(If a firm has branch offices, complete for each specific branch office seeking work.)

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1. REVISED ADSPO13-00003465*: Annual Request for Qualifications*

a.	FIRM (OR BRANCH OFFICE) NAME:	CR Engineers, Inc.
b.	FIRM (OR BRANCH OFFICE) STREET:	16719 E. Palisades Boulevard, Suite 202
c.	FIRM (OR BRANCH OFFICE) CITY:	Fountain Hills
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85268

f.	YEAR ESTABLISHED:	1985

(g1).	OWNERSHIP - TYPE:	Corporation
(g2)	OWNERSHIP - SMALL BUSINESS STATUS:	SBE/DBE

h.	POINT OF CONTACT NAME AND TITLE:	Catherine Alcorn P.E. / President
i.	POINT OF CONTACT TELEPHONE NUMBER:	(480) 816-5541
j.	POINT OF CONTACT E-MAIL ADDRESS:	calcorn@creng.com

k.	NAME OF FIRM *(If block 1a is a branch office)*:	

2. EMPLOYEES BY DISCIPLINE

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees - Firm	d. No. of Employees - Branch
CADD Technician	P	1	
Construction Inspector	P	2	
Electrical Engineer	P	2	
Project Manager	P	1	
Other	P	1	
Total		7	

3. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST YEAR

a. Approximate No. of Projects	b. Experience	c. Revenue Index Number *(see below)*
12	Airports: Navaids; Airport Lighting; Aircraft Fueling	3
3	Airports; Terminals and Hangars; Freight Handling	1
9	Electrical Studies and Design	1
1	Garages; Vehicle Maintenance Facilities; Parking	1
10	Highways; Streets; Airfield Paving; Parking Lots	2
11	Lighting (Exteriors; Streets; Memorials; Athletic Fields; Etc.)	1
10	Recreation Facilities (Parks, Marinas, Etc.)	2
3	Sustainable Design	1
2	Swimming Pools	1
8	Testing and Inspection Services	1
2	Waste Water Treatment Facility	1

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (*Complete one Section 4 for each key person.*)

a. NAME	b. ROLE IN THIS CONTRACT	c. YEARS EXPERIENCE	
		1. TOTAL	2. WITH CURRENT FIRM
Catherine Alcorn	Electrical Engineer / Project Manager	19	19

d. FIRM NAME AND LOCATION *(City and State)*

CR Engineers, Inc. Fountain Hills, Arizona

e. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S.E. Electrical Engineering

f. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

Arizona -36696
Nevada – 016372
New Mexico - 15721

g. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Application & Design Consideration for Power Quality Products; IESNA Lighting Fundamentals ED 100/IES; Serco Aviation Ground and Approach Lighting Course; ACEC (of Arizona) Leadership in Engineering Administration Program (LEAP); Water/Wastewater for Consultants/BSE; Grounding of Electrical Systems/NTT; ACEC (of Arizona) Senior Officers & Associates Roundtable (SOAR); EasyPower Hands-On, Protective Device Coordination, & Arc Flash Hazard Analysis & Implementation PowerClass; Fire Alarm Life Safety Education; Designing & Specifying Emergency Power System; National Electrical Code/NTT (1996); ADB Airfield Lighting Engineering Seminar; Past President – ACEC (American Council of Engineering Companies) of Arizona; Arizona Airports Association

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services –	Construction *(if applicable)* –
1)	East Valley Bus Operations and Maintenance Facilities Additions (Tempe, Arizona)	2010	2012

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

CRE prepared a set of electrical plans and specifications for the design of the Gasoline/Diesel fueling stations at the East Valley Bus Operations and Maintenance Facility located in Tempe, Arizona. The scope of work included the following: lighting for new bus canopies; addition of two in-ground lifts, a chassis wash lift, expansion of the CNG-Bus fueling system, addition of a diesel-bus fueling system, cash handling building, blowers to the bus wash lanes, upgrades to existing CCTV, and solar panel specification on the existing and new bus parking canopies. (Cost: $609,000.00)

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services –	Construction *(if applicable)* –
2)	Phoenix Sky Harbor International Airport (PSHIA) Vault Modifications (Phoenix, Arizona)	2012	2013

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

CRE provided electrical construction drawings for the modifications at the North and South Airfield Lighting Vaults required to accommodate the installation of the new ADB Airfield Lighting Control and Monitoring System (ALCMS), approximately 36 new constant current regulators (CCRs), required equipment additions to the existing ADB CCRs, and modifications to the ATCT ALCMS equipment installation. The scope included the design of a temporary airfield lighting vault system used during the construction of the modifications to the North and South Airfield Lighting Vaults. (Construction Cost: $843,645.80 budgeted /$842,027.00 actual, Completion: 180 days scheduled / 178 days actual)

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services –	Construction *(if applicable)*
3)	Cortez Pool (Phoenix, Arizona)	2013	In Progress

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm

The project consisted of three separate pools and a new equipment area. The scope of work included: an upgrade to the existing electrical service entrance section with required utility coordination; grounding and bonding design per the NEC requirements; three phase electrical distribution for a motor control center at the equipment area; electrical distribution for underwater lighting, deck lighting, and electrical infrastructure design for future PA system, and other miscellaneous convenience outlets. A photometric calculation of the deck lighting was also provided. (Cost: $3.5M estimate)

4)

(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
	Professional Services	Construction *(if applicable)*
PSHIA East Air Cargo Apron Reconstruction (Phoenix, Arizona)	2012	In Progress

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm

CRE provided electrical construction drawings for the East Cargo Apron Reconstruction at PSHIA. Electrical demolition included abandonment of existing electrical infrastructure associated with the removal of the trash compactor; vehicle loop replacement for the existing security gate 204 and 205; specification for protection of the existing utility lines and service entrance section within the Ground Services Equipment Parking area which provides power to security gates 201 thru 205; demolition and replacement of the electrical underground infrastructure based on pavement and grade removal and adjustments. Temporary airfield signage modifications were required to accommodate the phasing construction of the East Cargo Apron.
Additional scope added new apron lighting for the East Cargo Apron Reconstruction at PSHIA. Electrical demolition included the existing apron light poles. New apron light poles 70' height were placed at the edge of the existing fence line to the north. The number of poles was determined by photometric calculations and light output to properly illuminate the ramp. Power distribution to the owner provided LED obstruction lights atop each new apron pole was also included. (Cost: $6,236,522.70 – bid amount)

5)

(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
	Professional Services	Construction *(if applicable)*
Chandler Municipal Airport North Terminal Airport Parking Lot (Chandler, Arizona)	2012	In Progress

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm

CRE provided electrical construction designs, plans, specifications, quantities, and estimates for the North Terminal Parking lot at Chandler Municipal Airport. The project consisted of providing the design for parking lot lighting and power distribution per City of Chandler standards. Photometric calculations and load calculations were provided. Utility coordination was provided for specification of a new electrical services entrance section pedestal. (Cost: $219,116.68)

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (*Complete one Section 4 for each key person.*)

a. NAME	b. ROLE IN THIS CONTRACT	c. YEARS EXPERIENCE	
		1. TOTAL	2. WITH CURRENT FIRM
John Alcorn, Jr.	Electrical Engineer / Project Manager	15	15

d. FIRM NAME AND LOCATION *(City and State)*

CR Engineers, Inc. Fountain Hills, Arizona

e. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S.E. Electrical Engineering, Arizona State University, Tempe, Arizona

B.S. in Health Science, University of Arizona, Tucson, Arizona

f. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

Arizona -39727
California - 16786
Kansas - 18236

g. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*;

IESNA Lighting Fundamentals ED 100/IES; Designing Electrical Systems; APS and Univ. of N.M. Solar Design and NEC Code Compliance; Application & Design Consideration Class for Power Quality Products; National Electrical Code/NTT (1999); Fire Alarm Life Safety Education; Liability IQ for Architects & Engineers; Problems and Solutions of Electrical Power Delivery; Grounding of Electrical Distribution Systems; PSMJ Principals' Boot Camp; Crouse-Hinds Airport Lighting Systems Seminar; PV Power Systems/ NEC with John Wiles; PV Interconnection and Inspections by APS, Board Member – ACEC of Arizona.

H. RELEVANT PROJECTS

1)

(1) TITLE AND LOCATION *(City and State)*
North Scottsdale Park and Ride (Scottsdale, Arizona)

(2) Year Completed

Professional Services	Construction *(if applicable)*
2012	2013

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

[X] Check if project performed with current firm

CRE prepared electrical and photovoltaic construction documents for the North Scottsdale Park and Ride. The project consisted of providing electrical, lighting and solar design that consisted of: service entrance section design and utility coordination, load calculations, panel schedules, fault current calculations, conductor and conduit sizing and power distribution to all lighting. The park and ride lighting design per City of Scottsdale and Scottsdale Airport requirements included: driving area lighting requirements, under canopy lighting requirements, passenger platform lighting requirements, landscape lighting design, bus bay lighting, seating area lighting design, signage lighting design, entry road lighting design, obstruction lights, and lighting design incorporating FAA guidelines. The solar design included: analysis with report showing cost comparisons of different solar installs, solar design incorporating a "grid tie-back" system, passive solar design while maintaining City of Scottsdale and Scottsdale Airport lighting standards and requirements, and power distribution to all solar equipment. (Cost: $7M)

2)

(1) TITLE AND LOCATION *(City and State)*
Bus Shelter Solar Lighting (Glendale, Arizona)

(2) Year Completed

Professional Services	Construction *(if applicable)*
2012	In Progress

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

[X] Check if project performed with current firm

CRE provided assessment for the 85 non-working solar lights for bus shelters thru the City of Glendale. The assessment included: Electrically troubleshoot each bus shelter to find the cause of the problem as to why the solar lighting was not functioning; provide an assement report to explain the problems at each bus shelter. Provide an engineered solution, in report format, for the bus shelter fixes with sustainability for the bus shelter lighting. The report included an approximate Construction cost for the bus shelter fixes. (Cost: Study – N/A)

3)

(1) TITLE AND LOCATION *(City and State)*

(2) Year Completed

	SRP-MIC – Lonely Cactus Senior Housing – Solar (Scottsdale, Arizona – Salt River Pima-Maricopa Indian Community)	Professional Services 2013	Construction *(if applicable)* In Progress
	(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm CRE prepared electrical plans and specifications for the solar design for the Lonely Cactus Senior Housing. Solar included: Solar design incorporating a "grid tie-back" system to offset 80% of the electrical consumption; power distribution to all solar equipment; solar conduit infrastructure and conductor design; inverter, combiner, panel, disconnect sizing; solar panel rack system; and structural analysis for additional roof load. Electrical plans provide to meet ECS and Salt River Pima-Maricopa Indian Community requirements and SRP requirements for commercial solar projects. (Cost: $14,000.00 approximate)		
4)	(1) TITLE AND LOCATION *(City and State)* U.S. Army Corps of Engineers (USACE) Remote Video Surveillance Systems (RVSS) Upgrade Program New Tower Construction Electrical Services (Arizona/Mexico Border)	(2) Year Completed Professional Services 2012	Construction *(if applicable)* In Progress
	(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm CRE provided electrical design and design standards to meet the operation requirements for Remote Video Surveillance (RVSS) for USACE, Fort Worth District. The project included 24 sites within CBP Tucson and Yuma Sectors along the US-Mexico Border. CRE also conducted a conceptual life cycle cost analysis of first cost and maintenance of the grid power across country, versus generator and/or solar array (stand alone) was performed for each of the four (4) tower sites. The typical tower site improvements were single 80' monopole tower Government Furnished Material (GFM), a permanent and backup power source by generator and/or solar array grounding, a compacted gravel parking area. Grid power for the tower sites required an H frame for a grid power meter, and a main panel box for 100Amp service was designed. The grid power was site specific. CRE also provided technical review of designs by others and provided technical support for preparation of the specifications. Design and construction services were provided. (Cost: $82,000.00 approximate per location)		
5)	(1) TITLE AND LOCATION *(City and State)* East Baseline Road Park and Ride Planning and Design (Phoenix, Arizona)	(2) Year Completed Professional Services 2013	Construction *(if applicable)* In Progress
	(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE [x] Check if project performed with current firm CRE prepared electrical and photovoltaic construction documents for the East Baseline Park and Ride between 7th and 48th streets. The project consisted of providing electrical, lighting and solar design that consist of: service entrance section design and utility coordination, load calculations, panel schedules, fault current calculations, conductor and conduit sizing and power distribution to all lighting. The park and ride lighting design per City of Phoenix requirements included: driving area lighting requirements, under canopy lighting requirements, passenger platform lighting requirements, landscape lighting design, bus bay lighting, seating area lighting design, signage lighting design, entry road lighting design, obstruction lights, and lighting design incorporating the City's guidelines. The solar design included: analysis with report showing cost comparisons of different solar installs, solar design incorporating a "grid tie-back" system, passive solar design while maintaining City of Phoenix lighting standards and requirements, and power distribution to all solar equipment. (Cost: $3.5M estimate)		

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (*Complete one Section 4 for each key person.*)

a. NAME	b. ROLE IN THIS CONTRACT	c. YEARS EXPERIENCE	
		1. TOTAL	2. WITH CURRENT FIRM
Randy Despain	Senior Field Inspector	32	5

d. FIRM NAME AND LOCATION *(City and State)*

CR Engineers, Inc. Fountain Hills, Arizona

e. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S. in Construction Engineering,
Arizona State University -1993

f. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

g. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

OSHA Safety Training and First Aid; GENERAC Power Systems; IAEI – International Association Electrical Inspectors Associated Member

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services	Construction *(if applicable)*
1)	Pinal County Airpark Electrical Infrastructure Inspection and Study (Pinal, Arizona)	2013	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

1) CRE performed inspection of the existing electrical infrastructure at the Pinal County Airpark. The inspections included electrical inspection of the airfield lighting system and vault which is dated back to its original installation in 1942; and an overall assessment of the utility services and main electrical distribution equipment which services the facilities within the campus including the Aviation Center, Control Tower, Hangars, Fuel Farm, offices, site parking areas, warehouse, cafeteria, theatre and motel. Available electrical load capacity was calculated at all utility services. A report was generated which detailed the site investigation findings, and provide recommendations to upgrade and/or repair the electrical infrastructure and/or equipment. The report included electrical construction cost estimates based on the report findings and recommendations. (Cost: Study – N/A)

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services	Construction *(if applicable)*
2)	City of Glendale Bus Shelter Solar Lighting Assessment (Glendale, Arizona)	2012	In Progress

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

2) CRE provided an electrical assessment for the 85 non-working solar lights for bus shelters in the City of Glendale. The electrical assessment included: Electrically troubleshoot each bus shelter to find the cause of the problem why the solar lighting was not functioning; provide an assessment report to explain the problems at each bus shelter; provide a value engineered solution, in report format, for bus shelter renovations with sustainability for the bus shelter lighting in mind. This report included an approximate construction cost for the bus shelter recommended repairs. (Cost: $4,900.00 Design)

	(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
		Professional Services	Construction *(if applicable)*
3)	Phoenix Sky Harbor International Airport (PSHIA) Jet Bridge Replacement/Refurbishment Airport Wide (Phoenix, Arizona)	2012	N/A

[ ]

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — x Check if project performed with current firm

CRE provided inspections of 44 passenger boarding jet bridges at PSHIA. The inspections included structural, electrical (including the ground power units per bridge and main electrical feeders), air conditioning units, and mechanical systems. A report was generated which detailed the site investigation findings, assessed the preventative maintenance procedures, and provided recommendations and cost estimates to upgrade and/or replace the equipment. (Cost: Study – N/A)

4)

(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
	Professional Services	Construction *(if applicable)*
East Valley Bus Operations and Maintenance Facilities Additions (Tempe, Arizona)	2012	2013

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [x] Check if project performed with current firm

CRE prepared a set of electrical plans and specifications for the design of the Gasoline /Diesel fueling stations at the East Valley Bus Operations and Maintenance Facility located in Tempe, Arizona. The scope of work included the following: lighting for new bus canopies; addition of two in-ground lifts, a chassis wash lift, expansion of the GNG-Bus fueling system, addition of a diesel-bus fueling system, cash handling building, blowers to the bus wash lanes, upgrades to CCTV, and solar panel specification on the existing and new bus parking canopies. (Cost: $609,000.00)

5)

(1) TITLE AND LOCATION *(City and State)*	(2) Year Completed	
	Professional Services	Construction *(if applicable)*
San Manuel Airport Electrical Improvements (San Manuel, Arizona)	2011	2013

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [x] Check if project performed with current firm

CRE provided electrical construction documents for the currently unlit airfield at San Manuel Airport. He scope of work included design of a new runway edge lights and LED airfield signage, lighted wind cones, rotating beacon, and new PAPI's and LED REIL's. These new airfield lighting systems required specification of a new airfield lighting vault, including a L-821 Airport Lighting Control Panel, constant current regulators, and power distribution panels. Electrical capacity was provided at the new vault for future airfield lighting systems including taxiway edge lights and signage. Services included design and full time resident construction inspector. (Cost: $619,699.00)

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION *(City and State)*	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
East Baseline Road Park and Ride Planning and Design (Phoenix, Arizona)	2013	In Progress

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
City of Phoenix	$3.5M - estimate	$3.5M - estimate

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

CRE prepared electrical and photovoltaic construction documents for the East Baseline Park and Ride between 7th and 48th streets. The project consisted of providing electrical, lighting and solar design that consist of: service entrance section design and utility coordination, load calculations, panel schedules, fault current calculations, conductor and conduit sizing and power distribution to all lighting. The park and ride lighting design per City of Phoenix requirements included: driving area lighting requirements, under canopy lighting requirements, passenger platform lighting requirements, landscape lighting design, bus bay lighting, seating area lighting design, signage lighting design, entry road lighting design, obstruction lights, and lighting design incorporating the City's guidelines. The solar design included: analysis with report showing cost comparisons of different solar installs, solar design incorporating a "grid tie-back" system, passive solar design while maintaining City of Phoenix lighting standards and requirements, and power distribution to all solar equipment. Design was completed within a one year time period.

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION *(City and State)*	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Pinal County Airpark Electrical Infrastructure Inspection and Study (Pinal, Arizona)	2013	N/A

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
Pinal County	N/A Study	N/A - Study

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

CRE performed inspection of the existing electrical infrastructure at the Pinal County Airpark. The inspections included electrical inspection of the airfield lighting system and vault which is dated back to its original installation in 1942; and an overall assessment of the utility services and main electrical distribution equipment which services the facilities within the campus including the Aviation Center, Control Tower, Hangars, Fuel Farm, offices, site parking areas, warehouse, cafeteria, theatre and motel. Available electrical load capacity was calculated at all utility services. A report was generated which detailed the site investigation findings, and provide recommendations to upgrade and/or repair the electrical infrastructure and/or equipment. The report included electrical construction cost estimates based on the report findings and recommendations. The study was completed within a two month time period.

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION *(City and State)*	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
East Valley Bus Operations and Maintenance Facilities Additions (Tempe, Arizona)	2010	2013

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
City of Tempe	$609,000.00	$609,000.00

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

CRE prepared a set of electrical plans and specifications for the design of the Gasoline /Diesel fueling stations at the East Valley Bus Operations and Maintenance Facility located in Tempe, Arizona. The scope of work included the following: lighting for new bus canopies; addition of two in-ground lifts, a chassis wash lift, expansion of the GNG-Bus fueling system, addition of a diesel-bus fueling system, cash handling building, blowers to the bus wash lanes, upgrades to CCTV, and solar panel specification on the existing and new bus parking canopies. Design and construction was completed within a three year time period.

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION *(City and State)*	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Cortez Pool (Phoenix, Arizona)	2013	In Progress

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
City of Phoenix	$3.5M - estimate	$3.5M - estimate

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

The project consisted of three separate pools and a new equipment area. The existing electrical utility service from SRP is rated at 200Amps, 277/480 Volts, 3 phase, 4 wire. To support the new motor loads, this utility service required to be upgraded. The scope of work included: an upgrade to the existing electrical service entrance section with required utility coordination; grounding and bonding design per the NEC requirements; three phase electrical distribution for a motor control center at the equipment area; electrical distribution for underwater lighting, deck lighting, and electrical infrastructure design for future PA system, and other miscellaneous convenience outlets. A photometric calculation of the deck lighting was also provided. Design was completed within a six month time period.

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION *(City and State)*	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Ernest A. Love Field/Prescott Municipal Airport Runway 3R/21L RSA Improvements (Prescott, Arizona)	2012	2013

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
City of Prescott	$7.9M	$8.2M

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

CRE prepared electrical contract documents needed to construct improvements to the safety areas of the ends of Runway 21L-3R, and shift the runway approximately 400' to the Northeast, the construction of new connector taxiways which included new taxiway edge lighting, signage, and LED RGL's, holding aprons with in-pavement and elevated lights, and new runway shoulders with re- installation of the runway edge lights in new base cans. The scope also included relocation for the existing PAPI, FAA glide slope shelter and REILS and two new LED windcones for Runway 21L. The existing taxiway edge lighting on Taxiway D was completely replaced with LED lights as well. This project required significant phasing in order to maintain operations on the runway while under construction. Project delivery was Deign-Bid-Build and was completed within a two year time period.

6. ADDITIONAL INFORMATION

a. PROVIDE ANY ADDITIONAL INFORMATION YOU FEEL MAY BE NECESSARY TO DESCRIBE YOUR FIRMS QUALIFICATIONS. *(ATTACH ADDITIONAL SHEETS AS NEEDED.)*

CR Engineers Inc. (CRE) is a local and acclaimed consulting electrical engineering firm employing highly skilled individuals with hands-on technical backgrounds in various areas of electrical expertise. Established in 1985, CRE has been performing electrical engineering design and construction administration services for over 25 years in Arizona. CRE is a woman-owned small business and maintains the following business certifications: **SBE, with the City of Phoenix, and DBE certified with Arizona Unified Certification Program through the City of Phoenix**. Listed below are the electrical consulting engineering services we provide:

Power Distribution Design

CRE can provide electrical design and construction services for low voltage through 600 Volt single and three phase systems; UPS, standby and emergency generator design; medium voltage distribution design; inspections and renovations of existing systems to correct National Electric Code (NEC) violations; ground testing; and ARC flash analysis.

Lighting Design

CRE holds licenses to use LITE-PRO, Visual, AGI-32, and Genesys II programs. Our use of this software allows us to produce a lighting model that helps us optimize light distribution, conserve energy, while maintaining safe light levels in public areas. Combined with our other CAD and Micro Station software packages, we are prepared to perform any lighting design task to meet the projects needs. Representative lighting projects types include: sports lighting; street lighting for major and arterial roadways; pedestrian, parking lot, and garage lighting; interior and exterior building lighting meeting the latest adopted City Building Codes, LEED, and standards for emergency and egress lighting; theatrical lighting; and photometric testing

Photovoltaic Power System Design

CRE has the expertise to provide complete photovoltaic power system designs from sizing of solar modules to engineering the connectivity to the conventional electrical panel. All of our electrical and solar designs meet the requirements of the National Electrical Code, Electrical Utility Standards and specific City Standards. We also can provide our clients with a cost benefit analysis that includes all current and state cost incentives, solar options, power output, payback times and related construction costs for each photovoltaic option provided.

Airfield Electrical Systems Design

CRE has substantial experience in this field of Aeronautical Ground Lighting (AGL) systems as well as electrical design for additional airport facilities. Our AGL experience encompasses electrical airfield lighting vault design, runway, apron, and taxiway lighting, Automated Weather Observing Systems (AWOS), airfield guidance signage, and other NAVAID systems. CRE also has extensive experience in designing AGL control and monitoring systems as well as standby systems. Over and above designing AGL systems for an airport, our experience includes designs for terminal buildings, hangars, perimeter fences and access gates, and airport parking facilities. We can provide electrical design for any airport building, which may require interior lighting, security communications, and/or fire protection systems. At CRE, our design philosophy is governed by the essential requirement for AGL systems to be safe, dependable, and provide maximum efficiency and ease of maintenance for the respective airport, while maintaining minimal downtime of airfield electrical systems during construction.

Water/ Wastewater Electrical Instrumentation and Controls Design

CRE has performed numerous electrical and instrumentation and control systems design for industrial water and wastewater facilities. Our experience includes designing electrical and instrumentation systems for wastewater treatment plants, lift stations, water treatment plants, well pumping facilities, booster stations, and reservoirs for a multitude of municipalities including: Phoenix, Glendale, Mesa, Chandler, Avondale, and Surprise, just to name a few. CR Engineers can provide power distribution design for low, medium, and high voltage systems for complex motor controllers, such as variable frequency drives and solid state starters. We will also design and specify any required instrumentation used for controls, such as ultrasonic level sensors and differential pressure transmitters. Our team is highly experienced in designing Supervisory Control and Data Acquisition Systems (SCADA) utilizing various mediums including radio, phone, and fiber optics. We can integrate Programmable Logic Controllers (PLCs) into our design for a completely automated system.

Special Systems Design

CRE has experience in the design of fire alarm systems; security systems including CCTV, card access systems, laser and motion detection, motorized gates; and telecommunications using fiber optic technology.

Construction Administration Services

CRE can also provide full electrical construction management and inspection services. We have a highly trained staff of dedicated electrical inspectors to provide numerous services during construction. Our extensive experience and knowledge of National Electrical Code, IBC, and multiple Arizona city code requirements enable us to fulfill all project needs. Services include: load and meter testing and diagnostics; submittal review; site observations, punch list preparation, and record drawings.

7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

a.	Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	98%
b.	Percentage of Total Work Attributable to Non-Government Work:	2%

8. AUTHORIZED REPRESENTATIVE. The foregoing is a statement of facts.

Signature: _____ Date: December 12, 2013

Name: Catherine Alcorn Title: P.E. / President