	Each @	\$180.00 / Each =	\$1,440.00
c. Flyash Proctor - Soil	4	Each @	\$180.00 / Each =	\$720.00
d. Atterberg Limits	8	Each @	\$70.00 / Each =	\$560.00
e. Concrete Cylinders	120	Each @	\$15.00 / Each =	\$1,800.00
f. Concrete Beams	144	Each @	\$50.00 / Each =	\$7,200.00
g. Aggregate Gradation	4	Each @	\$75.00 / Each =	\$300.00
h. Asphalt Marshall Stabili	4	Each @	\$130.00 / Each =	\$520.00

Total Out-of-Pocket Expenses = \$18,420.00 Not to Exceed

6

**SUBCONTRACT COSTS:**

N/A = \$0.00

= \$0.00 Not to Exceed

7

**MAXIMUM TOTAL FEE:**

Items 1, 2, 3, 4, 5 and 6 = \$175,446.00 Not to Exceed

EXHIBIT IV - SA 1

DERIVATION OF CONSULTANT PROJECT COSTS

LEE'S SUMMIT MUNICIPAL AIRPORT  
 LEE'S SUMMIT, MISSOURI  
 WIDEN, RECONSTRUCT, AND EXTEN RUNWAY 18-36  
 HG CONSULT, INC  
 CONSTRUCTION OBSERVATION SERVICES  
 June 6, 2016

1

**DIRECT SALARY COSTS:**

<u>TITLE</u>	<u>HOURS</u>	<u>RATE/HOUR</u>	<u>COST</u>
Project Principal	5	\$ 66.00	\$ 330.00
Engineer I / Designer	380	\$ 37.00	\$ 14,060.00
	0	\$ -	\$ -
	0	\$ -	\$ -
	0	\$ -	\$ -
	0	\$ -	\$ -
	0	\$ -	\$ -
	<u>385</u>		

Total Direct Salary Costs = \$14,390.00

2

**LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:**

Percentage of Direct Salary Costs @ 161.89 % = \$23,295.97

3

**SUBTOTAL:**

Items 1 and 2 = \$37,685.97

4

**PROFIT:**

15 % of Item 3 Subtotal = \$5,652.90 Fixed Fee

Subtotal = \$43,338.87 Not to Exceed

5

**OUT-OF-POCKET EXPENSES:**

- a. Mileage 2400 Miles @ \$0.540 / Mile = \$1,296.00
- b. Meals 46 Days @ \$32.00 / Day = \$1,472.00
- c.

Total Out-of-Pocket Expenses = \$2,768.00 Not to Exceed

6

**SUBCONTRACT COSTS:**

- a. = \$0.00
- b. = \$0.00
- c. = \$0.00
- d. = \$0.00

= \$0.00 Not to Exceed

7

**MAXIMUM TOTAL FEE:**

Items 1, 2, 3, 4, 5 and 6 = \$46,106.87 Not to Exceed

**LEE'S SUMMIT MUNICIPAL AIRPORT**  
**LEE'S SUMMIT, MISSOURI**  
**HG CONSULT, INC**  
**CONSTRUCTION OBSERVATION SERVICES**  
**WIDEN, RECONSTRUCT, AND EXTEN RUNWAY 18-36**  
 June 6, 2016

Exhibit V-SA1-1

	Project Principal \$66.00	Engineer I / Designer \$37.00	0.00 \$0.00	0.00 \$0.00	0.00 \$0.00	\$ 0.00 -	0.00 \$0.00	Other Costs
<b>CONSTRUCTION OBSERVATION SERVICES</b>								
Phase 3 Observation (15 days @ 12hr/day)		180						
Construction Observation Assistance (4 weeks, 5 days/wk @ 10 hrs/day)		200						
Project Admin. (progress reports, invoicing, etc.)	10							
<b>Total hours =</b>	10	380	0	0	0	0	0	(1, 2, 3)
<b>Total =</b>	\$660.00	\$14,060.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,768.00
<b>GRAND TOTAL =</b>		<b><u>\$14,720.00</u></b>						

- (1) Mileage
- (2) Meals

- (3) Motels

# ■ KRUGER TECHNOLOGIES, INC. ■

GEOTECHNICAL ENVIRONMENTAL TESTING INSPECTION

8271 MELROSE DRIVE LENEXA, KS 66214 PH 913-498-1114 FAX 913-498-1116 KTIKC@KTIONLINE.COM

May 27, 2016

Ty Sander  
Crawford, Murphy & Tilly  
Gateway Tower One Memorial Dr. Suite 500  
St. Louis, MO 63102

Re: Lee's Summit Airport Runway 18/36  
KTI Proposal No. 16CS123

Dear Mr. Sander:

Kruger Technologies, Inc. is pleased to submit this construction phase materials testing proposal for the above referenced project. After we reviewed the preliminary information provided by you, we developed an outline of the information and testing we feel is required by the project specifications.

We have included consideration of the following items in the scope of proposed services:

- Estimated participation for 16 weeks during the project.
- On site observation of site conditions and materials testing progress (4 hours/trip; 2 trips per week)
- Project Manager support and project review (2 hours per week)
- Principal Engineer project support (2 hours per month)

Please note that we have relied upon an assumed construction schedule in formulating this proposal. Should the actual construction schedule or the above listed scope of services change, we would be happy to submit a proposal incorporating that information.

KTI meets the requirements of Small Business Entity (SBE) as defined by the Small Business Administration.

Based on the information available at this time, we estimate a total of seventeen thousand two hundred dollars and no cents (\$17,200.00). Please sign and return a copy of this proposal as your notice to proceed.

Thank you for the opportunity to work with Crawford, Murphy & Tilly . We look forward to providing your organization with prompt, quality service.

Sincerely,  
**Kruger Technologies, Inc.**



Dylan Kruger  
*Vice President*



Otto J. Kruger, Jr., P.E.  
*President*

**Kruger Technologies, Inc.**

Kansas City | Whiteman Air Force Base | Fort Leonard Wood | Wichita  
*Learn more at [www.ktionline.com](http://www.ktionline.com)*

8271 Melrose Drive  
Lenexa, KS 66214  
Ph (913) 498-1114  
Fax (913) 498-1116  
[www.ktionline.com](http://www.ktionline.com)

**Project:** Lee's Summit Airport Runway 18/36  
**Location:** Lee's Summit, Missouri

**Proposal Number:** 16CS123  
**Proposal Date:** 5/27/2016

**Name:** Mr. Ty Sander  
**Company:** Crawford, Murphy & Tilly  
**Address:** Gateway Tower One Memorial Dr. Suite 500  
St. Louis, MO 63102

**Phone:** (314) 571-9066  
**Fax:** (314) 436-0723

**Email:** [tsander@cmtengr.com](mailto:tsander@cmtengr.com)

Category	Field Services	Hours/Qty	Rate	Amount
Inspector	Field Engineer, per hour	128	95.00	12,160.00
Inspector	Transportation, per trip	32	25.00	800.00
<b>Field Services Subtotal:</b>				<b>\$12,960.00</b>

Category	Consultation or Services	Hours/Qty	Rate	Amount
Engineer	Principal - Professional Engineer	8	150.00	1,200.00
Engineer	Project Manager	32	95.00	3,040.00
<b>Consultation Services Subtotal:</b>				<b>\$4,240.00</b>

**Total Estimated Cost:** **\$17,200.00**



LAND SURVEYORS  
INDUSTRIAL MEASUREMENT SPECIALISTS

FOUNDER: JAMES P. ANDERSON 1897 — 1948

**PROFESSIONAL LAND SURVEYORS**  
JAMES S. ANDERSON, President  
OLIVER S. ANDERSON 1926-1983  
ROBERT W. ANDERSON 1924-1965  
THOMAS L. LANG  
PHILIP J. HENEHAN  
JOHN P. WEBSTER  
ROBERT J. ANDERSON

June 3, 2016

Crawford, Murphy, and Tilly, Inc.  
Gateway Tower  
One Memorial Drive, Suite 500  
St. Louis, Missouri 63102

Attention: Mr. Tyler Horn

Email: thorn@cmtengr.com

RE: Survey Proposal, Miscellaneous Work to Support Paving  
Project, Lee's Summit Airport, Lee's Summit, Jackson  
County, Missouri

Dear Mr. Horn:

Per your instructions we have prepared estimates for the above referenced project.  
They are as follows:

1. Monthly settlement monitor of the pre-grading fill for the south runway extension. (12 monthly measurements) \$7,860.00
2. Topographic survey of the pre-grading fill for the south runway extension. \$4,800.00
3. 20% Contingency for incidental work. \$2,500.00

We would propose to invoice you for the amount of hours worked.

Should you have any questions or need additional information, please feel free to call.  
We appreciate your continuing consideration of our firm's services in accomplishing  
your survey needs and look forward to working with you on this project.

Sincerely,

Philip J. Henehan, PLS  
ANDERSON SURVEY COMPANY, INC.

PJH: dja

*The quiet of our estates, in a great measure, depends upon  
the faithfulness, understanding, and care of our surveyors.*  
Virginia Statutes, 1705