

1617-LWC-PS-IFE(REVISED)

January 19, 2017

Mr. Charles Soules, P.E., Public Works Director
Lawrence Municipal Airport
City of Lawrence
P.O. Box 708
Lawrence, Kansas 66044-0708

Subject: Lawrence Municipal Airport (LWC)
IFE for Construct New Wildlife Fence
AIP Project No. 3-20-0047-021-2017

Dear Mr. Soules:

Please find enclosed the revised independent fee estimate which was completed in accordance with AC150/5100-14E (9/25/2015). This independent fee estimate is for design and construction services which includes Project Formulation, Design, Environmental, Survey, DBE Plan, Bidding, Construction Management, Construction Inspection, Material Testing and Project Close-Out. If any additional services are required and/or anticipated for this contract, please let us know so that we may include those in our estimate.

This project is to construct new wildlife perimeter fence (27,000+/- l.f.) with gates at the Lawrence Municipal Airport in Lawrence, KS. This project will encompass Civil and Electrical services.

We were provided with a scope of work from Airport Development Group, Inc. dated November 10, 2016, a preliminary engineer's cost estimate dated November 16, 2016, the FAA "Go Letter" dated October 19, 2016, the CIP Data Sheet dated September 16, 2016 and a sketch of the proposed fence layout. This information, along with direct conversations with yourself, was used in determining the estimated fee for design and construction management services.

We have made the following assumptions:

- Design Engineer team members will be on-site for project formulation, two (2) design inspections, pre-bid conference, bid opening, pre-construction meeting, construction start, one progress meeting and the final inspection. These will all require commercial airfare from Denver to Kansas City and car rental. We have assumed that all trips will require an overnight stay in a local hotel.
- The Survey is broken out into the boundary survey, locating the flood plain, construction staking and a final as-built survey for the record drawings. We estimated the boundary survey on a per foot price. Since locating the flood plain will take some trial and error to find the correct elevation we estimated that by the hour. For the construction staking we estimated a stake on line every five hundred feet (500') plus fence corners and gates. Finally, we estimated that the as-built should take no longer than two days to complete.
- The construction time frame is fifty (50) calendar days or approximately seven (7) weeks. We have assumed that the contractor will work five (5) days per week (37 working days) for eight (8) hours per day.

- o The Construction Inspector (CI) will travel to the site daily from approximately five (5) miles away. The CI will provide approximately twenty-seven (27) hours per week of inspection. No overnight stays nor per diem are included.
- o Material Testing will be required for the concrete used to set the fence posts. The scope of work calls for four (4) tests per day.

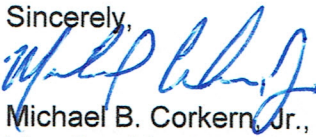
SUMMARY

Basic Services - Design Fee	\$ 91,573.00
Special Services – Construction Fee	<u>\$ 84,006.00</u>
Total Fee	<u>\$175,579.00</u>

Estimate Construction Cost	\$1,193,700.00
Design Fee as Percent of Estimate Construction Cost (PECC)	7.67%
Construction Fee as Percent of Estimate Construction Cost (PECC)	7.03%

This IFE was revised to include the required Environmental Clearance, and we added survey "office" time and profit for the prime consultant on sub-consultants. After you have had a chance to review the attached supporting documents contact me if you would like to discuss the IFE in more detail. Again, I want to thank you for the opportunity to assist the City of Lawrence on this project.

Sincerely,



Michael B. Corkern, Jr., P.E.
Vice President

ACE Consulting and Design, LLC

Enclosure

Lawrence Municipal Airport

New Wildlife Fence



ENGINEERING SERVICES INDEPENDENT FEE ANALYSIS 1/18/2017 Revised

Summary of Engineering Fees

BASIC SERVICES ENGINEERING COST JUSTIFICATION - DESIGN	\$66,518
BASIC SERVICES ENGINEERING COST JUSTIFICATION - DESIGN SURVEY	\$25,055
Total Design Services:	\$91,573
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION ADMIN.	\$29,495
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION INSPECTION	\$28,792
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION SURVEY	\$11,359
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - MATERIAL TESTING	\$14,361
Total Construction Services:	\$84,006
Total:	\$175,579

Prepared by: Michael B. Corkern, Jr., P.E.
ACE Consulting and Design, LLC
(601)-882-5533

Lawrence Municipal Airport
BASIC SERVICES ENGINEERING COST JUSTIFICATION - DESIGN
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	PRINCIPAL HOURS	PROJ. ENG. HOURS	ENGINEER HOURS	ASSOC. ENG. HOURS	PROJECT PLANNER HOURS	ENGINEER/ CADD TECH HOURS	CLERICAL HOURS	TOTAL HOURS
<u>GENERAL & ADMIN.</u>								
Project Formulation	4				4	8	4	20
Administration & Financials	4				2		2	8
Mtgs/discussions-Client & Agencies	6				6			12
Mtgs/discussions-Project Team	2				2			4
Subconsultant Coord.	2				4	2		8
Project Applications	2				2		2	6
Other								-
Travel	8				1			9
<u>DESIGN</u>								
Survey (See Survey Sheet)								-
Site Insp./Eval.	8				8			16
Project Layout	2		2			16		20
Standards & As-built Reviews	2		4			4		10
Phasing	1		2			4		7
Ops./Traffic/Safety/Security Plan	2		2		1	8		13
Electrical Design	4				4	20		28
Design Alternatives	2	8	4		1	12		27
Quantities & Costs	2	4	4	8		8	2	28
Engineer's Report	4	12	8	8			8	40
Bid Docs & Gen. Specs	2	8	2	8			16	36
Technical Specs.	2	20	16	16			20	74
Document/Plan -Review	4	4	8			16	4	36
Reproduction	1					4	4	9
Other	2	2				4	1	
Travel	16				2			18
<u>BIDDING</u>								
Plan Holders List	1						8	9
Pre-Bid Conference	8				4		2	14
Questions/Addendum's	2						2	4
Bid Opening	8				2		2	12
Bid Review	2						1	3
Other	1				2		2	5
Travel	16				2			18
TOTALS	120	58	52	40	47	106	80	494

1 DIRECT SALARY COSTS

TITLE	HOURS	RATE	COST
Principal	120	\$150.00	\$18,000.00
Project Engineer	58	\$131.00	7,598.00
Engineer	52	\$120.00	6,240.00
Associate Engineer	40	\$105.00	4,200.00
Project Planner	47	\$105.00	4,935.00
CADD Technician	106	\$75.00	7,950.00
Clerical	80	\$55.00	4,400.00
Total Direct Salary Costs			\$53,323.00

2 DIRECT NONSALARY EXPENSES

a. Travel Expenses	\$2,500.00
b. Personal Diem	\$195.00
c. Materials, Supplies & Other Expenses	\$500.00
d. DBE Plan/Goal	\$5,000.00
e. Environmental Clearance	\$5,000.00
Total Direct Nonsalary Expenses	\$13,195.00

3 SUBTOTAL OF ITEMS 1 and 2

Item No. 1	\$53,323.00	
Item No. 2	\$13,195.00	
		<u>\$66,518.00</u>

TOTAL DESIGN FEES:	\$66,518.00
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Lawrence Municipal Airport
BASIC SERVICES ENGINEERING COST JUSTIFICATION - DESIGN SURVEY
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	QUANTITY	UNIT	COST PER UNIT					TOTAL COST
<u>DESIGN SURVEY</u>								
Boundary Survey								
3-man crew	27,000	L.F.	\$ 0.50					\$13,500.00
Milage	240	MILES	\$ 0.55					\$ 132.00
Locate Flood Plain								
3-man crew	40	HRS	\$ 150.00					\$ 6,000.00
Milage	100	MILES	\$ 0.55					\$ 55.00
Office Time								
Survey Manager	12	HRS	\$ 100.00					\$ 1,200.00
CADD Technician	12	HRS	\$ 75.00					\$ 900.00
TOTALS								\$21,787.00

Prime Consultant Profit/Mark-Up: \$3,268.05

TOTAL SURVEYING FEES:	\$25,055.05
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Lawrence Municipal Airport
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION ADMIN.
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	ENG. MGR. HOURS	PROJ. ENG. HOURS	ENGINEER HOURS	ASSOC. ENG. HOURS	PROJECT PLANNER HOURS	ENGINEER/ CADD TECH HOURS	CLERICAL HOURS	TOTAL HOURS
Constr. & Eng. Budget Admin.	2				2		2	6
Contracting	2				2		2	6
FAA/State Coordination	4				4		1	9
Construction Management Plan	2					4	4	10
Preconstruction Conference	8				4		1	13
Supervisor Inspection	8						2	10
Routine Reports	2				8		16	26
Progress Mtgs	2				4		4	10
Pay Estimates	4				8		4	16
Submittals	8				2		2	12
DBE Coordination	2				4		2	8
Change Orders	2				4	2	2	10
Testing Coordination	2				2		2	6
Payrolls	2						4	6
Eng. Pre-Final Inspection	1						2	3
Final Inspection	8						2	10
Final Ads/Acceptance	2						1	3
Sponsor Certifications	1						4	5
Final Follow-Up	2				2		2	6
Client Mtgs	4				4		2	10
Other	2				2		2	6
Travel	40				4			44
TOTALS	110	-	-	-	56	6	63	235

1 DIRECT SALARY COSTS

TITLE	HOURS	RATE	COST
Principal	110	\$150.00	\$16,500.00
Project Engineer	0	\$131.00	0.00
Engineer	0	\$120.00	0.00
Assoc. Engineer	0	\$105.00	0.00
Project Planner	56	\$105.00	5,880.00
CADD Technician	6	\$75.00	450.00
Clerical	63	\$55.00	3,465.00
Total Direct Salary Costs (100%)			\$26,295.00

2 DIRECT NONSALARY EXPENSES

a. Travel Expenses	\$2,500.00
b. Personal Diem	\$200.00
c. Materials, Equipment and Supplies	\$500.00
Total Direct Nonsalary Expenses	\$3,200.00

3 SUBTOTAL OF ITEMS 1 AND 2

Item No. 1	\$26,295.00	
Item No. 2	\$3,200.00	
		<u>\$29,495.00</u>

TOTAL - CONSTRUCTION ADMINISTRATION FEES	\$29,495.00
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Lawrence Municipal Airport
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION INSPECTION
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	ENG. MGR. HOURS	PROJ. ENG. HOURS	ENGINEER HOURS	PROJECT INSPECTOR HOURS	PROJECT PLANNER HOURS	ENGINEER/ CADD TECH HOURS	CLERICAL HOURS	TOTAL HOURS
<u>CONSTRUCTION (50 CALENDAR DAYS)</u>								
Notams	1			4				5
Inspection				190				190
Quantities	2			8				10
Safety/Security Plan	2			4		2		8
R.E. To Office Coord	8			8			2	18
Survey Data	2			2		4		8
Construction Report	8			8			8	24
Other	2			8		2	4	16
Travel								-
<u>CLOSE-OUT</u>								
Record Drawings	2			4		24		30
Final Construction Report	4			8			8	20
Reproduction	1					2	4	7
Other	2			4		2	1	9
TOTALS	34	-	-	248	-	36	27	345

1 DIRECT SALARY COSTS

TITLE	HOURS	RATE	COST
Principal	34	\$150.00	\$5,100.00
Project Engineer	0	\$131.00	0.00
Engineer	0	\$120.00	0.00
Project Inspector	248	\$75.00	18,600.00
Project Planner	0	\$105.00	0.00
CADD Technician	36	\$75.00	2,700.00
Clerical	27	\$55.00	1,485.00
Total Direct Salary Costs (100%)			<u>\$27,885.00</u>

2 DIRECT NONSALARY EXPENSES

a. Travel Expenses	\$407.00
c. Materials and Supplies	<u>\$500.00</u>
Total Direct Nonsalary Expenses	<u>\$907.00</u>

3 SUBTOTAL OF ITEMS 1 AND 2

Item No. 1	\$27,885.00	
Item No. 2	\$907.00	
		<u>\$28,792.00</u>

TOTAL CONSTRUCTION INSPECTION FEES:	\$28,792.00
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Lawrence Municipal Airport
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - CONSTRUCTION SURVEY
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	QUANTITY	UNIT	COST PER UNIT					TOTAL COST
<u>CONSTRUCTION SURVEY</u>								
Construction Staking								
3-man crew	40	HRS	\$ 150.00					\$6,000.00
Milage	100	MILES	\$ 0.55					\$ 55.00
As-Built Survey								
3-man crew	16	HRS	\$ 150.00					\$2,400.00
Milage	40	MILES	\$ 0.55					\$ 22.00
Office Time								
Survey Manager	8	HRS	\$ 100.00					\$ 800.00
CADD Technician	8	HRS	\$ 75.00					\$ 600.00
TOTALS								\$9,877.00

Prime Consultant Profit/Mark-Up: \$1,481.55

TOTAL SURVEYING FEES:	\$11,358.55
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Lawrence Municipal Airport
SPECIAL SERVICES ENGINEERING COST JUSTIFICATION - MATERIAL TESTING
New Wildlife Fence



1/18/2017 Revised

DESCRIPTION	MATERIAL QUANTITY	UNIT	ENGINEER HOURS	ASSUMED NUMBER OF TESTS		COST PER TEST		TOTAL COST
P-610 Concrete Testing Field Tech Engineer Manager								
	148	Ea.		148		\$25.00		\$3,700.00
	37	Day	2			\$75.00		\$5,550.00
	37	Reports	0.50			\$175.00		\$3,237.50
TOTALS								12,488

Prime Consultant Profit/Mark-Up: \$1,873.13

TOTAL SURVEYING FEES:	\$14,360.63
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