

**RETURN WITH BID**

LETTING DATE March 5, 2010

ITEM NUMBER 2A

Proposal Submitted By

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State \_\_\_\_\_

9 Digit Zip Code \_\_\_\_\_ Telephone Number \_\_\_\_\_

FEIN Number \_\_\_\_\_ FAX Number \_\_\_\_\_

E-Mail Address \_\_\_\_\_

**BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL**  
(See instructions inside front cover)

**NOTICE TO PROSPECTIVE BIDDERS**

This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction.  
(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

**PROPOSAL COVER SHEET**



**Illinois Department of Transportation**  
**DIVISION OF AERONAUTICS**

AIRPORT Southern Illinois Airport

MUNICIPAL DESIGNATION Murphysboro / Carbondale

COUNTY DESIGNATION Jackson

ILLINOIS PROJECT NO. MDH-3920

FEDERAL PROJECT NO. 3-17-0009-B30

**For engineering information, contact Kevin Lightfoot of Hanson Professional Services, Inc. at (217) 747-9433.**

**FAA rules prohibit the use of escalation clauses for materials. Therefore, the Division of Aeronautics cannot offer a bituminous material cost adjustment provision for projects utilizing federal funds.**

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included.

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## INSTRUCTIONS

**ABOUT IDOT PROPOSALS:** All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction.

**HOW MANY PROPOSALS SHOULD PROSPECTIVE BIDDERS REQUEST?:** Prospective bidders should, prior to submitting their initial request for plans and proposals, determine their needs and request the total number of plans and proposals needed for each item requested. There will be a nonrefundable charge of \$15 for each set of plans and specifications issued.

**WHO CAN BID?:** Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction. To request authorization, a potential bidder must complete and submit Part B of the Request for Authorization to Bid/or Not For Bid Status form (BDE 124 INT) and submit an original Affidavit of Availability (BC 57).

**WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?:** When a prospective prime bidder submits a "Request for Proposal Forms and Plans" he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued a **Proposal Denial and/or Authorization Form**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Proposal Denial and/or Authorization Form** will indicate the reason for denial. If a contractor has requested to bid but has not received a **Proposal Denial and/or Authorization Form**, they should contact the Central Bureau of Construction in advance of the letting date.

**WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?:** Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed by IDOT personnel.

**ABOUT SUBMITTING BIDS:** It is recommended that bidders deliver bids in person to insure they arrive at the proper location prior to the time specified for the receipt of bids. Any bid received at the place of letting after the time specified will not be accepted.

### WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	Call
Prequalification and/or Authorization to Bid	(217)782-3413
Preparation and submittal of bids	(217)782-7806
Mailing of plans and proposals	(217)782-7806
Electronic plans and proposals	(217)524-1624

### ADDENDUMS AND REVISIONS TO THE PROPOSAL FORM

Planholders should verify that they have received and incorporated the addendum and/or revision prior to submitting their bid. Failure by the bidder to include an addendum or revision could result in a bid being rejected as irregular.



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of \_\_\_\_\_

for the improvement officially known as:

(a) Southern Illinois Airport Airport

(b) The proposed improvement shown in detail on the plans issued by the Department schedule and detail sheets included herein, includes, in general, the following described work:

**Replace high intensity runway lighting on Runway 18L-36R and various electrical upgrades.**

2. The plans for the proposed work are those issued by the Department of Transportation to cover the work described above.

The specifications are those prepared by the Department of Transportation, Division of Aeronautics and designated as "Standard Specifications for Construction of Airports," the "Supplemental Specifications and Recurring Special Provisions," the "Interim Revisions to Supplemental Specifications and Recurring Special Provisions", latest editions located on the IDOT website at <http://www.dot.il.gov/aero/airspecs.html>, and the "Special Provisions" thereto, adopted and in effect on the date of invitation for bids.

3. **COMPLETION TIME/LIQUIDATED DAMAGES.** It being understood and agreed that the completion within the time limit is an essential part of the contract, the bidder agrees to complete the work within 74 (no adjustment will be made for awarding the additive alternate) calendar days, unless additional time is granted by the Engineer in accordance with the provisions of the specifications. In case of failure to complete the work on or before the time named herein, or within such extra time as may have been allowed by extensions, the bidder agrees that the Department of Transportation shall withhold from such sum as may be due him/her under the terms of this contract, the costs, as set forth below, which costs shall be considered and treated not as a penalty but as damages due to the State from the bidder by reason of the failure of the bidder to complete the work within the time specified in the contract. The following Schedule of Deductions supersedes the table given in Section 60-09 of the Division's Standard Specifications for Construction of Airports.

Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
\$ 0	\$ 100,000	\$ 375	\$ 500
100,000	500,000	550	750
500,000	1,000,000	800	1,100
1,000,000	3,000,000	1,130	1,550
3,000,000	5,000,000	1,420	1,950
5,000,000	10,000,000	1,710	2,350
10,000,000	And over	2,550	3,520

A daily charge shall be made for every day shown on the calendar beyond the specified contract time in calendar days.

**RETURN WITH BID**

4. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, supplemental and applicable recurring special provisions, form of contract and contract bonds, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this proposal he/she waives all right to plead any misunderstanding regarding the same.
  
5. **EXECUTION OF CONTRACT AND CONTRACT BONDS.** The undersigned further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bonds satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract and guaranteeing payment in full all bills and accounts for materials and labor used in the construction of the work.
  
6. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	
Up to	\$5,000.....	\$150	\$2,000,000	to	\$3,000,000.....	\$100,000
\$5,000	to \$10,000.....	\$300	\$3,000,000	to	\$5,000,000.....	\$150,000
\$10,000	to \$50,000.....	\$1,000	\$5,000,000	to	\$7,500,000.....	\$250,000
\$50,000	to \$100,000.....	\$3,000	\$7,500,000	to	\$10,000,000.....	\$400,000
\$100,000	to \$150,000.....	\$5,000	\$10,000,000	to	\$15,000,000.....	\$500,000
\$150,000	to \$250,000.....	\$7,500	\$15,000,000	to	\$20,000,000.....	\$600,000
\$250,000	to \$500,000.....	\$12,500	\$20,000,000	to	\$25,000,000.....	\$700,000
\$500,000	to \$1,000,000.....	\$25,000	\$25,000,000	to	\$30,000,000.....	\$800,000
\$1,000,000	to \$1,500,000.....	\$50,000	\$30,000,000	to	\$35,000,000.....	\$900,000
\$1,500,000	to \$2,000,000.....	\$75,000	over		\$35,000,000.....	\$1,000,000

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is \_\_\_\_\_ \$( \_\_\_\_\_ ). If this proposal is accepted and the undersigned shall fail to execute contract bonds as required herein, it is hereby agreed that the amount of the proposal guaranty shall become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bonds; otherwise, the bid bond shall become void or the proposal guaranty check shall be returned to the undersigned.

**Attach Cashier's Check or Certified Check Here**

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

The proposal guaranty check will be found in the proposal for:                      Item \_\_\_\_\_

Airport \_\_\_\_\_

**Mark the proposal cover sheet as to the type of proposal guaranty submitted.**

## RETURN WITH BID

- 7. COMBINATION BIDS.** The undersigned further agrees that if awarded the contract for the sections contained in the following combination, he/she will perform the work in accordance with the requirements of each individual proposal comprising the combination bid specified in the schedule below, and that the combination bid shall be prorated against each section in proportion to the bid submitted for the same. If an error is found to exist in the gross sum bid for one or more of the individual sections included in a combination, the combination bid shall be corrected as provided below.

A combination bid is a total bid received on 2 or more proposals. No combination bids other than those specifically set up by the Department will be considered. Separate proposal forms will be issued for each project in the combination so bids may be submitted on the combination as well as on separate units of the combination. The Department reserves the right to make awards on combination bids or separate bids to the best advantage of the Department.

If a combination bid is submitted on 2 or more proposals, separate proposals on each individual contract shall also be submitted, and unless separate proposals are so submitted, the combination bid will not be considered. If the bidder desires to submit a combination bid, the bidder shall state, in the place provided in the proposal form, the amount of the combination bid for the entire combination.

If a combination bid is submitted on any stipulated combination, and errors are found to exist in computing the gross sum bid on any one or more of the individual proposals, corrections shall be made, by the Department and the amount of the combination bid shall be corrected so that it will be in the same proportion to the sum of the corrected gross sum bid as the combination bid submitted was to the sum of the gross sum bid submitted.

The following provisions shall govern combination bidding:

- (a) A combination bid which is submitted for 2 or more proposals and awarded on that basis shall have the bid prorated against each proposal in proportion to the bid submitted for each proposal.
- (b) Separate contracts shall be executed for each individual proposal included in the combination.
- (c) The contract time for all contracts awarded on a combination bid shall be the sum of all calendar days contained within each contract included in the combination, unless otherwise provided in the contracts.
- (d) In the event the Contractor fails to complete any or all of the contracts on the combination bid within the contract time, including any authorized extension, the liquidated damages shall be determined from the schedule of deductions shown above in paragraph 3 for each day of overrun in contract time, based on the combination bid total, and shall be computed on the combination and prorated against the 2 or more individual contracts based on the dollar value of each contract.
- (e) The plans and Special Provisions for each separate contract shall be construed separately for all requirements, except as described in paragraphs (a) through (d) listed above.

**RETURN WITH BID**

**When a combination bid is submitted, the schedule below must be completed in each proposal comprising the combination.**

**If alternate bids are submitted for one or more of the sections comprising the combination, a combination bid must be submitted for each alternate.**

**Schedule of Combination Bids**

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

8. **SCHEDULE OF PRICES.** The undersigned submits herewith his/her schedule of prices covering the work to be performed under this contract; he/she understands that he/she must show in the schedule the unit prices (with no more than two decimal places, i.e. \$25.35, not \$25.348) for which he/she proposes to perform each item of work, that the extensions must be made by him/her, and that if not so done his/her proposal may be rejected as irregular.

The undersigned further agrees that the unit prices submitted herewith are for the purpose of obtaining a gross sum, and for use in computing the value of additions and deductions; that if there is a discrepancy between the gross sum bid and that resulting from the summation of the quantities multiplied by their respective unit prices, the latter shall govern.

9. **CERTIFICATE OF AUTHORITY.** The undersigned bidder, if a business organized under the laws of another State, assures the Department that it will furnish a copy of its certificate of authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish the certificate within the time provided for execution of an awarded contract may be cause for cancellation of the award and forfeiture of the proposal guaranty to the State.

COUNTY NAME JACKSON	CODE 077	DIST 09	AIRPORT NAME SOUTHERN ILLINOIS	FED PROJECT 3-17-0009-B30	ILL PROJECT MD-H -3920
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\*\*\*\*\* BASE \*\*\*\*\*

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR107812	L-807 W C-12' INTERNALLY LIT	EACH	1.000 X	=	=	=	=
AR107900	REMOVE WIND CONE	EACH	1.000 X	=	=	=	=
AR107901	REMOVE WIND TEE	L.S.	1.000 X	=	=	=	=
AR107920	REPLACE WIND CONE	EACH	2.000 X	=	=	=	=
AR108108	1/C #8 5 KV UG CABLE	L.F.	16,600.000 X	=	=	=	=
AR108558	2/C #8 600 V UG CABLE IN UD	L.F.	900.000 X	=	=	=	=
AR108800	CONTROL CABLE	L.F.	1,200.000 X	=	=	=	=
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1.000 X	=	=	=	=
AR109600	L-821 CONTROL PANEL	EACH	1.000 X	=	=	=	=
AR109620	LIGHTING CONTROL SYSTEM	L.S.	1.000 X	=	=	=	=
AR110012	2" DIRECTIONAL BORE	L.F.	820.000 X	=	=	=	=
AR110014	4" DIRECTIONAL BORE	L.F.	780.000 X	=	=	=	=
AR110202	2" PVC DUCT, DIRECT BURY	L.F.	14,000.000 X	=	=	=	=
AR110552	EXTEND 2-WAY DUCT	L.F.	17.000 X	=	=	=	=
AR110610	ELECTRICAL HANDHOLE	EACH	6.000 X	=	=	=	=

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR125515	HIRL, BASE MOUNTED	EACH	66.000 X	=			
AR125550	HI THRESHOLD LIGHT BASE MTD	EACH	16.000 X	=			
AR125565	SPLICE CAN	EACH	1.000 X	=			
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	50.000 X	=			
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	31.000 X	=			
AR125944	ADJUST TAXI GUIDANCE SIGN	EACH	3.000 X	=			
AR125945	ADJUST RWY DISTANCE REMAIN SIGN	EACH	5.000 X	=			
AR125964	RELOCATE TAXI GUIDANCE SIGN	EACH	6.000 X	=			
AR125967	RELOCATE REILS	PAIR	1.000 X	=			
AR150530	TRAFFIC MAINTENANCE	L.S.	1.000 X	=			

SUBTOTAL BASE \$

\*\*\*THE DEPARTMENT RESERVES THE RIGHT TO AWARD THIS CONTRACT ON THE  
 \*\*\*BASIS OF ANY OF THE ALTERNATES OR COMBINATION THEREOF.



\*\*\*\*\* ALT 1 \*\*\*\*\*

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AS101580	REFURBISH 36" BEACON	EACH	1.000 X				
AS108088	1/C #8 XLP-USE	L.F.	1,200.000 X				
AS125470	MODIFY EXISTING SIGN PANEL	EACH	62.000 X				
AS800591	UPGRADE AIRPORT ROTATING BEACON	L.S.	1.000 X				

SUBTOTAL ALT 1 \$ \_\_\_\_\_  
 CONTRACT - S0079

SUMMARY OF TOTAL ALTERNATES	
	CTS
TOTAL BASE \$	
TOTAL ALT 1 \$	

- NOTE:
1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
  2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.
  3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
  4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

**RETURN WITH BID**

**THE PRECEDING SCHEDULE OF PRICES MUST BE**

**COMPLETED AND RETURNED.**

**RETURN WITH BID**

**STATE REQUIRED ETHICAL  
STANDARDS GOVERNING CONTRACT  
PROCUREMENT: ASSURANCES, CERTIFICATIONS  
AND DISCLOSURES**

**I. GENERAL**

**A.** Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

**B.** In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. By execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has been read and understood, that each certification is made and understood, and that each disclosure requirement has been understood and completed.

**C.** In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for termination of the contract and the suspension or debarment of the bidder.

**II. ASSURANCES**

**A.** The assurances hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

**B. Felons**

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any state agency from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-10.

**C. Conflicts of Interest**

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

(a) Prohibition. It is unlawful for any person holding an elective office in this State, holding a seat in the General Assembly, or appointed to or employed in any of the offices or agencies of state government and who receives compensation for such employment in excess of 60% of the salary of the Governor of the State of Illinois, or who is an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority, or who is the spouse or minor child of any such person to have or acquire any contract, or any direct pecuniary interest in any contract therein, whether for stationery, printing, paper, or any services, materials, or supplies, that will be wholly or partially satisfied by the payment of funds appropriated by the General Assembly of the State of Illinois or in any contract of the Capital Development Board or the Illinois Toll Highway authority.

(b) Interests. It is unlawful for any firm, partnership, association or corporation, in which any person listed in subsection (a) is entitled to receive (i) more than 7 1/2% of the total distributable income or (ii) an amount in excess of the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(c) Combined interests. It is unlawful for any firm, partnership, association, or corporation, in which any person listed in subsection (a) together with his or her spouse or minor children is entitled to receive (i) more than 15%, in the aggregate, of the total distributable income or (ii) an amount in excess of 2 times the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

## RETURN WITH BID

(d) Securities. Nothing in this Section invalidates the provisions of any bond or other security previously offered or to be offered for sale or sold by or for the State of Illinois.

(e) Prior interests. This Section does not affect the validity of any contract made between the State and an officer or employee of the State or member of the General Assembly, his or her spouse, minor child or any combination of those persons if that contract was in existence before his or her election or employment as an officer, member, or employee. The contract is voidable, however, if it cannot be completed within 365 days after the officer, member, or employee takes office or is employed.

The current salary of the Governor is \$177,412.00. Sixty percent of the salary is \$106,447.20.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-13, or that an effective exemption has been issued by the Board of Ethics to any individual subject to the Section 50-13 prohibitions pursuant to the provisions of Section 50-20 of the Code and Executive Order Number 3 (1998). Information concerning the exemption process is available from the Department upon request.

### **D. Negotiations**

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

(a) It is unlawful for any person employed in or on a continual contractual relationship with any of the offices or agencies of State government to participate in contract negotiations on behalf of that office or agency with any firm, partnership, association, or corporation with whom that person has a contract for future employment or is negotiating concerning possible future employment.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-15, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **E. Inducements**

1. The Illinois Procurement Code provides:

Section 50-25. Inducement. Any person who offers or pays any money or other valuable thing to any person to induce him or her not to bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-25, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **F. Revolving Door Prohibition**

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, associate procurement officers, State purchasing officers, their designees whose principal duties are directly related to State procurement, and executive officers confirmed by the Senate are expressly prohibited for a period of 2 years after terminating an affected position from engaging in any procurement activity relating to the State agency most recently employing them in an affected position for a period of at least 6 months. The prohibition includes, but is not limited to: lobbying the procurement process; specifying; bidding; proposing bid, proposal, or contract documents; on their own behalf or on behalf of any firm, partnership, association, or corporation. This Section applies only to persons who terminate an affected position on or after January 15, 1999.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-30, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

### **G. Reporting Anticompetitive Practices**

1. The Illinois Procurement Code provides:

Section 50-40. Reporting anticompetitive practices. When, for any reason, any vendor, bidder, contractor, chief procurement officer, State purchasing officer, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offers, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the chief procurement officer.

2. The bidder assures the Department that it has not failed to report any relevant facts concerning the practices addressed in Section 50-40 which may involve the contract for which the bid is submitted.

# RETURN WITH BID

## H. Confidentiality

1. The Illinois Procurement Code provides:

Section 50-45. Confidentiality. Any chief procurement officer, State purchasing officer, designee, or executive officer who willfully uses or allows the use of specifications, competitive bid documents, proprietary competitive information, proposals, contracts, or selection information to compromise the fairness or integrity of the procurement, bidding, or contract process shall be subject to immediate dismissal, regardless of the Personnel code, any contract, or any collective bargaining agreement, and may in addition be subject to criminal prosecution.

2. The bidder assures the Department that it has no knowledge of any fact relevant to the practices addressed in Section 50-45 which may involve the contract for which the bid is submitted.

## I. Insider Information

1. The Illinois Procurement Act provides:

Section 50-50. Insider information. It is unlawful for any current or former elected or appointed State official or State employee to knowingly use confidential information available only by virtue of that office or employment for actual or anticipated gain for themselves or another person.

2. The bidder assures the Department that it has no knowledge of any facts relevant to the practices addressed in Section 50-50 which may involve the contract for which the bid is submitted.

## III. CERTIFICATIONS

A. The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

### B. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

- (a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

- (1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

- (2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

- (b) Businesses. No business shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

- (1) the business has been finally adjudicated not guilty; or

- (2) the business demonstrates to the governmental entity with which it seeks to contract, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

- (c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

- (d) Certification. Every bid submitted to and contract executed by the State shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The bidder certifies that it is not barred from being awarded a contract under Section 50.5.

# RETURN WITH BID

## **C. Educational Loan**

1. Section 3 of the Educational Loan Default Act provides:

§ 3. No State agency shall contract with an individual for goods or services if that individual is in default, as defined in Section 2 of this Act, on an educational loan. Any contract used by any State agency shall include a statement certifying that the individual is not in default on an educational loan as provided in this Section.

2. The bidder, if an individual as opposed to a corporation, partnership or other form of business organization, certifies that the bidder is not in default on an educational loan as provided in Section 3 of the Act.

## **D. Bid-Rigging/Bid Rotating**

1. Section 33E-11 of the Criminal Code of 1961 provides:

§ 33E-11. (a) Every bid submitted to and public contract executed pursuant to such bid by the State or a unit of local government shall contain a certification by the prime contractor that the prime contractor is not barred from contracting with any unit of State or local government as a result of a violation of either Section 33E-3 or 33E-4 of this Article. The State and units of local government shall provide the appropriate forms for such certification.

- (b) A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

2. The bidder certifies that it is not barred from contracting with the Department by reason of a violation of either Section 33E-3 or Section 33E-4.

## **E. International Anti-Boycott**

1. Section 5 of the International Anti-Boycott Certification Act provides:

§ 5. State contracts. Every contract entered into by the State of Illinois for the manufacture, furnishing, or purchasing of supplies, material, or equipment or for the furnishing of work, labor, or services, in an amount exceeding the threshold for small purchases according to the purchasing laws of this State or \$10,000.00, whichever is less, shall contain certification, as a material condition of the contract, by which the contractor agrees that neither the contractor nor any substantially-owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

2. The bidder makes the certification set forth in Section 5 of the Act.

## RETURN WITH BID

### F. Drug Free Workplace

1. The Illinois "Drug Free Workplace Act" applies to this contract and it is necessary to comply with the provisions of the "Act" if the contractor is a corporation, partnership, or other entity (including a sole proprietorship) which has 25 or more employees.

2. The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the contractor's workplace; specifying the actions that will be taken against employees for violations of such prohibition; and notifying the employee that, as a condition of employment on such contract, the employee shall abide by the terms of the statement, and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about the dangers of drug abuse in the workplace; the contractor's policy of maintaining a drug free workplace; any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug violations.

(c) Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) Notifying the Department within ten (10) days after receiving notice from an employee or otherwise receiving actual notice of the conviction of an employee for a violation of any criminal drug statute occurring in the workplace.

(e) Imposing or requiring, within 30 days after receiving notice from an employee of a conviction or actual notice of such a conviction, an appropriate personnel action, up to and including termination, or the satisfactory participation in a drug abuse assistance or rehabilitation program approved by a federal, state or local health, law enforcement or other appropriate agency.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the actions and efforts stated in this certification.

### G. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder certifies that it, or any affiliate, is not barred from being awarded a contract under 30 ILCS 500. Section 50-11 prohibits a person from entering into a contract with a State agency if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The contractor further acknowledges that the contracting State agency may declare the contract void if this certification is false or if the contractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

### H. Sarbanes-Oxley Act of 2002

1. The Illinois Procurement Code provides:

Section 50-60(c).

The contractor certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

### I. Addenda

The contractor or bidder certifies that all relevant addenda have been incorporated in to this contract. Failure to do so may cause the bid to be declared unacceptable.

**RETURN WITH BID**

**J. Section 42 of the Environmental Protection Act**

The contractor certifies in accordance with 30 ILCS 500/50-12 that the bidder or contractor is not barred from being awarded a contract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The contractor acknowledges that the contracting agency may declare the contract void if this certification is false.

**K. Apprenticeship and Training Certification (Does not apply to federal aid projects)**

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approval either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. Applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted shall be included and listed as subcontracted work. The list shall also indicate any type of work or craft job category that does not have an applicable apprenticeship or training program. **The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project as reported on the Construction Employee Workforce Projection (Form BC-1256) and returned with the bid is accounted for and listed.**

\_\_\_\_\_  
N/A (Federal)  
\_\_\_\_\_

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

**L. Executive Order Number 1 (2007) Regarding Lobbying on Government Procurements**

The bidder hereby warrants and certifies that they have complied and will comply with the requirements set forth in this Order. The requirements of this warrant and certification are a material part of the contract, and the contractor shall require this warrant and certification provision to be included in all approved subcontracts.

**M. Disclosure of Business Operations in Iran**

Section 50-36 of the Illinois Procurement Code, 30ILCS 500/50-36 provides that each bid, offer, or proposal submitted for a State contract shall include a disclosure of whether or not the Company acting as the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran, or companies involved in consortiums or projects commissioned by the Government of Iran and either of the following conditions apply:

(1) More than 10% of the Company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the Company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral-extraction products or services to the Government of Iran or a project or consortium created exclusively by that government; and the Company has failed to take substantial action.

(2) The Company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12-month period, which directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.

The terms "Business operations", "Company", "Mineral-extraction activities", "Oil-related activities", "Petroleum resources", and "Substantial action" are all defined in the Code.

Failure to make the disclosure required by the Code shall cause the bid, offer or proposal to be considered not responsive. The disclosure will be considered when evaluating the bid, offer, or proposal or awarding the contract. The name of each Company disclosed as doing business or having done business in Iran will be provided to the State Comptroller.

**Check the appropriate statement:**

Company has no business operations in Iran to disclose.

Company has business operations in Iran as disclosed in the attached document.



## RETURN WITH BID

### **N. PA 95-0635 SUBSTANCE ABUSE PREVENTION PROGRAM (SAPP)**

Effective January 1, 2008

This Public Act requires that all contractors and subcontractors have an SAPP, meeting certain requirements, in place **before** starting work.

The contractor must submit their correctly completed SAPP Certification (Form BC 261) prior to issuance of the Notice-to-Proceed.

The requirements of this Public Act are a material part of the contract, and the contractor shall require this provision to be included in all approved subcontracts. The contractor shall submit the correctly completed SAPP Certification Form BC 261 for each subcontractor with the Request for Approval of Subcontractor (Form AER 260-A) prior to issuance of the Notice-to-Proceed.

All SAPPs and Requests for Approval of Subcontractor are to be submitted to:

Department of Transportation  
Division of Aeronautics  
Attn: Chief Engineer  
1 Langhorne Bond Drive  
Capital Airport  
Springfield, IL 62707-8415.

Telephone number (217) 785-8514

Telefax number (217) 785-4533

### **O. Registration with the State Board of Elections.**

Public Act 95-0971, amending the Illinois Procurement Code, 30 ILCS 500, adding new sections 20-160 and 50-37, and Executive Order 3 (2008) establish new requirements affecting contributions that contractors, consultants, vendors and bidders, including affiliated persons and entities, may make to state officeholders, declared candidates for state offices and political organizations established to benefit such officeholders and candidates. These provisions do not apply to federal-aid contracts.

By submission of a bid, the bidder acknowledges and agrees that it has read and understands the requirements of PA 95-0971 and Executive Order 3 (2008), including but not limited to, all reporting requirements and all restrictions on soliciting and making contributions to state officeholders, declared candidates for state offices and covered political organizations that promote the candidacy of an officeholder or declared candidate for office. In addition, the bidder makes the following certifications:

- (1) As to Executive Order 3 (2008), the bidder certifies that no contribution will be made that would violate the order, and that the bidder will report all contributions as required by the order.
- (2) As to PA 95-0971, the bidder shall check either of the following certifications that apply:

/\_\_\_/ The bidder is not required to register as a business entity with the State Board of Elections.

/\_\_\_/ The bidder has registered as a business entity with the State Board of Elections, and acknowledges a continuing duty to update the registration as required the Act. **A copy of the time-stamped certificate of registration is enclosed with the bid. The Department will not award this contract without the submission of a certificate of registration.**

In accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, this certification shall be part of the contract. Compliance with PA 95-0971 and Executive Order 3 (2008) is a material part of the contract and any breach shall be cause to void the contract under Section 50-60 of the Illinois Procurement Code.

RETURN WITH BID

IV. DISCLOSURES

A. The disclosures hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$10,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies. The forms must be included with each bid or incorporated by reference.

C. Disclosure Form Instructions

Form A: For bidders that have previously submitted the information requested in Form A

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may sign the following certification statement indicating that the information previously submitted by the bidder is, as of the date of signature, current and accurate. The Certification must be signed and dated by a person who is authorized to execute contracts for the bidding company. Before signing this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder signs the Certification, the Bidder should proceed to Form B instructions.

CERTIFICATION STATEMENT

I have determined that the Form A disclosure information previously submitted is current and accurate, and all forms are hereby incorporated by reference in this bid. Any necessary additional forms or amendments to previously submitted forms are attached to this bid.

(Bidding Company)

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative

Date

## RETURN WITH BID

### **Form A: For bidders who have NOT previously submitted the information requested in Form A**

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES\_\_\_\_ NO\_\_\_\_
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than \$106,447.20? YES\_\_\_\_ NO\_\_\_\_
3. Does anyone in your organization receive more than \$106,447.20 of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.) YES\_\_\_\_ NO\_\_\_\_
4. Does anyone in your organization receive greater than 5% of the bidding entity's or parent entity's total distributive income, but which is less than \$106,447.20? YES\_\_\_\_ NO\_\_\_\_

(Note: Only one set of forms needs to be completed per person per bid even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The bidder must determine each individual in the bidding entity or the bidding entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The bidder is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the NOT APPLICABLE STATEMENT on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

**Form B: Identifying Other Contracts & Procurement Related Information** Disclosure Form B must be completed for each bid submitted by the bidding entity. It must be signed by an individual who is authorized to execute contracts for the bidding entity. *Note: Signing the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, signed and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

The Bidder shall identify, by checking Yes or No on Form B, whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the bidder only needs to complete the signature box on the bottom of Form B. If "Yes" is checked, the bidder must do one of the following:

Option I: If the bidder did not submit an Affidavit of Availability to obtain authorization to bid, the bidder must list all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Do not include IDOT contracts. Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included. Bidders who submit Affidavits of Availability are suggested to use Option II.

Option II: If the bidder is required and has submitted an Affidavit of Availability in order to obtain authorization to bid, the bidder may write or type "See Affidavit of Availability" which indicates that the Affidavit of Availability is incorporated by reference and includes all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. For any contracts that are not covered by the Affidavit of Availability, the bidder must identify them on Form B or on an attached sheet(s). These might be such things as leases.

### **D. Bidders Submitting More Than One Bid**

Bidders submitting multiple bids may submit one set of forms consisting of all required Form A disclosures and one Form B for use with all bids. Please indicate in the space provided below the bid item that contains the original disclosure forms and the bid items which incorporate the forms by reference.

- The bid submitted for letting item \_\_\_\_\_ contains the Form A disclosures or Certification Statement and the Form B disclosures. The following letting items incorporate the said forms by reference:

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**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**Form A  
Financial Information &  
Potential Conflicts of Interest  
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of \$10,000, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**

**DISCLOSURE OF FINANCIAL INFORMATION**

**1. Disclosure of Financial Information.** The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than \$106,447.20 (60% of the Governor's salary as of 7/1/2007). **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

<b>FOR INDIVIDUAL (type or print information)</b>	
<b>NAME:</b>	_____
<b>ADDRESS</b>	_____
<b>Type of ownership/distributable income share:</b>	
stock _____ sole proprietorship _____ partnership _____ other: (explain on separate sheet)	
% or \$ value of ownership/distributable income share:	_____

**2. Disclosure of Potential Conflicts of Interest.** Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services.

Yes\_\_\_\_ No\_\_\_\_

If your answer is yes, please answer each of the following questions.

- Are you currently an officer or employee of either the Capitol Development Board or the Illinois Toll Highway Authority? Yes\_\_\_\_ No\_\_\_\_
- Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) provide the name of the State agency for which you are employed and your annual salary.

\_\_\_\_\_

\_\_\_\_\_

**RETURN WITH BID**

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of the salary of the Governor? Yes \_\_\_\_\_ No \_\_\_\_\_
- 4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 2 times the salary of the Governor? Yes \_\_\_\_\_ No \_\_\_\_\_

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(b) State employment of spouse, father, mother, son, or daughter, including contractual employment for services in the previous 2 years. Yes \_\_\_\_\_ No \_\_\_\_\_

If your answer is yes, please answer each of the following questions.

- 1. Is your spouse or any minor children currently an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority? Yes \_\_\_\_\_ No \_\_\_\_\_
- 2. Is your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary.  
\_\_\_\_\_  
\_\_\_\_\_
- 3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) and amount in excess of the salary of the Governor? Yes \_\_\_\_\_ No \_\_\_\_\_
- 4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds \$106,447.20, (60% of the Governor's salary as of 7/1/07) are you and your spouse or minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 2 times the salary of the Governor? Yes \_\_\_\_\_ No \_\_\_\_\_

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(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes \_\_\_\_\_ No \_\_\_\_\_

---

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter Yes \_\_\_\_\_ No \_\_\_\_\_

---

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes \_\_\_\_\_ No \_\_\_\_\_

---

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_\_\_ No \_\_\_\_\_

---

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government. Yes \_\_\_\_\_ No \_\_\_\_\_

---

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes \_\_\_\_\_ No \_\_\_\_\_

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(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections Yes \_\_\_\_\_ No \_\_\_\_\_

---

**RETURN WITH BID**

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes\_\_\_\_ No\_\_\_\_

**APPLICABLE STATEMENT**

**This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page.**

Completed by:

\_\_\_\_\_  
Name of Authorized Representative (type or print)

Completed by:

\_\_\_\_\_  
Title of Authorized Representative (type or print)

Completed by:

\_\_\_\_\_  
Signature of Individual or Authorized Representative

\_\_\_\_\_  
Date

**NOT APPLICABLE STATEMENT**

**I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.**

**This Disclosure Form A is submitted on behalf of the CONTRACTOR listed on the previous page.**

\_\_\_\_\_  
Name of Authorized Representative (type or print)

\_\_\_\_\_  
Title of Authorized Representative (type or print)

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**Form B  
Other Contracts &  
Procurement Related Information  
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of \$10,000, and for all open-ended contracts.

**DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION**

**1. Identifying Other Contracts & Procurement Related Information.** The BIDDER shall identify whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency:

Yes \_\_\_\_\_ No \_\_\_\_\_

If **“No” is checked**, the bidder only needs to complete the signature box on the bottom of this page.

**2. If “Yes” is checked.** Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

**THE FOLLOWING STATEMENT MUST BE SIGNED**

_____	
Name of Authorized Representative (type or print)	
_____	
Title of Authorized Representative (type or print)	
_____	_____
Signature of Authorized Representative	Date

## RETURN WITH BID

### SPECIAL NOTICE TO CONTRACTORS

The following requirements of the Illinois Department of Human Rights' Rules and Regulations are applicable to bidders on all construction contracts advertised by the Illinois Department of Transportation:

#### CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

- (a) All bidders on construction contracts shall complete and submit, along with and as part of their bids, a Bidder's Employee Utilization Form (Form BC-1256) setting forth a projection and breakdown of the total workforce intended to be hired and/or allocated to such contract work by the bidder including a projection of minority and female employee utilization in all job classifications on the contract project.
- (b) The Department of Transportation shall review the Employee Utilization Form, and workforce projections contained therein, of the contract awardee to determine if such projections reflect an underutilization of minority persons and/or women in any job classification in accordance with the Equal Employment Opportunity Clause and Section 7.2 of the Illinois Department of Human Rights' Rules and Regulations for Public Contracts adopted as amended on September 17, 1980. If it is determined that the contract awardee's projections reflect an underutilization of minority persons and/or women in any job classification, it shall be advised in writing of the manner in which it is underutilizing and such awardee shall be considered to be in breach of the contract unless, prior to commencement of work on the contract project, it submits revised satisfactory projections or an acceptable written affirmative action plan to correct such underutilization including a specific timetable geared to the completion stages of the contract.
- (c) The Department of Transportation shall provide to the Department of Human Rights a copy of the contract awardee's Employee Utilization Form, a copy of any required written affirmative action plan, and any written correspondence related thereto. The Department of Human Rights may review and revise any action taken by the Department of Transportation with respect to these requirements.





**RETURN WITH BID**

**PART II. WORKFORCE PROJECTION - continued**

- B. Included in "Total Employees" under Table A is the total number of **new hires** that would be employed in the event the undersigned bidder is awarded this contract.

The undersigned bidder projects that: (number) \_\_\_\_\_ new hires would be recruited from the area in which the contract project is located; and/or (number) \_\_\_\_\_ new hires would be recruited from the area in which the bidder's principal office or base of operation is located.

- C. Included in "Total Employees" under Table A is a projection of numbers of persons to be employed directly by the undersigned bidder as well as a projection of numbers of persons to be employed by subcontractors.

The undersigned bidder estimates that (number) \_\_\_\_\_ persons will be directly employed by the prime contractor and that (number) \_\_\_\_\_ persons will be employed by subcontractors.

**PART III. AFFIRMATIVE ACTION PLAN**

- A. The undersigned bidder understands and agrees that in the event the foregoing minority and female employee utilization projection included under **PART II** is determined to be an underutilization of minority persons or women in any job category, and in the event that the undersigned bidder is awarded this contract, he/she will, prior to commencement of work, develop and submit a written Affirmative Action Plan including a specific timetable (geared to the completion stages of the contract) whereby deficiencies in minority and/or female employee utilization are corrected. Such Affirmative Action Plan will be subject to approval by the contracting agency and the **Department of Human Rights**.
- B. The undersigned bidder understands and agrees that the minority and female employee utilization projection submitted herein, and the goals and timetable included under an Affirmative Action Plan if required, are deemed to be part of the contract specifications.

Company \_\_\_\_\_ Telephone Number \_\_\_\_\_  
 \_\_\_\_\_  
 Address \_\_\_\_\_

**NOTICE REGARDING SIGNATURE**

The Bidder's signature on the Proposal Signature Sheet will constitute the signing of this form. The following signature block needs to be completed only if revisions are required.

Signature: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

- Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.
- Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.
  - Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.
  - Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

## RETURN WITH BID

**CERTIFICATIONS REQUIRED BY STATE AND/OR FEDERAL LAW.** The bidder is required by State and/or Federal law to make the below certifications and assurances as a part of the proposal and contract upon award. It is understood by the bidder that the certifications and assurances made herein are a part of the contract.

By signing the Proposal Signature Sheet, the bidder certifies that he/she has read and completed each of the following certifications and assurances, that required responses are true and correct and that the certified signature of the Proposal Signature Sheet constitutes an endorsement and execution of each certification and assurance as though each was individually signed:

A. By the execution of this proposal, the signing bidder certifies that the bidding entity has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This statement made by the undersigned bidder is true and correct under penalty of perjury under the laws of the United States.

B. CERTIFICATION, EQUAL EMPLOYMENT OPPORTUNITY:

1. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause.  
YES\_\_\_\_\_ NO\_\_\_\_\_
2. If answer to #1 is yes, have you filed with the Joint Reporting Committee, the Director of OFCC, any Federal agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements of those organizations? YES\_\_\_\_\_ NO\_\_\_\_\_

C. BUY AMERICAN - STEEL AND MANUFACTURED PRODUCTS FOR CONSTRUCTION CONTRACTS (JAN 1991)

(a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs (b)(1) or (2) shall be treated as domestic.
2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.
3. Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

(b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen, and suppliers in the performance of this contract, except those-

- (1) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities of a satisfactory quality;
- (2) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
- (3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

(End of Clause)

**RETURN WITH BID**

**D. BUY AMERICAN CERTIFICATE (JAN 1991)**

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States (as defined in the clause Buy American - Steel and Manufactured Products or Buy American - Steel and Manufactured Products For Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain from (IDOT, Division of Aeronautics) lists of articles, materials, and supplies excepted from this provision.

PRODUCT

COUNTRY OF ORIGIN

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**E. NPDES CERTIFICATION**

In accordance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter I), and the Clean Water Act, and the regulations thereunder, this certification is required for all construction contracts that will result in the disturbance of one or more acres total land area.

The undersigned bidder certifies under penalty of law that he/she understands the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR100000) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

The Airport Owner or its Agent will:

- 1) prepare, sign and submit the Notice of Intent (NOI)
- 2) conduct site inspections and complete and file the inspection reports
- 3) submit Incidence of Non-Compliance (ION) forms
- 4) submit Notice of Termination (NOT) form

Prior to the issuance of the Notice-to-Proceed, for each erosion control measure identified in the Storm Water Pollution Prevention Plan, the contractor or subcontractor responsible for the control measure(s) must sign the above certification (forms to be provided by the Department).

**F. NON-APPROPRIATION CLAUSE**

By submitting a bid/proposal under this solicitation the offeror certifies that he/she understands that obligations of the State will cease immediately without penalty or further payment being required in any fiscal year the Illinois General Assembly fails to appropriate or otherwise make available sufficient funds for this contract.

- G. Contractor is not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Contractor acknowledges the contracting state agency may declare the contract void if this certification is false (30 ILCS 500/50-11, effective July 1, 2002).

## RETURN WITH BID

### NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway in Springfield, Illinois until 10:00 o'clock a.m., March 5, 2010. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
2. **DESCRIPTION OF WORK.** The proposed improvement, shown in detail on the plans issued by the Department includes, in general, the following described work:

**Replace high intensity runway lighting on Runway 18L-36R and various electrical upgrades.**
3. **INSTRUCTIONS TO BIDDERS.**
  - (a) This Notice, the invitation for bids, proposal and award shall, together with all other documents in accordance with Article 10-15 of the Illinois Standard Specifications for Construction of Airports, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.
  - (b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
4. **AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the proposal and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.
5. **PRE-BID CONFERENCE.** There will be a pre-bid conference held at N/A at the Southern Illinois Airport Airport administration building. For engineering information, contact Kevin Lightfoot of Hanson Professional Services, Inc. at (217) 747-9433.
6. **DISADVANTAGED BUSINESS POLICY.** The DBE goal for this contract is 6.0%.
7. **SPECIFICATIONS AND DRAWINGS.** The work shall be done in accordance with the Illinois Standard Specifications for Construction of Airports, the Illinois Division of Aeronautics Supplemental Specifications and Recurring Special Provisions, the Special Provisions dated January 8, 2010 and the Construction Plans dated January 8, 2010 as approved by the Department of Transportation, Division of Aeronautics.
8. **INSPECTION OF RECORDS.** The Contractor shall maintain an acceptable cost accounting system. The Sponsor, the FAA, and the Comptroller General of the United States shall have access to any books, documents, paper, and records of the Contractor which are directly pertinent to the specific contract for the purposes of making an audit, examination, excerpts, and transcriptions. The Contractor shall maintain all required records for three years after the Sponsor makes final payment and all other pending matters are closed.
9. **RIGHTS TO INVENTIONS.** All rights to inventions and materials generated under this contract are subject to Illinois law and to regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed. Information regarding these rights is available from the FAA and the Sponsor.

## RETURN WITH BID

### 10. TERMINATION OF CONTRACT.

1. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.
2. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.
3. If the termination is due to failure to fulfill the Contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.
4. If, after notice of termination for failure to fulfill contract obligations, it is determined that the Contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.
5. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

### 11. BIDDING REQUIREMENTS AND BASIS OF AWARD. When alternates are included in the proposal, the following shall apply:

#### a. Additive Alternates

- (1) Bidders must submit a bid for the Base Bid and for all Additive Alternates.
- (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lowest aggregate amount of (i) the Base Bid plus (ii) any Additive Alternate(s) which the Department elects to award.

The Department may elect not to award any Additive Alternates. In that case, award will be to the lowest responsible qualified bidder of the Base Bid.

#### b. Optional Alternates

- (1) Bidders must submit a bid for the Base Bid and for either Alternate A or Alternate B or for both Alternate A and Alternate B.
- (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lower of the aggregate of either (i) the Base Bid plus Alternate A or (ii) the Base Bid plus Alternate B.

### 12. CONTRACT TIME. The Contractor shall complete all work within the specified contract time. Any calendar day extension beyond the specified contract time must be fully justified, requested by the Contractor in writing, and approved by the Engineer, or be subject to liquidated damages.

The contract time for this contract is 74 (no adjustment will be made for awarding the additive alternate) calendar days.

### 13. INDEPENDENT WEIGHT CHECKS. The Department reserves the right to conduct random unannounced independent weight checks on any delivery for bituminous, aggregate or other pay item for which the method of measurement for payment is based on weight. The weight checks will be accomplished by selecting, at random, a loaded truck and obtaining a loaded and empty weight on an independent scale. In addition, the department may perform random weight checks by obtaining loaded and empty truck weights on portable scales operated by department personnel.

### 14. GOOD FAITH COMPLIANCE. The Illinois Department of Transportation has made a good faith effort to include all statements, requirements, and other language required by federal and state law and by various offices within federal and state governments whether that language is required by law or not. If anything of this nature has been left out or if additional language etc. is later required, the bidder/contractor shall cooperate fully with the Department to modify the contract or bid documents to correct the deficiency. If the change results in increased operational costs, the Department shall reimburse the contractor for such costs as it may find to be reasonable.

## RETURN WITH BID

- 15. ADDENDA AND REVISIONS:** It is the contractor's responsibility to determine which, if any, addenda or revisions pertain to any project they may be bidding. Failure to incorporate all relevant addenda or revisions may cause the bid to be declared unacceptable.

Each addendum will be placed with the contract number. Addenda and revisions will also be placed on the Addendum/Revision Checklist and each subscription service subscriber will be notified by e-mail of each addendum and revision issued.

The Internet is the Department's primary way of doing business. The subscription server e-mails are an added courtesy the Department provides. It is suggested that the bidder check IDOT's website at <http://www.dot.il.gov/desenv/delett.html> before submitting final bid information.

***IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL RELATED FAILURES.***

Technical Questions about downloading these files may be directed to Tim Garman (217)524-1624 or [Timothy.Garman@illinois.gov](mailto:Timothy.Garman@illinois.gov).

**RETURN WITH BID**

**PROPOSAL SIGNATURE SHEET**

The undersigned bidder hereby makes and submits this bid on the subject Proposal, thereby assuring the Department that all requirements of the Invitation for Bids and rules of the Department have been met, that there is no misunderstanding of the requirements of paragraph 4 of this Proposal, and that the contract will be executed in accordance with the rules of the Department if an award is made on this bid.

Firm Name \_\_\_\_\_

(IF AN INDIVIDUAL)

Signature of Owner \_\_\_\_\_

Business Address \_\_\_\_\_

Firm Name \_\_\_\_\_

By \_\_\_\_\_

(IF A CO-PARTNERSHIP)

Business Address \_\_\_\_\_

Name and Address of All Members of the Firm:

\_\_\_\_\_

\_\_\_\_\_

Corporate Name \_\_\_\_\_

Corporate Seal

By \_\_\_\_\_

President

(IF A CORPORATION)

Attest \_\_\_\_\_

Corporate Secretary

Business Address \_\_\_\_\_

Name of Corporate Officers:

\_\_\_\_\_  
President

\_\_\_\_\_  
Corporate Secretary

\_\_\_\_\_  
Treasurer

**NOTARY CERTIFICATION**

STATE OF ILLINOIS,

**ALL SIGNATURES MUST BE NOTARIZED**

COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public in and for said county, do hereby certify that \_\_\_\_\_

AND

(Insert names of individual(s) signing on behalf of bidder)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of the bidder, appeared before me this day in person and acknowledged that they signed, sealed, and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_, A.D. \_\_\_\_\_

My commission expires \_\_\_\_\_ (Seal)

Notary Public





Sponsor \_\_\_\_\_ Item No. \_\_\_\_\_

IL Proj. No. \_\_\_\_\_ AIP Proj. No. \_\_\_\_\_ Letting Date \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, That We \_\_\_\_\_

\_\_\_\_\_ as PRINCIPAL, and \_\_\_\_\_

\_\_\_\_\_ as SURETY, are held jointly, severally and firmly bound unto the SPONSOR identified above, in the penal sum of 5 percent of the total bid price, or for the amount specified in Section 6, Proposal Guarantee of the Proposal Document, whichever is the lesser sum, well and truly to be paid unto said SPONSOR, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, that whereas, the PRINCIPAL has submitted a bid proposal to the SPONSOR through its AGENT, the State of Illinois, Department of Transportation, Division of Aeronautics, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the SPONSOR through its AGENT shall accept the bid proposal of the PRINCIPAL; and if the PRINCIPAL shall, and as specified in the bidding and contract documents, submit a DBE Utilization Plan that is accepted and approved by the AGENT; and if, after the award by AGENT on behalf of SPONSOR, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents, including evidence of the required insurance coverages, and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to make the required DBE submission or to enter into such contract and to give the specified bond, the PRINCIPAL pays to the SPONSOR the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the SPONSOR may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the SPONSOR acting through its AGENT determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then SURETY shall pay the penal sum to the SPONSOR within fifteen (15) days of written demand therefor. If SURETY does not make full payment within such period of time, the AGENT may bring an action to collect the amount owed. SURETY is liable to the SPONSOR and to the AGENT for all its expenses, including attorney's fees, incurred in any litigation in which SPONSOR or AGENT prevail either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_ .

**PRINCIPAL**

**SURETY**

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Company Name)

By \_\_\_\_\_  
(Signature & Title)

By: \_\_\_\_\_  
(Signature of Attorney-in-Fact)

**Notary Certification for Principal and Surety**

STATE OF ILLINOIS,  
County of \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public in and for said County, do hereby certify that \_\_\_\_\_ and \_\_\_\_\_  
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_

My commission expires \_\_\_\_\_  
\_\_\_\_\_  
Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing the proposal and marking the check box next to the Signature and Title line below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the SPONSOR through its AGENT under the conditions of the bid bond as shown above.

Electronic Bid Bond ID# \_\_\_\_\_ Company / Bidder Name \_\_\_\_\_ Signature and Title \_\_\_\_\_



# PROPOSALS

for construction work advertised for bids by the Illinois Department of Transportation

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

Bidders should affix this form to the front of a 10" x 13" envelope and use that envelope for the submittal of bids. If proposals are mailed, they should be enclosed in a second or outer envelope addressed to:

Engineer of Design and Environment - Room 326  
Illinois Department of Transportation  
2300 South Dirksen Parkway  
Springfield, Illinois 62764

## **NOTICE**

**Individual bids, including Bid Bond and/or supplemental information if required, should be securely stapled.**

# CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

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## NOTICE

None of the following material needs to be returned with the bid package unless the special provisions require documentation and/or other information to be submitted.



**Illinois Department of Transportation**

## CONTRACT REQUIREMENTS

(1) Airport Improvement Program projects. The work in this contract is included in the federal Airport Improvement Program and is being undertaken and accomplished by the Illinois Department of Transportation, Division of Aeronautics and the Municipality, hereinafter called the Co-Sponsors, in accordance with the terms and conditions of a Grant Agreement between the Co-Sponsors and the United States, under the Airport and Airway Improvement Act of 1982 (Public Law 97-248; Title V, Section 501 et seq., September 3, 1982; 96 Stat. 671; codified at 49 U.S.C Section 2201 et seq.) and Part 152 of the Federal Aviation Regulations (14 CFR Part 152), pursuant to which the United States has agreed to pay a certain percentage of the costs of the Project that are determined to be allowable Project costs under the Act. The United States is not a party to this contract and no reference in this contract to FAA or representative thereof, or to any rights granted to the FAA or any representative thereof, or the United States, by the contract, makes the United States a party to this contract.

(2) Consent of Assignment. The Contractor shall obtain the prior written consent of the Co-Sponsors to any proposed assignment of any interest in or part of this contract.

(3) Convict Labor. No convict labor may be employed under this contract.

(4) Veterans Preference. In the employment of labor, except in executive, administrative, and supervisory positions, preference shall be given to veterans of the Vietnam era and disabled veterans as defined in Section 515(c) of the Airport and Airway Improvement Act of 1982. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

(5) Withholding: Sponsor from Contractor. Whether or not payments or advances to the Co-Sponsors are withheld or suspended by the FAA, the Co-Sponsors may withhold or cause to be withheld from the Contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the Contractor or any subcontractor on the work the full amount of wages required by this contract.

(6) Nonpayment of Wages. If the Contractor or subcontractor fails to pay any laborer or mechanic employed or working on the site of the work any of the wages required by this contract the Co-Sponsors may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment or advance of funds until the violations cease.

(7) FAA Inspection and Review. The Contractor shall allow any authorized representative of the FAA to inspect and review any work or materials used in the performance of this contract.

(8) Subcontracts. The Contractor shall insert in each of his subcontracts the provisions contained in Paragraphs (1), (3), (4), (5), (6), and (7) above and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

(9) Contract Termination. A breach of Paragraph (6), (7), and (8) above may be grounds for termination of the contract.

PROVISIONS REQUIRED BY THE REGULATIONS  
OF THE SECRETARY OF LABOR  
29 CFR 5.5

(a) Contract Provisions and Related Matters.

(1) Minimum Wages.

Revised 1/92

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provision of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraph 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

- (1)The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2)The classification is utilized in the area by the construction industry; and
- (3)The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii)(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

(ii)(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

(ii)(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

(2) Withholding. The Federal Aviation Administration shall upon its own action or written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such work, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office Management and Budget under OMB control numbers 1215-0140 and 1215-0017).

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph 5.5(a)(3)(i) of Regulations, 29 CFR Part 5. This information may be submitted in any form desired.

Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB control number 1215-0149).

(ii)(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor, or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be maintained under paragraph 5.5(a)(3)(i) of Regulations, 29 CFR Part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed as specified in the applicable wage determination incorporated into the contract.

(ii)(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(ii)(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### (4) Apprentices and Trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage

determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ration permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(5) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses contained in paragraph (a)(1) through (10) of this contract and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by an subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract determination: debarment. A breach of these contract clauses paragraphs (a)(1) through (10) and the 2nd clause (b)(1) through (5) below may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by referenced in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors ) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), (4) and (5) of this section in full in AIP construction contracts in excess of \$2,000. These clauses shall be inserted in addition to the clauses required by paragraph 5.5(a) or paragraph 4.6 of Part 4 of this title. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements: No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen or guards (including apprentices and trainees described in paragraphs 5 and 6 above) shall require or permit any laborer, mechanic, watchman or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman or guard receives compensation at a rate not less than one and one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violations: Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the Contractor and any subcontractor responsible therefore shall be liable to any affected employee for his/her unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman or guard employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10.00 for each calendar day on which such employee was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor



under any such contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

(5) Working Conditions. No Contractor or subcontractor may require any laborer or mechanic employed in the performance of any contract to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards (29 CFR 1926) issued by Department of Labor.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in paragraph 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the Contractor or subcontractor will permit such representatives to interview employees during working hours on the job. (Approved by the Office of Management and Budget under OMB control numbers 1215-0140 and 1215-0017).

FEDERAL REGULATIONS VOL. 40, #74,  
WEDNESDAY, APRIL 16, 1975, PAGE 17124,  
ADMINISTRATION OF THE CLEAR AIR ACT  
& WATER POLLUTION CONTROL ACT  
(with respect to Federal Grants)

In connection with the administration of the Clean Air Act and the Water Pollution Control Act with respect to Federal Grants, specific requirements have been imposed of any contract which is not exempt under the provisions of 40 CFR 15.5.

(1) Any facility listed on the EPA List of Violating Facilities pursuant to Paragraph 15.20 of 40 CFR as of the date of the contract award will not be utilized in the performance of any non-exempt contract or subcontract.

(2) The Contractor shall comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 USC 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq. relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in Section 114 and Section 308 of the Air Act and Water Act, respectively, and all regulations and guidelines issued thereunder after the award of the contract.

(3) Prompt notification shall be required prior to contract award to the awarding official by the Contractor who will receive the award of the receipt of any communication from the Director, Office of Federal Activities, U.S. Environmental Protection Agency, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

(4) The Contractor shall include or cause to be included the criteria and requirements in paragraphs 1 through 4 in any non-exempt subcontract and will take such action as the Government may direct as a means of enforcing such provisions.

Attachment No. 1

During the performance of the contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on the behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- (3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or worker's representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of 24 September 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of 24 September 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of 24 September 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

## ATTACHMENT NO. 2

EACH PRIME CONTRACTOR SHALL INSERT IN EACH SUBCONTRACT THE CERTIFICATION IN APPENDIX B, AND FURTHER, SHALL REQUIRE ITS INCLUSION IN ANY LOWER TIER SUBCONTRACT, PURCHASE ORDER, OR TRANSACTION THAT MAY IN TURN BE MADE.

- Appendix B of 49 CFR Part 29 -

This certification applies to subcontractors, material suppliers, vendors and other lower tier participants.

Appendix B--Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions

### Instructions for Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

### Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

STATE REQUIRED CONTRACT PROVISIONS  
ALL FEDERAL-AID CONSTRUCTION CONTRACTS

Effective February 1, 1969  
Revised January 2, 1973

The following provisions are State of Illinois requirements and are in addition to the Federal requirements.

"EQUAL EMPLOYMENT OPPORTUNITY"

In the event of the Contractor's noncompliance with any provisions of this Equal Employment Opportunity Clause, the Illinois Fair Employment Practices Act or the Fair Employment Practices Commission's Rules and Regulations for Public Contracts, the Contractor may be declared nonresponsible and therefore ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be canceled or avoided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this contract, the Contractor agrees as follows:

- (1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or ancestry; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (in accordance with the Commission's Rules and Regulations for Public Contracts) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin or ancestry.
- (4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Fair Employment Practices Commission and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- (5) That it will submit reports as required by the Illinois Fair Employment Practices Commission's Rules and Regulations for Public Contracts, furnish all relevant information as may from time to time be requested by the Commission or the contracting agency, and in all respects comply with the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts.
- (6) That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Illinois Fair Employment Practices Commission for purposes of investigation to ascertain compliance with the Illinois Fair Employment Practices Act and the Commission's Rules and Regulations for Public Contracts.
- (7) That it will include verbatim or by reference the provisions of paragraphs 1 through 7 of this clause in every performance subcontract as defined in Section 2.10(b) of the Commission's Rules and Regulations for Public Contracts so that such provisions will be binding upon every subcontractor; and that it will also so include the provisions or paragraphs 1, 5, 6 and 7 in every supply subcontract as defined in Section 2.10(a) of the Commission's Rules and Regulations for Public Contracts so that such provisions will be binding upon every such subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by all its subcontractors; and further it will promptly notify the contracting agency and the Illinois Fair Employment Practices Commission in the event any subcontractor fails or refuses to comply therewith. In addition, no Contractor will utilize any subcontractor declared by the Commission to be nonresponsible and therefore ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

# CONSTRUCTION CONTRACT PROCUREMENT POLICIES

## TABLE OF CONTENTS

### SECTION 1

#### Proposal Requirements and Conditions

##### SUB-SECTION

1-01 ADVERTISEMENT (Notice to Bidders) .....	43
1-02 PREQUALIFICATION OF BIDDERS .....	43
1-03 CONTENTS OF PROPOSAL FORMS .....	43
1-04 ISSUANCE OF PROPOSAL FORMS .....	44
1-05 INTERPRETATION OF QUANTITIES IN BID SCHEDULE .....	44
1-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE .....	44
1-07 PREPARATION OF THE PROPOSAL .....	44
1-08 REJECTION OF PROPOSALS .....	45
1-09 PROPOSAL GUARANTY .....	45
1-10 DELIVERY OF PROPOSALS .....	45
1-11 WITHDRAWAL OF PROPOSALS .....	45
1-12 PUBLIC OPENING OF PROPOSALS .....	45
1-13 DISQUALIFICATION OF BIDDERS .....	45
1-14 WORKER'S COMPENSATION INSURANCE .....	45

### SECTION 2

#### Award and Execution of Contract

##### SUB-SECTION

2-01 CONSIDERATION OF PROPOSALS .....	46
2-02 AWARD OF CONTRACT .....	46
2-03 CANCELLATION OF AWARD .....	46
2-04 RETURN OF PROPOSAL GUARANTY .....	46
2-05 REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS .....	46
2-06 EXECUTION OF CONTRACT .....	46
2-07 APPROVAL OF CONTRACT .....	46
2-08 FAILURE TO EXECUTE CONTRACT .....	47

## SECTION 1

### PROPOSAL REQUIREMENTS AND CONDITIONS

1-01 ADVERTISEMENT (Notice to Bidders). The State of Illinois shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids.

For Federally assisted contracts the advertisement shall conform to the requirements of local laws and ordinances pertaining to letting of contracts and, in addition, shall conform to the requirements of the appropriate parts of the Federal Aviation Regulations applicable to the particular contract being advertised.

#### 1-02 PREQUALIFICATION OF BIDDERS.

- (a) When the awarding authority is the State of Illinois, each prospective bidder, prior to being considered for issuance of any proposal forms will be required to file, on forms furnished by the Department, an experience questionnaire and a confidential financial statement in accordance with the Department's Instructions for Prequalification of Contractors. The Statement shall include a complete report of the prospective bidder's financial resources and liabilities, equipment, past record and personnel, and must be submitted at least thirty (30) days prior to the scheduled opening of bids in which the Contractor is interested.

After the Department has analyzed the submitted "Contractor's Statement of Experience and Financial Condition" and related information and has determined appropriate ratings, the Department will issue to the Contractor a "Certificate of Eligibility". The Certificate will permit the Contractor to obtain proposal forms and plans for any Department of Transportation letting on work which is within the limits of the Contractor's potential as indicated on his "Certificate of Eligibility", subject to any limitations due to present work under contract or pending award as determined from the Contractor's submitted "Affidavit of Availability". Bidders intending to consistently submit proposals shall submit a "Contractor's Statement of Experience and Financial Condition" at least once a year. However, prequalification may be changed during that period upon the submission of additional favorable reports or upon reports of unsatisfactory performance.

Before a proposal is issued, the prospective bidder will be required to furnish an "Affidavit of Availability" indicating the location and amount of all uncompleted work under contract, or pending award, either as principal or subcontractor, as well as a listing of all subcontractors and value of work sublet to others. The prospective bidder may be requested to file a statement showing the amount and condition of equipment which will be available.

Before an award is made, the bidder may be required to furnish an outline of his plans for conducting the work.

- (b) When the awarding authority for contract construction work is the County Board of a county; the Council, the City Council, or the President and Board of Trustees of a city, village or town, each prospective bidder, in evidence of his competence, shall furnish the awarding authority as a prerequisite to the release of proposal forms by the awarding authority, a certified or photostatic copy of a "Certificate of Eligibility" issued by the Department of Transportation, in accordance with Section 1-02(a).

The two low bidders must file within 24 hours after the letting a sworn affidavit, in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work, using the blank form made available for this affidavit. One copy shall be filed with the awarding authority and two copies with the District Highway Office.

1-03 CONTENTS OF PROPOSAL FORMS. Upon request, the Department will furnish the prequalified bidders a proposal form. This form will state the location and description of the contemplated construction and will show the estimate of the various quantities and kinds of work to be performed or materials to be furnished, and will have a schedule of items for which unit bid prices are invited. The proposal form will state the time in which work must be completed, the amount of the proposal guaranty, labor requirements, and date, time and place of the opening of proposals. The form will also include any special provisions or requirements which vary from or are not contained in these specifications.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. Any addenda officially issued by the Department, will be considered a part of the proposal whether attached or not.

For Federally assisted contracts, the proposal shall conform to the requirements of local laws and ordinances pertaining to letting of contracts and, in addition, shall conform to the requirements of the appropriate parts of the Federal Aviation Regulations pertaining to the particular contract being let.

1-04 ISSUANCE OF PROPOSAL FORMS. The Department shall refuse to issue a proposal form for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant and other equipment, as revealed by the financial statement and experience questionnaires required under Section 1-02(a).
- (b) Uncompleted work which, in the judgment of the Department, might hinder or prevent the prompt completion of additional work if awarded.
- (c) False information provided on a bidder's "Affidavit of Availability".
- (d) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of proposal forms.
- (e) Failure to comply with any prequalification regulations of the Department.
- (f) Default under previous contracts.
- (g) Unsatisfactory performance record as shown by past work for the Department, judged from the standpoint of workmanship and progress.
- (h) When the Contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or require approval of, the Department.
- (i) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposed work.
- (j) When any agent, servant, or employee of the prospective bidder has participated in the preparation of plans or specifications for the proposed work.

1-05 INTERPRETATION OF QUANTITIES IN BID SCHEDULE. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 20 of the Illinois Standard Specifications for Construction of Airports without in any way invalidating the unit bid prices.

1-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs, underground utilities and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

1-07 PREPARATION OF THE PROPOSAL. The bidder shall submit his proposal on the form furnished by the Department. The proposal shall be executed properly, and bids shall be made for all items indicated in the proposal form, except that when alternate bids are asked, a bid on more than one alternate for each item is not required, unless otherwise provided. The bidder shall indicate, in figures, a unit price for each of the separate items called for in the proposal; he shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the proposal shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written with ink.

If the proposal is made by an individual, his name and business address shall be shown. If made by a firm or partnership, the name and business address of each member of the firm or partnership shall be shown. If made by a corporation, the proposal shall show the names, titles, and business address of the president, secretary, and treasurer, and the seal of the corporation shall be affixed and attested by the secretary.

The proposal shall be issued to a prequalified bidder in the same name and style as the financial statement used for prequalification and shall be submitted in like manner.



1-08 REJECTION OF PROPOSALS. The Department reserves the right to reject proposals for any of the conditions in Article 1-04 or for any of the following reasons:

- (a) More than one proposal for the same work from an individual, firm, partnership, or corporation under the same or different names.
- (b) Evidence of collusion among bidders.
- (c) Unbalanced proposals in which the prices for some items are obviously out of proportion to the prices for other items.
- (d) If the proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items or lump sum pay items.
- (e) If the proposal is other than that furnished by the Department; or if the form is altered or any part thereof is detached.
- (f) If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.
- (g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- (h) If the proposal is not accompanied by the proper proposal guaranty.
- (i) If the proposal is prepared with other than ink or typewriter.
- (j) If the proposal is submitted in any other name other than that to whom it was issued by the Department.

1-09 PROPOSAL GUARANTY. Each Proposal shall be accompanied by either a bid bond on the Department of Transportation, Division of Aeronautics form contained in the proposal, executed by a corporate surety company satisfactory to the Department or by a bank cashier's check or a properly certified check for not less than 5 percent of the amount bid.

Bank cashier's checks, or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois.

1-10 DELIVERY OF PROPOSALS. Each proposal should be submitted in a special envelope furnished by the Department. The blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Department is used, it shall be of the same general size and shape and be similarly marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Department at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and place specified in the Notice to Bidders. Proposals received after the time for opening of bids will be returned to the bidder unopened.

1-11 WITHDRAWAL OF PROPOSALS. Permission will be given a bidder to withdraw a proposal if he makes his request in writing or by telegram before the time for opening proposals. If a proposal is withdrawn, the bidder will not be permitted to resubmit this proposal at the same letting. With the approval of the Engineer, a bidder may withdraw a proposal and substitute a new proposal prior to the time of opening bids.

1-12 PUBLIC OPENING OF PROPOSALS. Proposals will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

1-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

- (a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- (b) Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner.
- (c) If the bidder is considered to be in "default" for any reason specified in the Subsection 1-04 titled ISSUANCE OF PROPOSAL FORMS of this section.

1-14 WORKER'S COMPENSATION INSURANCE. Prior to the approval of his contract by the Division, the Contractor shall furnish to the Division certificates of insurance covering Worker's Compensation, or satisfactory evidence that this liability is otherwise taken care of in accordance with Section 4.(a) of the "Worker's Compensation Act of the State of Illinois" as amended.

## SECTION 2

### AWARD AND EXECUTION OF CONTRACT

2-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. In the event of a discrepancy between unit bid prices and extensions, the unit bid price shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

- (a) If the proposal is irregular as specified in the subsection titled REJECTION OF PROPOSALS of Section 1.
- (b) If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 1.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals; waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable State and Local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise.

2-02 AWARD OF CONTRACT. The award of contract will be made within 60 calendar days after the opening of proposals to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by letter, that his bid has been accepted, and that he has been awarded the contract.

If a contract is not awarded within 60 days after the opening of proposals, a bidder may file a written request with the Division for the withdrawal of his bid and the Division will permit such withdrawal.

For Federally assisted contracts, unless otherwise specified in this subsection, no award shall be made until the Division has concurred in the Owner's recommendation to make such award and has approved the Owner's proposal contract to the extent that such concurrence and approval are required by Federal Regulations.

2-03 CANCELLATION OF AWARD. The Division reserves the right to cancel the award without liability to the bidder at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section. The Division at the time of cancellation will return the proposal guaranty.

2-04 RETURN OF PROPOSAL GUARANTY. The proposal guaranties of all except the two lowest bidders will be returned promptly after the proposals have been checked, tabulated, and the relation of the proposals established. Proposal guaranties of the two lowest bidders will be returned as soon as the Construction Contract, Performance Bonds, and Payment Bonds of the successful bidder have been properly executed and approved.

If any other form of proposal guaranty is used, other than a bid bond, a bid bond may be substituted at the Contractor's option.

2-05 REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS. The successful bidder for a contract, at the time of the execution of the contract, shall deposit with the Division separate performance and payment bonds each for the full amount of the contract. The form of the bonds shall be that furnished by the Division, and the sureties shall be acceptable to the Division.

2-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the Contract and shall return the signed Contract to the Owner (Sponsor) for signature (execution) and subsequently return all copies to the Division. The fully executed surety bonds specified in the subsection title REQUIREMENTS OF PERFORMANCE AND PAYMENT BONDS of this section will be forwarded to the Division within 15 days of the date mailed or otherwise delivered to the successful bidder. If the Contract and Bonds are mailed, special handling is recommended.

If the bidder to whom award is to be made is a corporation organized under the laws of a State other than Illinois, the bidder shall furnish the Division a copy of the corporation's certificate of authority to do business in the State of Illinois, or provide evidence of the same, with the return of the executed contract and bond. Failure to furnish such evidence of a certificate of authority within the time required will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the State, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.

2-07 APPROVAL OF CONTRACT. Upon receipt of the contract and bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the contract to the Division for approval and execution by the Division. Delivery of the fully executed contract to the Contractor shall constitute the Department's approval to be bound by the successful bidder's proposal and the terms of the contract.

2-08 FAILURE TO EXECUTE CONTRACT. If the contract is not executed by the Division within 15 days following receipt from the bidder of the properly executed contracts and bonds, the bidder shall have the right to withdraw his bid without penalty.

Failure of the successful bidder to execute the contract and file acceptable bonds within 15 days after the contract has been mailed to him shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the State, not as a penalty, but as liquidation of damages sustained.

ILLINOIS DEPARTMENT OF TRANSPORTATION

DIVISION OF AERONAUTICS

The requirements of the following provisions written for Federally-assisted construction contracts, including all goals and timetables and affirmative action steps, shall also apply to all State-funded construction contracts awarded by the Illinois Department of Transportation.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

APPENDIX A

The following goal for female utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally assisted construction contracts and subcontracts in excess of \$10,000. The goal is applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related construction contract or subcontract.

AREA COVERED (STATEWIDE)

Goals for Women apply nationwide.

GOAL

	Goal (percent)
Female Utilization.....	6.9

APPENDIX B

Until further notice, the following goals for minority utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally-assisted construction contracts and subcontracts in excess of \$10,000. to be performed in the respective geographical areas. The goals are applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally-assisted or nonfederally related construction contract or subcontract.

<u>Economic Area</u>	<u>Goal (percent)</u>
056 Paducah, KY:	
Non-SMSA Counties -	5.2
IL - Hardin, Massac, Pope	
KY - Ballard, Caldwell, Calloway, Carlisle, Crittenden,	
Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall	
080 Evansville, IN:	
Non-SMSA Counties -	3.5
IL - Edwards, Gallatin, Hamilton, Lawrence, Saline, Wabash, White	
IN - Dubois, Knox, Perry, Pike, Spencer	
KY - Hancock, Hopkins, McLean, Mublenberg, Ohio, Union, Webster	

Revised 08-31-83

<u>Economic Area</u>	<u>Goal (percent)</u>
081 Terre Haute, IN:	
Non-SMSA Counties -	2.5
IL - Clark, Crawford	
IN - Parke	
083 Chicago, IL:	
SMSA Counties:	19.6
1600 Chicago, IL -	
IL - Cook, DuPage, Kane, Lake, McHenry, Will	
3740 Kankakee, IL -	9.1
IL - Kankakee	
Non-SMSA Counties	18.4
IL - Bureau, DeKalb, Grundy, Iroquois, Kendall, LaSalle, Livingston, Putnam	
IN - Jasper, Laporte, Newton, Pulaski, Starke	
084 Champaign - Urbana, IL:	
SMSA Counties:	
1400 Champaign - Urbana - Rantoul, IL -	7.8
IL - Champaign	
Non-SMSA Counties -	4.8
IL - Coles, Cumberland, Douglas, Edgar, Ford, Piatt, Vermilion	
085 Springfield - Decatur, IL:	
SMSA Counties:	
2040 Decatur, IL -	7.6
IL - Macon	
7880 Springfield, IL -	4.5
IL - Mendard, Sangamon	
Non-SMSA Counties	4.0
IL - Cass, Christian, Dewitt, Logan, Morgan, Moultrie, Scott, Shelby	
086 Quincy, IL:	
Non-SMSA Counties	3.1
IL - Adams, Brown, Pike	
MO - Lewis, Marion, Pike, Ralls	
087 Peoria, IL:	
SMSA Counties:	
1040 Bloomington - Normal, IL -	2.5
IL - McLean	
6120 Peoria, IL -	4.4
IL - Peoria, Tazewell, Woodford	
Non-SMSA Counties -	3.3
IL - Fulton, Knox, McDonough, Marshall, Mason, Schuyler, Stark, Warren	

APPENDIX B (CONTINUED)

<u>Economic Area</u>	<u>Goal (percent)</u>
088 Rockford, IL:	
SMSA Counties:	
6880 Rockford, IL -	6.3
IL - Boone, Winnebago	
Non-SMSA Counties -	4.6
IL - Lee, Ogle, Stephenson	
098 Dubuque, IA:	
Non-SMSA Counties -	0.5
IL - JoDaviess	
IA - Atlamakee, Clayton, Delaware, Jackson, Winnesheik	
WI - Crawford, Grant, Lafayette	
099 Davenport, Rock Island, Moline, IA - IL:	
SMSA Counties:	
1960 Davenport, Rock Island, Moline, IA - IL -	4.6
IL - Henry, Rock Island	
IA - Scott	
Non-SMSA Counties -	3.4
IL - Carroll, Hancock, Henderson, Mercer, Whiteside	
IA - Clinton, DesMoines, Henry, Lee, Louisa, Muscatine	
MO - Clark	
107 St. Louis, MO:	
SMSA Counties:	
7040 St. Louis, MO - IL -	14.7
IL - Clinton, Madison, Monroe, St. Clair	
MO - Franklin, Jefferson, St. Charles, St. Louis, St. Louis City	
Non-SMSA Counties -	11.4
IL - Alexander, Bond, Calhoun, Clay, Effingham, Fayette, Franklin, Greene,	
Jackson, Jasper, Jefferson, Jersey, Johnson, Macoupin, Marion,	
Montgomery, Perry, Pulaski, Randolph, Richland, Union, Washington,	
Wayne, Williamson	
MO - Bollinger, Butler, Cape Girardeau, Carter, Crawford, Dent, Gasconade,	
Iron, Lincoln, Madison, Maries, Mississippi, Montgomery, Perry, Phelps,	
Reynolds, Ripley, St. Francois, St. Genevieve, Scott, Stoddard, Warren,	
Washington, Wayne	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the provisions and specifications set forth in its federally assisted contracts, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Illinois Division of Aeronautics will provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction contract and/or subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. This notification will list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the entire State of Illinois for the goal set forth in APPENDIX A and the county or counties in which the work is located for the goals set forth in APPENDIX B.

Revised 08-31-83

STANDARD FEDERAL EQUAL EMPLOYMENT  
OPPORTUNITY CONSTRUCTION CONTRACT  
SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
  - a) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
  - d) "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
    - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000. the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

Revised 08-31-83



7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
- a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working as such sites or in such facilities.
  - b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractors may have taken.
  - d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
  - f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreements; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
  - g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
  - h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
  - i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

Revised 08-31-83

- j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
  - k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
  - n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractors and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
  - p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a Contractor association, joint Contractor-union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specified minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

Revised 08-31-83

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy his requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Revised 08-31-83

ANNUAL EEO-1 REPORT TO JOINT REPORTING COMMITTEE AS REQUIRED AT

41 CFR 60-1.7(a)

Any Contractor having a Federal contract of \$50,000 or more and 50 or more employees is required to file annual compliance reports on Standard Form 100 (EEO-1) with the Joint Reporting Committee in accordance with the instructions provided with the form. The Contractor will provide a copy of such a report to the contracting agency within 30 days after the award of a contract.

The Contractor shall require its subcontractors to file an SF 100 within 30 days after award of the subcontract if (1) it is not exempt from the provisions of these regulations in accordance with 60-1.5, (2) has 50 or more employees, (3) first tier subcontractor, and (4) has a subcontract amounting to \$50,000 or more.

Subcontractors below the first tier which perform construction work at the site of construction shall be required to file such a report if (1) it is not exempt from the provisions of these regulations in accordance with 60-1.5, (2) has 50 or more employees and has a subcontract amounting to \$50,000 or more.

The SF 100 is available at the following address:

Joint Reports Committee  
EEOC - Survey Division  
1801 "L" Street N.W.  
Washington, D.C. 20750

Phone (202) 663-4968

## DISADVANTAGED BUSINESS POLICY

### I. NOTICE

This proposal contains the special provision entitled "Required Disadvantaged Business Participation." Inclusion of this Special Provision in this contract satisfies the obligations of the Department of Transportation under federal law as implemented by 49 CFR 23 and under the Illinois "Minority and Female Business Enterprise Act."

### II. POLICY

It is public policy that the businesses defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with State or Federal funds. Consequently, the requirements of 49 CFR Part 23 apply to this contract.

### III. OBLIGATION

The Contractor agrees to ensure that the businesses defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of this contract. In this regard, the Contractor shall take all necessary and reasonable steps, in accordance with 49 CFR Part 23, to ensure that the said businesses have the maximum opportunity to compete for and perform portions of this contract. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

The Contractor shall include the above Policy and Obligation statements of this Special Provision in every subcontract, including procurement of materials and leases of equipment.

### IV. DBE/WBE CONTRACTOR FINANCE PROGRAM

On contracts where a loan has been obtained through the DBE/WBE Contractor Finance Program, the Contractor shall cooperate with the Department by making all payments due to the DBE/WBE Contractor by means of a two-payee check payable to the Lender (Bank) and the Borrower (DBE/WBE Contractor).

### V. BREACH OF CONTRACT

Failure to carry out the requirements set forth above and in the Special Provision shall constitute a breach of contract and may result in termination of the contract or liquidated damages as provided in the special provision.

(Rev. 9/21/92)

State of Illinois  
Department of Transportation

SPECIAL PROVISION  
FOR  
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

- I. FEDERAL OBLIGATION: The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR part 26 and listed in the DBE Directory or most recent addendum.
  
- II. CONTRACTOR ASSURANCE: The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor:

The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of federally-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.
  
- III. OVERALL GOAL SET FOR THE DEPARTMENT: As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal is 22.7% of all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve this goal. The dollar amount paid to all approved DBE firms performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.
  
- IV. CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR: This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 6.0% of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:
  - A. The bidder documents that firmly committed DBE participation has been obtained to meet the goal; or
  - B. The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.
  
- V. DBE LOCATOR REFERENCES: Bidders may consult the DBE Directory as a reference source for DBE companies certified by the Department. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at [www.dot.state.il.us](http://www.dot.state.il.us).

VI. BIDDING PROCEDURES: Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid nonresponsive.

- A. In order to assure the timely award of the contract, the as-read low bidder must submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven (7) working days after the date of letting. To meet the seven (7) day requirement, the bidder may send the Plan by certified mail or delivery service within the seven (7) working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the as-read low bidder to ensure that the postmark or receipt date is affixed within the seven (7) working days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Plan is to be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). It is the responsibility of the bidder to obtain confirmation of telefax delivery. The Department will not accept a Utilization Plan if it does not meet the seven (7) day submittal requirement, and the bid will be declared nonresponsive. In the event the bid is declared nonresponsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.
- B. The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- C. The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:
  - 1. The name and address of each DBE to be used;
  - 2. A description, including pay item numbers, of the commercially useful work to be done by each DBE;
  - 3. The price to be paid to each DBE for the identified work specifically stating the quantity, unit price and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
  - 4. A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and
  - 5. If the bidder is a joint venture comprised of DBE firms and non-DBE firms, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).
- D. The contract will not be awarded until the Utilization Plan submitted by the bidder is approved. The Utilization Plan will be approved by the Department if the Plan commits sufficient commercially useful DBE work performance to meet the contract goal. The Utilization Plan will not be approved by the Department if the Plan does not commit sufficient DBE performance to meet the contract goal unless the bidder documents that it made a good faith effort to meet the goal. The good faith procedures of Section VIII of this special provision apply. If the Utilization Plan is not approved because it is deficient in a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no less than a five (5) working day period in order to cure the deficiency.

VII. CALCULATING DBE PARTICIPATION: The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR part 26.55, the provisions of which govern over the summary contained herein.

A. DBE as the Contractor: 100% goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE firm does not count toward the DBE goals.

B. DBE as a joint venture Contractor: 100% goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

C. DBE as a subcontractor: 100% goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontractor in turn subcontracts to a non-DBE firm does not count toward the DBE goal.

D. DBE as a trucker: 100% goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed and insured by the DBE must be used on the contract. Credit will be given for the full value of all such DBE trucks operated using DBE employed drivers. Goal credit will be limited to the value of the reasonable fee or commission received by the DBE if trucks are leased from a non-DBE company.

E. DBE as a material supplier:

1. 60% goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
2. 100% goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
3. 100% credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

VIII. GOOD FAITH EFFORT PROCEDURES: If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal

A. The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.

1. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
2. Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
3. Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
4. (a) Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.



- (b) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.
5. Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.
  6. Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
  7. Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
  8. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- B. If the Department determines that the Contractor has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a five (5) working day period during which the bidder shall take additional efforts. The bidder is not limited by a statement of additional efforts, but may take other action beyond any stated additional efforts in order to obtain additional DBE commitments. The bidder shall submit an amended Utilization Plan if additional DBE commitments to meet the contract goal are secured. If additional DBE commitments sufficient to meet the contract goal are not secured, the bidder shall report the final good faith efforts made in the time allotted. All additional efforts taken by the bidder will be considered as part of the bidder's good faith efforts. If the bidder is not able to meet the goal after taking additional efforts, the Department will make a pre-final determination of the good faith efforts of the bidder and will notify the designated responsible company official of the reasons for an adverse determination.
- C. The bidder may request administrative reconsideration of a pre-final determination adverse to the bidder within the five (5) working days after the notification date of the determination by delivering the request to the Department of Transportation, Division of Aeronautics, 1 Langhorne Bond Drive, Capital Airport, Springfield, IL 62707-8415 (Telefax: 217-785-4533). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The pre-final determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. In addition, the request shall be considered a consent by the bidder to extend the time for award. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten (10) working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid nonresponsive.

- IX. CONTRACT COMPLIANCE: Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.
- A. No amendment to the Utilization Plan may be made without prior written approval from the Division of Aeronautics. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Division of Aeronautics, 1 Langhorne Bond Drive, Capital Airport, Springfield, IL 62707-8415. Telephone number (217) 785-8514. Telefax number (217) 785-4533.
  - B. All work indicated for performance by an approved DBE shall be performed, managed and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to find another DBE to substitute for the terminated DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. The Contractor shall notify the Division of Aeronautics of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Division and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Division will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.
  - C. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefor to the DBE by the Contractor, but not later than thirty (30) calendar days after payment has been made by the Department to the Contractor for such work or material without regard to any retainage withheld by the Department, the Contractor shall submit a DBE Payment Report on Department form SBE 2115 to the Division's Chief Engineer. If full and final payment has not been made to the DBE, the Report shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.
  - D. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

Certification of Nonsegregated Facilities - as Required by 41 CFR 60-1.8

(Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000.00 which are not exempt from the provisions of the Equal Opportunity clause).

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments and that that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of his certification is a violation of the Equal opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000.00 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR  
CERTIFICATIONS OF NONSEGREGATED FACILITIES

A certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000.00 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C 1001.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS  
Instructions for Certification

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction" "debarred" "suspended" "ineligible" "lower tier covered transaction" "participant" "person" "primary covered transaction" "principal" "proposal" and "voluntarily excluded" as used in this clause have the meaning set out in the Definitions and Coverage sections of the rules implementing Executive Order 12540. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary participant agrees by submitting this proposal that should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction unless authorized by the department or agency entering into this transaction.
7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Transaction", provided by the department or agency entering into this covered transaction without modification in all lower covered transactions and in all solicitations for lower covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to check the Nonprocurement List (Tel. #).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 8 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and  
Other Responsibility Matters - Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief that it and its principals:
  - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by an Federal department or agency;
  - b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or Local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction or destruction of records, making false statements, or receiving stolen property;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - d. Have not within a three-period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

CERTIFICATION REGARDING LOBBYING (Applicable to contracts in excess of \$100,000):

Certification for Contracts, Grants, Loans and Cooperative Agreements.

The undersigned bidder certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have paid or will be paid, by or behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an Officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

## WORKERS' COMPENSATION INSURANCE

Prior to the execution of his construction contract by the Illinois Department of Transportation, Division of Aeronautics, hereinafter referred to as "Division", the Contractor shall furnish to the Division certificates of insurance covering Workers' Compensation, or satisfactory evidence that this liability is otherwise taken care of in accordance with Section 4.(a) of the "Workers' Compensation Act of the State of Illinois" as amended.

Such insurance, or other means of protection as herein provided, shall be kept in force until all work to be performed under the terms of the contract has been completed and accepted in accordance with the specifications, and it is hereby understood and agreed that the maintenance of such insurance or other protection, until acceptance of the work by the Division is a part of the contract. Failure to maintain such insurance, cancellation by the Industrial Commission of its approval of such other means of protection as might have been elected, or any other act which results in lack of protection under the said "Workers' Compensation Act" may be considered as a breach of the contract.

### SPECIAL PROVISION FOR DOMESTIC SOURCE FOR STEEL

Control of Materials: All steel products, as defined by the Illinois Steel Products Procurement Act, incorporated into this project shall be manufactured or produced in the United States and, in addition, shall be domestically fabricated. The Contractor shall obtain from the steel producer and/or fabricator, in addition to the mill analysis, a certification that all steel products meet these domestic source requirements.

CLAUSE TO BE INCLUDED IN ALL SOLICITATIONS,  
CONTRACTS, AND SUBCONTRACTS RESULTING FROM PROJECTS FUNDED UNDER THE AIP

The Contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

- a. is not owned or controlled by one or more citizens or nationals of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. has not knowingly entered into any contract or subcontract for this project with a Contractor that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list.
- c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a Contractor or subcontractor who is unable to certify to the above. If the Contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on the said list for use on the project, the Federal Aviation Administration may direct, through the sponsor, cancellation of the contract at no cost to the Government.

Further, the Contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The Contractor may rely upon the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The Contractor shall provide immediate written notice to the sponsor if the Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide immediate written notice to the Contractor, if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through this sponsor, cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY  
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

**NOTICE**

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.



**SECTION III**

**SOUTHERN ILLINOIS AIRPORT  
CARBONDALE, ILLINOIS**

**REPLACE HIGH INTENSITY RUNWAY  
LIGHTING ON RUNWAY 18L-36R  
AND VARIOUS ELECTRICAL UPGRADES**

**ILLINOIS PROJECT NO.: MDH-3920  
A.I.P. PROJECT NO.: 3-17-0009-B30**

Prepared By:



Hanson Professional Services Inc.

JANUARY 8, 2010

**INDEX**

<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
	Foreword .....	1
AS101580	Refurbish 36" Beacon .....	5
AR107	Installation of Airport 8-foot and 12-Foot Wind Cones .....	10
AR107900	Remove Wind Cone .....	17
AR107901	Remove Wind Tee.....	18
AR108	Installation of Underground Cable for Airports .....	19
AR109	Installation of Airport Transformer Vault and Vault Equipment.....	27
AR110	Installation of Airport Underground Electrical Duct.....	50
AR110610	Electrical Handhole .....	56
AR125	Installation of Airport Lighting Systems .....	58
AR125967	Relocate REILS .....	64
AR150530	Traffic Maintenance .....	68
AS800591	Upgrade Airport Rotating Beacon .....	70

## **FOREWORD**

These Special Provisions, together with applicable Standard Specifications, Rules and Regulations, Contract Requirements for Airport Improvement Projects, Payroll Requirements, and Minimum Wage Rates, which are hereto attached or which by reference are herein incorporated, cover the requirements of the State of Illinois, Department of Transportation (IDOT), Division of Aeronautics (Division) for the following improvement project at the Southern Illinois Airport (Airport), Carbondale, Illinois including the following.

## **SCOPE OF WORK**

This project shall consist of the removal and replacement of the high intensity runway lighting system for Runway 18L-36R. This project includes removal of the wind tee, replacing the L-807 wind cone, replacing two L-806 supplemental wind cones, refurbishing the airport rotating beacon with associated upgrades, relocating runway 36R REIL units, associated vault work and improvements and replacing 62 taxi guidance sign panels. This project also includes replacing the L-821 control panel in the air traffic control tower and the respective airfield lighting control system in the vault.

## **GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS**

The IDOT, Division of Aeronautics, Standard Specifications for Construction of Airports, adopted January 1985, as revised, and the Supplemental Specifications and Recurring Special Provisions, adopted July 1, 2004, shall govern the project, except as otherwise revised or noted in these Special Provisions. Bituminous items will be in accordance with the Interim Revisions to the Supplemental Specifications and Recurring Special Provisions, adopted May 11, 2007. In the event of inconsistencies between the Standard Specifications, Supplemental Specifications, or Recurring Special Provisions (SSRSP) and these Special Provisions, the Special Provisions shall govern. The Contractor will maintain a minimum of one (1) printed copy of the SSRSP on the project site at all times.

## **DIVISION I**

### **SECTION 30** **CONTROL OF WORK**

30-08 Authority and Duties of the Resident Engineer. Revise this section as follows:

“As the direct representative of the Owner, the Resident Engineer has immediate charge of inspecting and monitoring the construction project. The Resident Engineer is authorized to inspect and/or perform tests to all or any part of the work and to the materials or manufacturer of materials to be used. The Resident Engineer is not authorized to revoke, alter, or waive any provision to the contract. The Resident

Engineer is not authorized to issue instructions contrary to the Plans and Specifications. The Resident Engineer is not authorized to direct or supervise the Contractor or his Subcontractors.

The Resident Engineer is authorized to notify the Contractor or his representative of any failure of the work or materials to conform to the requirements of the contract documents, to recommend to the Engineer and Owner that nonconforming materials or work be rejected, and to recommend to the Engineer or Owner suspension of any work in question until the Engineer can make a decision on its acceptability.”

30-09 Duties of the Inspector. Revise this section to read as follows:

“The Resident Engineer and his staff will be authorized to inspect all work being performed and materials being incorporated into the project. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of materials to be used. The Resident Engineer and his staff will not be authorized to alter or waiver the provisions of neither the contract, nor will they be authorized to issue instructions contrary to the Plans and Specifications or to direct the Contractor’s work.”

30-10 Inspection of the Work. Revise the third paragraph to read as follows:

“Any work performed or materials incorporated without inspection by an authorized representative of the Engineer may be ordered removed and replaced by the Engineer at the Contractor’s own expense.”

### **SPECIAL CONSIDERATION SECTION**

Add the following special sections:

#### **“HAUL ROUTE AND EQUIPMENT PARKING**

The Contractor will use only the designated haul route and equipment-parking area delineated on the Construction Drawings. The Contractor's personnel and equipment shall not traverse outside the designated work areas to other locations on the Airport. The designated haul route will be the only vehicular access to the construction site. The Contractor will exercise care when parking equipment, loading and unloading vehicles and shall protect the designated equipment parking area from damage. Any damage to the pavement or surrounding turf area shall be repaired at the contractor’s expense prior to acceptance of the project.

The Contractor is required to be in two-way radio contact with the Airport Ground Control (121.80 MHz) any time his construction activities are on the Airport property. This will keep the Contractor in constant contact with the Airport and provide immediate communication in the event of an aeronautical emergency.

Failure to use the prescribed haul route and equipment parking area or adhere to the safety requirements will result in the suspension of work.

The Contractor will be required to receive training given by Airport personnel to satisfy FAR Part 139 requirements regarding access of movement areas by vehicular and pedestrian traffic. Such training will be required, as a minimum, to any and all personnel that will operate a motor vehicle on the "air side" of the Airport perimeter fence. The training will be required prior to the issuance of gate access cards to the Contractor, and shall be considered incidental to the contract.

The Contractor will provide barricades, traffic cones, where approved by the Airport Manager, and appropriate signage, where necessary, to prevent traffic from entering the construction sites, and runway closure markers. These traffic control devices will be considered part of Item AR150530 Traffic Maintenance, and no additional compensation will be allowed. Details of the allowable traffic control devices are as indicated on sheets 3 and 4 of the plans.

### **SCHEDULING OF OPERATIONS**

The Contractor will be required to submit a Project Work Schedule to the State of Illinois, Division and to the Resident Engineer showing proposed sequences of work.

In the event that other construction projects are in progress at the Airport at the same time as this project, the Contractor will be required to cooperate with all other Contractors and the Airport Director in the coordination of the work.

### **VEHICULAR MOVEMENT ON THE AIR SIDE NOTES**

All ground movements on the Airport is tower-controlled. The ground control frequency is 121.80 MHz. The Contractor will be required to provide his crews with a radio capable of communication with ground control.

All Contractor personnel that will be using the airport radio will receive training from Airport personnel in the correct procedures and language when using an airport radio. Only these trained personnel will be allowed to talk to ground control.

All vehicular movements through a controlled area will be upon approval of ground control. Any vehicle that does not have an airport radio will be escorted through a controlled area by a vehicle that does have an airport radio. All vehicles will immediately obey all commands from ground control.

### **CONTRACTOR IDENTIFICATION**

The Contractor shall be responsible for providing the workers with some type of tag or garment to identify the person as being part of the construction crew.

### **SCHEDULING OF OPERATIONS**

The Contractor shall coordinate all work on this project with the Project Engineer and the Resident Engineer to insure that the construction will cause the least amount of inconvenience possible to normal Airport activity. The Resident Engineer shall coordinate all Notices to Airmen (NOTAMs) with the Airport Manager. It is the responsibility of the Airport Manager to issue all NOTAMs required for this project.

The Contractor will be required to submit a work schedule to the State of Illinois, Division, and to the Resident Engineer showing proposed sequences of work.

In the event that other construction projects are in progress at the Airport at the same time as this project, the Contractor will be required to cooperate with all other Contractors and the Airport Manager in the coordination of the work.

The Airport Manager will, at all times, have jurisdiction over the safety of air and ground traffic during construction. Whenever the safety of air or ground traffic during construction is concerned, his decision as to methods, procedures, and measures used shall be final, and any and all Contractors performing work must be governed by such decisions.

The Contractor shall not be entitled to any extra compensation due to delays or inconveniences caused by said necessary methods, procedures, and measures to protect air or ground traffic.

### **SITE INSPECTION**

The Contractor shall be responsible for an **on-site inspection** prior to submitting a bid on this project. **Upon receipt of a bid, it shall be assumed that the Contractor is familiar with the construction site, including the electrical equipment to be improved, if applicable, and the facilities in which the improvements are to be made.**

**ITEM AS101580**  
**REFURBISH 36” BEACON**  
**(Additive Alternate No. 1)**

The Illinois Department of Transportation, Division of Aeronautics, Standard Specifications for Construction of Airports, adopted January 1985, as revised, and the Supplemental Specifications and Recurring Special Provisions, adopted July 1, 2004, shall govern the furnishing and installation of the refurbished airport rotating beacon on this project, except as otherwise revised or noted in these Special Provisions and/or the Project Specifications. In the event of inconsistencies between the Standard Specifications, Supplemental Specifications or Recurring Special Provisions (SSRSP), and these Special Provisions, the Special Provisions shall govern. The Contractor will maintain a minimum of one printed copy of the relevant sections of the SSRSP on the project site at all times. The SSRSP are available on line at the following address links:

<http://www.dot.state.il.us/aero/specsconst.pdf>  
<http://www.dot.state.il.us/aero/supspecsrecur.pdf>

**DESCRIPTION**

101-1.1. Revise this section as follows:

“This Item of work shall consist of replacing the existing airport rotating beacon with an L-802A, 36” refurbished airport rotating beacon furnished and installed in accordance with this Specification. The Contractor shall field-verify existing conditions to determine the extent of the work. The Contractor shall furnish a crane and all associated hoisting and rigging equipment to remove the existing 36” rotating beacon and install the proposed 36”, refurbished airport rotating beacon. This Work shall include the mounting, leveling, painting, servicing, and testing of the beacon, electrical equipment, conduit, wiring, grounding, site preparation, and all materials and incidentals necessary to place the airport rotating beacon in operating condition as a completed unit to the satisfaction of the Airport Representative and the Engineer.”

101-1.2 REFERENCES

- (a) ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- (b) ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- (c) ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- (d) ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.

- (e) FAA ADVISORY CIRCULAR 150/5345-12, (latest revision), SPECIFICATION FOR L-802A HIGH-INTENSITY AIRPORT BEACON.
- (f) FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- (g) NFPA 70 – National Electrical Code (most current issue in force).
- (h) UL Standard 6 – Rigid Metal Conduit.
- (i) UL Standard 83 – Thermoplastic-Insulated Wires and Cables.

101-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Cut sheets with part number and specifications for the refurbished airport rotating beacon.

### EQUIPMENT AND MATERIALS

101-2.2 BEACON. Add the following:

“The airport rotating beacon shall conform to FAA Advisory Circular 150/5345-12, latest revision, Specification for L-802A high-intensity airport beacon. The airport rotating beacon shall be a refurbished/retrofitted, 36”., double-end rotating beacon, DCB36 standard base, Class 1, with a new beacon warranty, belt-driven, clear-green beam, 120-Volt, 60-Hertz, 400-Watt, metal halide pulse start lamp. The rotating beacon shall have a stationary lamp with no slip rings. The rotating beacon shall be a belt drive type. A rotating beacon, with a gear drive or gear to gear mechanisms, is not acceptable. The rotating beacon shall include a tell-tale relay for interface and control of obstruction lights. The obstruction lights shall illuminate when the beacon is off or when the beacon lamp fails. The refurbished, airport rotating beacon shall be a Hali-Brite, Part Number L802A1116BSE, with L802 T/T DCB 36 tell-tale relay, or approved equal. **Note that**



**this airport rotating beacon will have an existing unit for exchange. Contractor shall confirm part numbers and coordinate ordering of this airport rotating beacon (with the exchange) with the respective manufacturer.”**

101-2.3 PANELBOARDS AND BREAKERS. Add the following:

“A new load center will be furnished and installed at the beacon tower platform under Item AR800591 Upgrade Airport Rotating Beacon.”

101-2.5 WIRE. Revise this section as follows:

“Wiring from the vault to the new load center at the top of the airport rotating beacon tower shall be replaced under Item AR108088 1/C #8 XLP-USE. New wiring from the load center to the airport rotating beacon shall be furnished and installed as detailed on the Plans and Specified herein. Wire for power and control circuits shall be THWN copper conductors. Cable shall be 1/C sized in accordance with National Electrical Code (NEC) 75°C ampacity tables and/or as detailed herein. Cable shall comply with Underwriters’ Laboratories Standard UL-83, and shall be UL-listed as VW-1. Conductor shall be soft-annealed, uncoated copper, and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon conforming to Underwriters’ Laboratories for type THHN or THWN-2. Cable shall be UL-listed and marked THWN-2. Power and control wiring shall be Southwire, Type THWN-2, or approved equal.”

101-2.6 CONDUIT. Add the following:

“Liquid-Tight, Flexible Metal Conduit. Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible hot-dip, galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes and be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight, flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight, flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight, flexible metal conduit shall be Anaconda Sealtite Type UA, as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, Phone: 217-234-8844, Liguatite Type LA, as manufactured by Electri-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, Phone: 630-529-2920 or 1-800-323-6174, or approved equal. Do not install liquid-tight, flexible metal conduit that is not UL listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation.”

## CONSTRUCTION METHODS

101-3.1 . Revise this section as follows:

“The refurbished beacon shall be mounted on the existing beacon tower in accordance with the beacon manufacturer’s recommendations and instructions.”

101-3.6 BEACON MOUNTING PLATFORM. Revise this section as follows:

“The proposed refurbished beacon shall be mounted to the beacon plate-mounting on top of the existing beacon tower. The Contractor shall make any necessary modifications to the beacon plate in order to bolt the proposed refurbished beacon to the beacon plate.”

101-3.7 WIRING. Add the following:

“The Contractor shall furnish and install all electrical materials necessary for complete and operational installation, as stipulated in this respective Item. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 – National Electrical Code (NEC), most current issue in force. Equipment shall be installed, in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

Contractor shall furnish and install 1- #12 THWN, 1- #12 Neutral, and 1- #12 Ground in 3/4“(minimum), galvanized rigid steel conduit (GRSC) and/or 3/4” (minimum), liquid-tight, flexible metal conduit from the disconnecting means/load center to the airport rotating beacon.”

101-3.12 OBSTRUCTION LIGHTS. Revise this section as follows:

“Obstruction lights shall be furnished and installed under Item AR800591 Upgrade Airport Rotating Beacon.”

101-3.13 PAINTING. Add the following:

“The refurbished beacon, except glass surfaces, shall be factory-painted aviation orange.”

101-3.15 SAFETY. It is recommended that the beacon work and access to the beacon tower platform be performed with the use of a high-lift bucket truck. Under no circumstances should the beacon tower be climbed without standard climbing safety equipment.

101-3.16 LOCATE EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground

utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

### **BASIS OF PAYMENT**

101-5.1. Revise this section as follows:

“The removal of the existing 36” airport rotating beacon and the installation of the 36” refurbished airport rotating beacon on top of the existing beacon tower, as specified herein complete and accepted by the Airport Representative, will be paid for at the contract unit bid price per lump sum. This price shall be full compensation for removing the existing beacon, furnishing and installing the refurbished beacon, furnishing all materials, and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, adjusting, testing, and incidentals necessary to complete this Item.”

Payment will be made under:

Item AS101580 Refurbish 36” Beacon - per lump sum.

**ITEM 107 INTALLATION OF AIRPORT 8-FOOT  
AND 12-FOOT WIND CONES**

**DESCRIPTION**

107-1.1. Revise this section to read as follows:

“Item AR107812 L-807 WC-12’ Internally Lit shall consist of installing a 12-ft internally lighted wind cone with obstruction light at the location shown on the Plans, and in accordance with the details and notes on the Plans and these Special Provisions. The work shall include the furnishing and installation of a support for mounting the wind cone, concrete foundation, L-867 splice can, and splices to connect the respective feeder cables to the wind cone manufacturer’s cables, all connections, conduit and conduit fittings, lamps, ground rod and ground connection, and all associated equipment, materials, labor, tools, testing, and all incidentals necessary to place the wind cone in operation as a completed unit to the satisfaction of the Engineer.

Item AR107920 Replace Wind Cone shall consist of removing an existing L-806 Supplemental lighted wind cone and furnishing and installing a new L-806 Supplemental Wind Cone with obstruction light at each location shown on the Plans and in accordance with these Special Provisions. The work shall include the furnishing and installation of a support for mounting the wind cone. The existing concrete foundation shall be reused. This item shall include wind cone manufacturer’s cable, connections, series circuit transformer, conduit and conduit fittings, lamps, ground rod and ground connection, and all associated equipment, materials, labor, tools, testing, and all incidentals necessary to place each wind cone in operation as a completed unit to the satisfaction of the Engineer.”

107-1.2 REFERENCES

- (a) ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- (b) ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- (c) FAA AC No. 150/5345-27D “SPECIFICATION FOR WIND CONE ASSEMBLIES”.
- (d) FAA AC No. 150/5345-47B “ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS”.
- (e) FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- (f) UL Standard 6 – Rigid Metal Conduit.
- (g) UL Standard 514B – Conduit, Tubing and Cable Fittings.

107-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for wind cones and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Cut sheets with part number and specifications for each wind cone.
- (d) Concrete mix design.
- (e) Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. Include certification of 100% domestic steel for ground rods. Include cut sheets for exothermic weld connections, ground lugs, and ground wire.
- (f) Provide cut sheets for all types of conduit used with the wind cones (for example galvanized rigid steel conduit). Include certification that steel conduits are made with 100 percent domestic steel.

### EQUIPMENT AND MATERIALS

107-2.2 WIND CONES. Revise this section to read as follows:

- (a) "L-807 wind cone assemblies including the support structure shall be manufactured to FAA Specification AC 150/5345-27D (or current edition in force) and shall be FAA-approved (ETL-Certified). Wind cone shall be a Type L-807, Style I internally lighted with three 100-Watt lamps or two 150-Watt lamps, Size 2 (36-in. by 12-ft) orange nylon windsock, 120 VAC input power, mounted on a 16-ft center hinged steel pole. Pole shall include a positive locking anti-slip brake winch for ease of lowering the basket, changing the windsock, and changing the lamps. Pole and support structure shall be factory painted "Aviation Orange". Wind cone shall be equipped with an L-810 obstruction light mounted on the top of the mast. Wind cone shall be Hali-Brite Inc. (P. O. Box 10, 925 1st Street SW, Crosby, Minnesota, 56441,

Phone: 1-800-553-6269 or 218-546-7473) Part Number L807-S2-IN-120-ON-N, or approved equal. Contractor shall confirm part number with the respective manufacturer for compliance with these Special Provisions. Include sufficient slack cable with the wind cone to allow connection to the respective feeder cable in an adjacent splice can and to accommodate lowering the hinged pole assembly for maintenance. Include manufacturer's specified anchor bolts.

- (b) L-806 supplemental wind cones shall be manufactured to Federal Aviation Administration (FAA) Specification AC 150/5345-27D (or current edition in force) and shall be FAA-approved (ETL-Certified). Wind cone shall be a Type L-806, Style I externally lighted, Size 1 (18 in. by 8 ft) orange nylon windsock, 6.6 Amp series circuit power, mounted on a frangible base pole. Pole and support structure shall be factory-painted "Aviation Orange". Wind cone shall be equipped with an L-810 obstruction light mounted on the top of the mast. Overall height of wind cone and support assembly shall not exceed 10 ft. Wind cone lighting shall provide constant-brightness series circuit power adapter suitable for operation on a three step (4.8 Amp, 5.5 Amp, and 6.6 Amp) series circuit. Wind cone shall be Hali-Brite Inc. (P. O. Box 10, 925 First Street SW, Crosby, Minnesota, 56441, Phone: 800-553-6269 or 218-546-7473), Part Number L806-S1-EX-66A-ON-3, or approved equal. Note: The specified wind cone uses LED (Light Emitting Diode) type lamps and requires a 300 Watt L-830-10 series isolation transformer. The constant current regulator powering the series circuit for the wind cones has been sized for the respective runway lighting loads and the specified wind cones. In the event that a different wind cone is proposed, the Contractor shall be responsible to ensure that the respective constant current regulator is properly sized for the total series circuit load. Where a different wind cone is proposed that requires loads that exceed the rating of the respective constant current regulator, the Contractor shall be responsible for all adjustments including providing a larger constant current regulator and all associated circuit breakers, conduits, wiring and vault work as applicable to accommodate the respective series circuit load with the wind cones. Contractor shall confirm part number and special options with the respective manufacturer for compliance with these Special Provisions. Include sufficient slack cable with the wind cone to allow connection to the respective series transformer in an adjacent splice can. Include manufacturer's specified anchor bolts."

107-2.3 WIRE. Revise this section to read as follows:

"Cable and wiring associated with the wind cone installations shall be as detailed on the Plans, as specified herein, and shall also comply with Item 108.

Cable in unit duct from the point of connection to the respective power source to the point of connection to the respective wind cone installation is not included with this item, and shall be paid for separately under Item 108."

107-2.4 CONDUIT. Revise this section at follows:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, and produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel or galvanized, malleable iron, specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

Conduit for grounding electrode conductors shall be Schedule 40 PVC conduit, and shall comply with Item 110 and the following: Conduit shall be Schedule 40 PVC, 90°C, UL-rated, or approved equal. Material shall comply with NEMA Specification TC-2 (Conduit), (Fittings UL-514), and UL-651 (Standard for rigid, non-metallic conduit).”

107-2.5 CONCRETE. Add the following:

“Foundation for the L-807 wind cone shall be 24-in. diameter by 84-in. deep (minimum). Coordinate the installation of a 2-in. GRSC/elbow into the foundation for the power wiring. Coordinate the installation of a 1-in. Schedule 40 PVC conduit/elbow into the foundation for the grounding electrode conductor. Include reinforcing steel, as detailed on the Plans.

107-2.7 SERIES CIRCUIT TRANSFORMER. Series circuit isolation transformers for the wind cones shall be manufactured to FAA Specification AC 150/5345-47B (or current edition in force), and shall be FAA-approved (ETL-Certified). Series circuit transformer shall be properly sized for the respective wind cone lighting loads, and shall be as recommended by the respective wind cone manufacturer. Series circuit isolation transformer for the specified Hali-Brite Inc. L-806 lighted wind cone (Part Number L806-S1-EX-66A-ON-3), shall be FAA Type L-830-10, 300-Watt, 6.6 Amp primary, 6.6 Amp secondary series isolation transformer. Confirm proper transformer selection and sizing with the respective wind cone manufacturer.

107-2.8 GROUND RODS. Ground rods shall be 3/4-in. diameter, 10 ft long, UL-listed, copper-clad with 10-mil. minimum copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.

## CONSTRUCTION METHODS

107-3.1 INSTALLATION. Add the following:

“The support pole shall be installed on a concrete foundation, as detailed on the Plans. The Contractor shall furnish and install all electrical materials necessary for complete and operational installation of each wind cone, as detailed herein and in accordance with the manufacturer’s instructions. The complete installation and wiring shall be done in a neat,

workmanlike manner. All electrical work shall comply with the requirements of NFPA 70 - National Electrical Code (NEC), most current issue in force. Wind cones shall be installed in conformance with the respective manufacturer's directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer's warranty of a device will not be permitted.

The Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.

The Contractor should examine the proposed site to evaluate the complexity of the work.

Contractor shall coordinate work and any power outages to airfield lighting systems, buildings or facilities located on the Airport with the Airport Director. Where FAA facilities are affected, the Contractor shall coordinate work and any power outages with the Airport Director and the respective FAA personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Director prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

The Contractor shall be responsible for furnishing and setting all anchor bolts required to install his equipment.

Where concrete mounting pads, foundations, or piers are required for equipment mounting, the Contractor shall furnish all concreting and form work necessary to complete the installation. Concrete shall conform to Item 610 Structural Portland Cement Concrete of the Standard Specifications."

107-3.2. COUNTERWEIGHT. Delete this section.

107-3.3 ELECTRICAL CONNECTION. Add the following:

"Splices in conductors will be allowed only within the specified junction boxes or splice cans. Spliced connections of the wind cone conductors to the series circuit isolation transformer shall be installed in an L-867 base/splice can, as detailed on the Plans and in conformance with Item 108."

107-3.4 BOOSTER TRANSFORMER. Revise this section as follows:

"Boost transformers for use with the voltage power feeder circuit for the wind cone will vary depending upon the wind cone manufacturer, their respective lighting load in Amps, and the distance from the vault (power source) to the respective wind cone. The specified cable feeding the L-807 wind cone located in the segmented circle and the associated



boost transformer at the vault were selected to maintain a voltage drop of less than 3 percent from the respective power source to the respective wind cone and the existing wind-tee. The specified wind cone has an Amperage rating of 3.5 Amps at 120 VAC. If the Contractor proposes to use another manufacturer's wind cone that has a higher Amperage rating, he will be required to provide voltage drop calculations and furnish a boost transformer adequate to compensate for voltage drop to the wind cone. Boost transformers for use with wind cone feeder circuits shall be sized for the respective wind cone loads and to maintain a voltage drop of approximately 3 percent or less, as recommended by the respective wind cone manufacturer. The boost transformer shall be UL-listed and designed, manufactured, and tested in accordance with ANSI Standard Z535.3 and NEMA ST20, where applicable. The transformer shall be suitable for indoor/outdoor installation with a NEMA 3R weatherproof enclosure. The boost transformer shall be Square D Company, Class 7414, or approved equal, sized for the respective application."

107-3.5 GROUND CONNECTION AND GROUND ROD. Revise this section as follows:

"The Contractor shall furnish and install a ground rod, grounding electrode conductor cable, ground clamps/connectors, and exothermic weld connections for grounding the wind cone pole support near the base. The ground rod shall be 3/4- in. diameter by 10 ft long, UL-listed, copper-clad with 10-mil. minimum copper coating. The ground rod shall be driven into the ground adjacent to the concrete foundation so that the top of the rod is at least 30-in. below grade. Buried or concealed ground systems shall be observed by the Resident Engineer before backfilling or covering. The grounding electrode conductor shall consist of No. 6 AWG bare-stranded copper wire or larger. All connections to ground rods and/or buried grounding electrode conductors shall be made with exothermic weld-type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone: 800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440) or Ultraweld by Harger, Grayslake, Illinois (Phone: 800-842-7437). Exothermic weld connections shall be installed in conformance with the respective manufacturer's directions using molds as required for each respective application. Bolted connections will not be permitted at ground rods. The other end of the grounding electrode conductor shall be securely attached to the base of the wind cone pipe support with a UL-listed grounding connector or pipe clamp suitable for the respective application. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material (including paint) per 2008 NEC, Article 250-12. All bolted or mechanical connections shall be coated with a corrosion preventative compound before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or equal. Coordinate the installation of a 1-in. Schedule 40 PVC conduit into the wind cone foundation to accommodate the grounding electrode conductor. The resistance to ground shall not exceed 25 Ohms. Contractor shall test the made electrode ground rod installation with an instrument specifically designed for testing ground field systems. If ground resistance exceeds 25 Ohms, contact the Resident Engineer for further direction. Copies of ground rod test results shall be furnished to the Resident Engineer."

107-3.7 LAMPS. Revise this section as follows:

“The Contractor shall furnish and install all lamps required as per manufacturer's recommendation.”

107-3.8 CHAIN AND PADLOCK. Delete this section.

107-3.10 RESTORATION. All turf areas disturbed by the installation of the wind cone and associated work shall be restored, graded, and seeded to establish a stand of grass to the satisfaction of the Engineer and will be considered as incidental to the installation of each wind cone.

107-3.11 INSTRUCTION OF AIRPORT STAFF. Contractor shall provide instruction to airport staff in regard to the operation and maintenance of the wind cones and associated equipment. Contractor shall demonstrate operating procedures, lamp changing procedures, and items requiring maintenance. Contractor shall furnish operation and maintenance manuals for wind cones and associated equipment.

### **BASIS OF PAYMENT**

107-5.1. Payment will be made at the contract unit price per each unit installed and accepted by the Engineer. This price shall be full compensation for furnishing all materials, preparation, assembly, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete each respective item.

Payment will be made under:

Item AR107812 L-807 WC-12' Internally Lit - per each  
Item AR107920 Replace Wind Cone – per each

**ITEM AR107900 REMOVE WIND CONE**

**DESCRIPTION**

This item of work shall consist of the removal of the existing wind cone located in the segmented circle including the support pole and base/foundation.

**CONSTRUCTION**

The Contractor shall coordinate the removal of the existing wind cone with the installation of the new internally lighted wind cone to minimize the time when the airport is without a wind cone. The Contractor shall also coordinate with and notify the Airport Manager and the Resident Engineer and provide a schedule for the wind cone removal and the new wind cone installation. The Contractor will turn the wind cone and support pole over to the Airport Manager. The concrete base/foundation will be disposed of off the airport site, in a legal manner, at the expense of the Contractor.

Contractor shall coordinate work and any power outages with the Airport Manager or respective Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

The holes left from the base/foundation removal will be filled with earth material. The earth material will be compacted to prevent any future settlement. The earth material will be obtained from off the airport site. The disturbed area will be limed, fertilized, and seeded in accordance with item 901. The liming, fertilizing, and seeding will be considered as an incidental item to the removal of the wind cone.

**BASIS OF PAYMENT**

This work will be paid for at the contract unit bid price per each for Wind Cone Removal. Said price and payment shall constitute full compensation for removing the existing wind cone, support pole, base/foundation; for all excavating and backfilling, for furnishing all earth material, materials, labor, tools, equipment, and incidentals necessary to complete this item of work.

Payment will be made under:

Item AR107900 Remove Wind Cone - per each

**ITEM AR107901 REMOVE WIND TEE**

**DESCRIPTION**

This item of work shall consist of the removal of the existing Wind Tee located in the segmented circle including the base/foundation.

**CONSTRUCTION**

The Contractor shall coordinate the removal of the existing wind tee with the installation of the new internally lighted wind cone to minimize the time when the airport is without a main wind indicating device. The Contractor shall also coordinate with and notify the Airport Manager and the Resident Engineer and provide a schedule for the wind tee removal and the new wind cone installation. The Contractor will turn the wind tee over to the Airport Manager. The concrete base/foundation will be disposed of off the airport site, in a legal manner, at the expense of the Contractor.

Contractor shall coordinate work and any power outages with the Airport Manager or respective Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

The holes left from the base/foundation removal will be filled with earth material. The earth material will be compacted to prevent any future settlement. The earth material will be obtained from off the airport site. The disturbed area will be limed, fertilized, and seeded in accordance with item 901. The liming, fertilizing, and seeding will be considered as an incidental item to the removal of the wind tee.

**BASIS OF PAYMENT**

This work will be paid for at the contract unit bid price per lump sum for Wind Tee Removal. Said price and payment shall constitute full compensation for removing the existing Wind Tee, base/foundation; for all excavating and backfilling, for furnishing all earth material, materials, labor, tools, equipment, and incidentals necessary to complete this item of work.

Payment will be made under:

Item AR107900 Remove Wind Tee - per lump sum

**ITEM 108 INSTALLATION OF UNDERGROUND CABLE  
FOR AIRPORTS**

**DESCRIPTION**

**108-1.1.** Add the following to this section:

“This Item of work shall consist of the installation (plowing, trenching, directional-boring, or installing in conduits, ducts or raceways) of cable for control and airfield lighting circuits at the Airport and/or on the runways and taxiways and the associated homeruns at the locations shown on the Plans and in accordance with these Specifications. This Item shall include cable in unit duct where noted on the Plans and specified herein

In areas where there is a congestion of buried cable or where the proposed cable crosses an existing cable, the Contractor will be required to trench the proposed cable into place. In all other areas, the Contractor has the option to either trench or plow the proposed cable in unit duct into place.

When crossing existing circuits, the Contractor will be required to hand dig the trenches for the proposed cable.”

**108-1.2** The existing control cables for the runway lighting, taxiway lighting, and airfield nav aids that run from the Vault to the ATCT (Air Traffic Control Tower) are in poor condition. These existing control cables shall be removed and replaced with two sets of 37/C #12 AWG 600 Volt control cables under Item AR108800. Coordinate all work with the Airport Manager, the Air Traffic Control Tower Personnel, the designated Airport Maintenance Staff, and the Resident Engineer. All cabling at or below the ATCT will be paid for under Item AR109600 L-821 Control Panel. All control cabling at or below the Vault will be paid for under Item AR109620 Lighting Control System.

**108-1.3 REFERENCES**

- (a) ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- (b) ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- (c) Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- (d) FAA AC No. 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS.

- (e) FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- (f) NFPA 70 – National Electrical Code (most current issue in force).
- (g) UL Standard 44 – Thermoset-Insulated Wires and Cables.
- (h) UL Standard 83 – Thermoplastic-Insulated Wires and Cables.
- (i) UL Standard 1277 – Electrical Power and Control Tray Cables with Optional Optical-fiber Members.

108-1.4 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each wire, conductor, and/or cable type to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials, the Contractor shall furnish complete statements to the Project Engineer as to the origin, composition, and manufacturer of all material to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.
- (c) Indicate the pay item number for each respective cable and/or cable in unit duct.
- (d) Shop drawings shall include wire/conductor/cable cut sheets with type, size, specifications, ETL or UL listing, manufacturer, and catalog or part number.
- (e) Shop drawings for cable in unit duct items shall include cut sheets with type, size, specifications, ETL or UL listing, manufacturer, and catalog or part number for the respective unit duct.
- (f) Where cable is required to have colored coded insulation, provide information on the color coding for the respective conductors.

### **EQUIPMENT AND MATERIALS**

108-2.1 GENERAL. Add the following to paragraph (b).

“All cable shall be UL-listed as suitable for installed application.”

108-2.2 CABLE. Revise this section to read as follows:

"L-824 Cable. L-824 cable shall be FAA L-824, Type C and shall conform to the requirements of FAA Advisory Circular 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS". L-824 cable shall be FAA approved and listed in the current AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum. Circuits for use with constant current regulator outputs (runway or taxiway lighting circuits) shall use 5000-Volt rated cable. Circuits for voltage applications of 600-Volts or less shall use 600-Volt or 5000-Volt rated cable.

Cable for use with airfield lighting series circuits (including runway lighting, taxiway lighting and taxi guidance signs) shall be one conductor No. 8, 5,000-Volt, FAA L-824, Type C, stranded.

XLP-USE Wire. Cable shall comply with UL Standard 44, UL Standard 854, and Federal Specification A-A-59544. Conductor shall be concentric-strand, soft copper, conforming to ASTM B8 and Underwriters' Laboratories Standard UL44 for Rubber Insulated Wires. Insulation shall be rated for 600-Volt. Insulation shall be cross-linked polyethylene conforming to Underwriter's Laboratories Requirements for Type USE-2 insulation. Cable shall be UL-listed and marked USE-2. Cable shall be Service Wire Company Type USE-2, or approved equal.

Item AR108108, 1/C #8 5KV UG Cable shall consist of one conductor No. 8, 5,000-Volt, FAA L-824, Type C cable installed in conduit, duct, manholes, handholes, and/or splice cans.

Item AS108088 1/C #8 XLP-USE shall consist of 1/C #8 AWG, XLP-USE, 600-Volt cable installed in conduit, ducts, and handholes from the Vault to the respective handhole, between handholes that are connected through a duct bank, and to the airport rotating beacon. Conductor insulation shall be color-coded: Phase A – Black, Phase C– Blue, Neutral – White, and Ground – Green.

Item AR108558, 2/C #8 600 V UG Cable In UD shall consist of 2-1/C #8 AWG, XLP-USE, 600-Volt cable in unit duct (1.25 in. or sized larger, as required per NEC). Conductor insulation for 120 VAC, single phase, 2-wire circuits shall be color-coded: Phase A – Black and Neutral – White.

Item AR108800 Control Cable shall be 37/C #12 AWG, 600-Volt control cable installed in existing conduit, duct, handholes, manholes, and/or raceway. Cable shall be 37 conductor, 600-Volt, 90°C Dry and 75°C Wet, #12 AWG stranded copper TFFN or VW-1 THHN/THWN conductors with an overall gas/vapor-tight polyvinyl chloride (PVC) jacket conforming to Article 336 "Power and Control Cable Type TC" of the 2008 NEC and UL Standard 1277. Cable shall be suitable for installation in trays, wireways, ducts,

conduit, and direct burial; American Insulated Wire Corp. Part No. 68140, or approved equal.

Color-coding: Color-code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored marking tape or colored insulation for phase and neutral conductors for No. 4 AWG and larger. **Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL) to comply with NEC 250.119. Neutral conductors shall have white colored insulation for No. 6 AWG and smaller to meet the requirements of NEC 200.6.** Standard colors for power wiring and branch circuits for 240/120 VAC, 3-Phase, 4-Wire system shall be Phase A – Black, Phase B – Orange, Phase C – Blue, Neutral – White, and Ground – Green.

The wiring associated with the airport electrical vault work will be paid for under Item AR109200 Install Electrical Equipment - per lump sum.”

108-2.3 BARE COPPER WIRE (COUNTERPOISE). Revise this section to read:

“Bare copper counterpoise wire will not be required on this project under Item 108.”

108-2.4 CABLE CONNECTIONS. Add the following to this section:

“The Contractor will use a cable stripper/penciller whenever cable connections are made.

All breaks in the unit duct shall be sealed by shrink kits.

All below grade splices shall be installed in splice cans, handholes, or manholes. Splice cans shall be L-867, Class IA, Size B (12 in. diameter), and 24 in. deep, with ½ in. thick, galvanized steel cover and stainless steel bolts. Larger size splice cans shall be provided, as applicable, for specific equipment applications or manufacturer’s recommendations, and/or where detailed on the Plans. Splice cans located in areas subject to heavy aircraft or vehicle loading shall be L-868 type. The Engineer shall approve all splice locations before work commences. The furnishing and installing of splice cans for new homerun cables shall be incidental to the respective cable pay item, and no additional compensation will be allowed.”

108-2.6 UNIT DUCT. Standard sizes of smooth wall polyethylene duct shall conform to the dimensional requirements specified below:



Nominal Duct Size	Nominal Inside Diameter	Nominal Standard Wall	Nominal Outside Diameter*
3/4"	0.910"	0.070"	1.050"
1"	1.145"	0.085"	1.315"
1-1/4"	1.440"	0.110"	1.660"
1-1/2"	1.650"	0.125"	1.900"
1-1/2"	2.065"	0.155"	2.375"
2-1/2"	2.449"	0.213"	2.875"
3"	3.048"	0.226"	3.500"
4"	4.000"	0.250"	4.500"

\* Dimensions include allowance for duct eccentricity.

108-2.9 LINE MARKING TAPE. Delete this section.

### CONSTRUCTION METHODS

108-3.1 GENERAL. Add the following to this section:

“Only cable in unit duct may be plowed or directional-bored.

The Contractor will identify all existing underground utilities located within the area where the proposed cables are being installed, and will take all precautions to protect these utilities from damage. Any underground utility damaged will be repaired or replaced at the Contractor’s own expense.

Contractor shall coordinate work and any power outages with the Airport Manager or respective Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

All cables installed by the Contractor shall be properly labeled and tagged at all points of access (handholes, manholes, terminal panels, control panels, and/or the respective wireway in the vault).

All changes to the airfield lighting system shall be documented by the Contractor and provided to the Airport Representative.”

108-3.2 INSTALLATION IN DUCT OR CONDUIT. Add the following to this section:

“The unit duct will be run continuous through all ducts and conduits.”

108-3.3 TRENCHING. Add the following to this section:

“(c) Cable installed in cultivated fields shall be installed a minimum of 42 in. below grade.”

108-3.4 INSTALLATION IN TRENCHES. Add the following:

“Any and all trenches will be backfilled to a smooth grade to the satisfaction of the Resident Engineer. All trench settlement shall be corrected for a period of one year. Restoration, grading, and seeding of areas disturbed during the installation of the proposed cable will be incidental to the respective 108 Pay Item.”

108-3.8 SPLICING. Add the following:

“In-line connections for existing cables cut during construction shall be repaired with the cast splice kit. The Contractor shall have a minimum of two splice kits on the job site at all times for emergency repairs. Cast splice kits shall be specified in paragraph (a) of Item 108-2.4. **Splice cans shall be provided for existing cables cut and repaired for each splice in cables not to be abandoned. Where a splice can is not readily available at the time of the cable damage, splice markers shall be temporarily installed over each splice in cables not to be abandoned, then these splices shall later be replaced with new splices in an L-867 splice can.**

There shall be no splices between series lighting circuit isolation transformers. In the event that a series lighting circuit cable is cut between isolation transformers, the entire length of cable between these isolation transformers shall be replaced. Splices for homerun cables will only be permitted at splice cans, junction boxes, handholes, or manholes.”

108-3.9 BARE COUNTERPOISE WIRE INSTALLATION AND GROUNDING FOR LIGHTNING PROTECTION. Revise this section to read as follows:

“Bare copper counterpoise wire will not be required on this project under Item 108.”

108-3.12 LOCATING OF EXISTING UNDERGROUND UTILITIES AND CABLES. Add the following:

“The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational

plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

Payment for locating and marking underground utilities and cables will not be paid for separately, but shall be considered incidental to the plowing/trenching/boring of cable and cable in unit duct.”

108-3.14 SEPARATION OF HIGH-VOLTAGE AND LOW-VOLTAGE WIRING. Low-voltage wiring shall maintain separation from high-voltage wiring. Low-voltage wiring and high-voltage wiring shall not be installed in the same raceway, handhole, or junction box.

### **METHOD OF MEASUREMENT**

108-4.1. Delete this section.

108-4.2. Revise this section to read as follows:

“The footage of cable or cable in unit duct installed in trench, duct or conduit to be paid for shall be the number of linear feet of cable installed in trench, duct, conduit, or raceway measured in place by direct measurement, completed, ready for operation and accepted as satisfactory with no allowance being made for overrun due to slack, turns, splices, etc. Slack cable required to perform cable splices outside of the respective splice cans, handholes, or manholes, shall be incidental to the respective cable pay item and no additional measurement for payment will be made. Cable will be measured for payment from the respective termination or splice point in the field to the respective termination in the vault. Cable or cable in unit duct installed inside or below the vault shall be incidental to Item AR109200 and/or AR109620, and no additional measurement for payment will be made.”

For Item AR108088, the footage of 1/C #8 XLP-USE installed in conduit, duct, and raceway to be paid for shall be the number of linear feet installed in conduit, duct, or

raceway measured between the respective termination point and up to the vault. Where multiple cables are installed each one conductor cable will be measured for payment. Slack cable located at a splice can, handhole or manhole will not be measured for payment. For the cable installed from the base of the airport rotating beacon tower to the respective load center at the top of the tower 60 feet of cable times the number of conductors will be included with the measurement of cable.

For Item AR108108, the footage of 1/C #8 5KV UG Cable installed in conduit, duct, and raceway to be paid for shall be the number of linear feet installed in conduit, duct, and raceway measured between each termination and splice point. Cable will be measured for payment up to the vault. Where multiple cables are installed each one conductor cable will be measured for payment. Slack cable located at a splice can, handhole or manhole will not be measured for payment.”

For Item AR108800, the footage of 37/C #12 Control Cable installed in conduit, duct, and raceway to be paid for shall be the number of linear feet installed in conduit, duct, and raceway measured between the Vault and the Air Traffic Control Tower. Cable will be measured for payment up to the Vault and up to the Air Traffic Control Tower. Where multiple 37 Conductor cables are installed each 37 Conductor cable will be measured for payment. Slack cable located at a splice can, handhole or manhole will not be measured for payment. Cable installed inside or below the vault shall be incidental to Item AR109620, and no additional measurement for payment will be made. Cable installed inside or below the Air Traffic Control Tower shall be incidental to Item AR109600, and no additional measurement for payment will be made. Removal of existing control cables designated on the Plans will be incidental to Item AR108800 and no additional measurement for payment will be made.

### **BASIS OF PAYMENT**

108-5.1. Payment will be made at the contract unit price per lin. ft of cable completed and accepted by the Engineer. This price shall be full compensation for furnishing all materials, and for all preparation, assembly, and installation of these materials; for all plowing, trenching, directional-boring, coring of manholes or handholes, installation in ducts, raceways, conduits, splice cans, handholes, or manholes, and for all excavation and backfilling; for all site restoration (topsoiling, grading, seeding, and mulching); and for all labor, equipment, tools, and incidentals necessary to complete this Item.

Payment will be made under:

- Item AR108108, 1/C #8 5KV UG Cable - per linear foot
- Item AR108558, 2/C #8 600V UG Cable in UD - per linear foot
- Item AR108800, Control Cable - per linear foot
- Item AS108088, 1/C #8 XLP-USE - per linear foot

**ITEM 109**  
**INSTALLATION OF AIRPORT TRANSFORMER VAULT AND VAULT EQUIPMENT**

**DESCRIPTION**

109-1.1. Revise this section to read as follows:

“Item AR109200 “Install Electrical Equipment” shall consist of furnishing and installing all electrical equipment in the vault to perform the vault modifications, as detailed on the Plans and specified herein. This item shall include all labor, equipment, materials, transportation, wiring, connectors, raceways, conduits, junction boxes, grounding, core drilling, tools, operational instructions, coordination, labeling, testing, and all incidentals required to place the vault and associated electrical equipment into proper working order to the satisfaction of the Owner and Engineer.

Included under this Item shall be the following:

- (a) Field verification of existing site conditions to determine complexity of the proposed work.
- (b) Coordinating all work with the Airport Manager, the Air Traffic Control Tower Personnel, the designated Airport Maintenance Staff, and the Resident Engineer.
- (c) Furnishing and installing a new constant current regulator for Runway 18L-36R.
- (d) Furnishing and installing all associated electrical equipment, support hardware, raceways, conduits, cable, wiring, grounding, and accessories as detailed on the Plans and specified herein.
- (e) Testing, adjusting, and retesting (where applicable) all new equipment and modifications to existing systems for proper operation.
- (f) Labeling all electrical equipment and incidentals necessary to place all of the equipment in operation as a complete unit acceptable to the Owner and Engineer.
- (g) Furnishing operation, maintenance, and installation manuals for all new equipment.”

109-1.2. Item AR109600 L-821 Control Panel shall include replacing the existing L-821 control panel in the ATCT (Air Traffic Control Tower). This item shall include all labor, materials, transportation, equipment, wiring, raceways, grounding, tools, coordination, labeling, testing, and all incidentals required to place the L-821 control panel into proper working order as a completed unit to the satisfaction of the Owner and Engineer.

Included under this Item shall be the following:

- (a) Field verification of existing site conditions to determine complexity of the proposed work.
- (b) Coordinating all work with the Airport Manager, the Air Traffic Control Tower Personnel, the designated Airport Maintenance Staff, and the Resident Engineer.
- (c) Furnishing shop drawings for the new L-821 control panel at the ATCT. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (d) Removing the existing L-821 control panel and associated control wiring located in the ATCT.
- (e) Furnishing and installing a new L-821 control panel at the ATCT.
- (f) Furnishing and installing terminal block panel for the respective control cables at the ATCT.
- (g) Furnishing and installing all control cable, wiring, and cable supports at the ATCT, as detailed on the Plans and specified herein.
- (h) Furnishing and installing all raceways and conduits to interface to terminal panels, control panels, junction boxes, etc. at the ATCT, as detailed on the Plans and specified herein.
- (i) Identifying and labeling all control wiring associated with the control circuit upgrades.
- (j) Testing, adjusting, and retesting (where applicable) the new L-821 control panel for proper operation.

109-1.3. Item AR109620 Lighting Control System shall consist of removing the existing L-821 control panel and airfield lighting control system at the vault and replacing it with a new relay interface panel and airfield lighting control system as detailed on the Plans and specified herein. This item also includes interface to the existing L-854 radio receiver for pilot control of the runway lighting systems on Runway 18L-36R and Runway 6-24. This item shall include all labor, materials, transportation, equipment, materials, control panels, conductors, connectors, conduits, raceways, junction boxes, grounding, tools, coordination, relocations, operational instructions, labeling, testing and all incidentals required to place the airfield lighting control system modifications, upgrades, additions, and associated equipment into proper working order as a completed unit to the satisfaction of the Owner and Engineer.

Included under this Item shall be the following:

- (a) Field verification of existing site conditions to determine complexity of the proposed work.

- (b) Coordinating all work with the Airport Manager, the Air Traffic Control Tower Personnel, the designated Airport Maintenance Staff, and the Resident Engineer.
- (c) Furnishing shop drawings for the radio control interface/relay control interface panel at the Vault. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (d) Furnishing and installing a radio control interface/relay control interface panel at the Vault.
- (e) Furnishing and installing terminal block panel for the respective control cables at the Vault.
- (f) Furnishing shop drawings for the lighting contactor control panel for the airport Nav aids (Airport Rotating Beacon, Main Wind Cone, and Runway 18R-36L PLASI units) at the Vault. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (g) Furnishing and installing a lighting contactor control panel for the airport Nav aids at the Vault.
- (h) Furnishing and installing all and cable supports at the ATCT, as detailed on the Plans and specified herein.
- (i) Furnishing and installing all power and control cable, wiring, raceways, conduits, junction boxes, etc. at the Vault as detailed on the Plans and specified herein.
- (j) Identifying and labeling all control wiring associated with the control circuit upgrades.
- (k) Testing, adjusting, and retesting (where applicable) the new L-821 control panel, transfer relay panel, and radio control interface/relay control interface panel for proper operation.
- (l) Removal of designated existing vault equipment (including but not limited to the existing L-821 control panel and associated control panels) located in the Vault. All equipment to be removed shall be turned over to the Owner. In the event that the Owner does not want the respective equipment, the Contractor shall dispose of that respective equipment in a legal manner. Removal of vault equipment shall include the removal of the associated wiring and raceway for the respective equipment that is to be removed.

#### 109-1.4 REFERENCES

- (a) ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- (b) ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- (c) ANSI Z535.4-2002 - American National Standard for Product Safety Signs and Labels.

- (d) ASTM Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- (e) ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- (f) Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- (g) FAA AC No. 150/5340-30D “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS”.
- (h) FAA AC No. 150/5345-3F “SPECIFICATION FOR L-821, PANELS FOR CONTROL OF AIRPORT LIGHTING”.
- (i) FAA AC No. 150/5345-7E, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS.
- (j) FAA AC No. 150/5345-10F “SPECIFICATION FOR CONSTANT CURRENT REGULATORS AND REGULATOR MONITORS”.
- (k) FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- (l) FAA-STD-019e, December 22, 2005, Department of Transportation, Federal Aviation Administration Standard, LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT.
- (m) NFPA 70 – National Electrical Code (most current issue in force).
- (n) UL Standard 6 – Rigid Metal Conduit.
- (o) UL Standard 44 – Thermoset-Insulated Wires and Cables.
- (p) UL Standard 83 – Thermoplastic-Insulated Wires and Cables.
- (q) UL Standard 467 – Grounding and Bonding Equipment.
- (r) UL Standard 486A-486B Wire Connectors.
- (s) UL Standard 514B – Conduit, Tubing and Cable Fittings.

**109-1.5 SHOP DRAWINGS.** The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for vault equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are**



**illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Cut sheets with part number and specifications for the constant current regulator. Include list of spare parts.
- (d) Cut sheets with part number and specifications for the S-1 cutouts and enclosure.
- (e) Furnish shop drawings for the new L-821 control panel at the ATCT. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (f) Furnish shop drawings for the radio control interface/relay control interface panel at the Vault. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (m)Furnish shop drawings for the lighting contactor control panel for the airport Nav aids (Airport Rotating Beacon, Main Wind Cone, and Runway 18R-36L PLASI units) at the Vault. Shop drawings shall include panel layout, terminal block arrangement, and wiring diagram for the panel.
- (n) Cut sheets with part number and specifications for the transient voltage surge suppressors.
- (o) Cut sheets with part number and specifications for the double throw not fusible safety switch.
- (g) Provide cut sheets for all types of conduit used in the vault (for example galvanized rigid steel conduit and UL listed liquid tight flexible metal conduit). Include certification that steel conduits are made with 100 percent domestic steel.
- (h) Provide cut sheets for the power and control circuit conductors.

### **EQUIPMENT AND MATERIALS**

109-2.1 GENERAL. Add the following to this section:

- “(c) FAA approval of airport lighting equipment and subsequent inclusion in Advisory Circular 150/5345-1 "Approved Airport Equipment", and/or Advisory Circular 150/5345-53 "Airport Lighting Equipment Certification Program" only means that the test data satisfied the applicable Specification requirements. This does not insure that the approved equipment will satisfactorily operate when connected power-wise and/or control-wise to other approved airport lighting equipment or "off the shelf" equipment not requiring FAA approval.
- (d) The Contractor shall ascertain that all lighting system components furnished by him (including FAA-approved equipment) are compatible in all respects with each other and the remainder of the new system. Any non-compatible components furnished by the Contractor shall be replaced by him, at no additional cost to the Airport Sponsor, with a similar unit approved by the Engineer (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.
- (e) Except as specified otherwise, all new equipment shall be provided by the Contractor and shall be tested for Specification conformance as part of the Aviation Lighting Equipment Certification Program. Certification of conformance, as tested by the testing laboratory, shall be provided by the manufacturer for all items submitted for approval.”

109-2.4 BRICK. Delete this section.

109-2.5 ASBESTOS CEMENT DUCT. Delete this section.

109-2.6 FIBER CONDUIT. Delete this section.

109-2.7 RIGID STEEL CONDUIT. Add the following:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, and produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel or galvanized, malleable iron, specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.”

109-2.8 LIGHTING. Delete this section.

109-2.11 FLOOR DRAINS. Delete this section.

109-2.13 HIGH-VOLTAGE BUS. Delete this section.

109-2.14 BUS CONNECTORS. Delete this section.

109-2.15 BUS SUPPORTS. Delete this section.

109-2.16 GROUND BUS. Revise to read as follows:

“The existing ground bus bar located behind the constant current regulators shall be replaced with a new ground bus. New ground bus for constant current regulators shall be 1/4 in. thick by 2 in. wide by 16 ft, 6 inches overall length copper bus bar, as manufactured by Harger Lightning Protection Inc., 301 Ziegler Drive, Grayslake, IL 60030, Phone: 1-800-842-7437 or 847-548-8700, or approved equivalent. Contractor shall field verify overall length requirements to match that of the existing ground bar which is approximately 16 ft, 6 inches overall length. Ground bus shall be UL-listed. Ground bus shall include standoff insulators, splices, bonding jumpers, mounting hardware, etc. as required for the respective application. Splices for 1/4 in. thick by 2 in. wide bus bar shall be exothermic, weld connection or with manufacturers splice plates and stainless nuts, bolts, and washers. Splice plates shall be copper with minimum dimensions 1/4 in. thick by 2 in. wide by 6 in. length with 4 bolts. Ground bus shall be supported every 4 ft or as recommended by the respective bus bar manufacturer. Include an engraved phenolic or plastic legend plate 1/2-in. high white letters on a green background labeled “VAULT GROUND BUS”. All cable connections to the ground bus shall be with two-hole tongue, long barrel compression lugs bolted to the bus bar, as detailed on the Plans.”

109-2.19 POTHEADS. Delete this section.

109-2.20 PREFABRICATED METAL HOUSING. Delete this section.

109-2.21 FAA-APPROVED EQUIPMENT. Add the following:

- (a) “L-821 Control Panel for ATCT. An L-821 control panel shall be provided to replace the existing L-821 control panel located in the Air Traffic Control Tower. L-821 control panel shall comply with FAA AC 150/5345-3F “SPECIFICATION FOR L-821, PANELS FOR CONTROL OF AIRPORT LIGHTING”, as detailed on the Plans and as specified herein. L-821 control panel shall be sized and compatible with the existing console located at the Control Tower. L-821 control panel shall be manufactured by Siemens Airfield Solutions, Inc., 977 Gahanna Parkway, Columbus, Ohio 43230, Phone: (614) 861-1304 or (800) 545-4157, Fax: (614) 864-2069, or an equivalent FAA-approved L-821 control panel manufacturer.
- (b) Constant Current Regulator for Runway 18L-36R. Constant current regulator for Runway 18L-36R shall be a 20 KW (minimum), L-828 constant current regulator, 240 VAC, single-phase, 60 Hertz input, Class 1 - 6.6-Amps output, Style 2 with five output brightness steps (2.8, 3.4, 4.1, 5.2, and 6.6-Amps). Constant current regulator shall comply with FAA AC 150/5345-10 (latest issue in force) for Type L-828

regulator. Constant current regulator shall be dry-type, ferro-resonant or saturable-reactor type regulator. Constant current regulator shall not have solid state controls in the series circuit and shall be designed for no radio communication interference. Solid state electronic designs are not acceptable. **Constant current regulator shall be capable of properly operating a pair of REILS with the runway lighting system. The existing REILS on the end of Runway 36R are Flash Technology PC830-2 POS A, 6.6 Amp series circuit type, Manufactured November 2002, Serial Number 195767 TN. Based on information from Flash Technology the REILS require approximately 400 Watts of load per light (800 Watts per pair). The respective constant current regulator manufacturer shall provide calculations and/or confirmation the respective constant current regulator is properly sized for the respective airfield lighting system.** Constant current regulator shall include open circuit protection, over current protection, output current ammeter, elapsed time meter (for total time on), output voltmeter, and lightning and transient protection on input and output lines. Constant current regulators shall also include a remote/local control feature with selections for “Remote, Off, B1-0.15% Brightness, B2-1.2% Brightness, B3-5% Brightness, B4-25% Brightness, and B5-100% Brightness”. Control voltage shall be 120 VAC (internal). Constant current regulators shall be manufactured by ADB/Siemens Airfield Solutions, Manairco, Inc. or Flight Light Inc./Hevi-Duty. Include the following spare components:

- (1) One spare control circuit board for each type in the constant current regulator
- (2) Primary switch contactor
- (3) Lightning arresters (input and output)
- (4) Control circuit fuses or breaker.

109-2.22 OTHER ELECTRICAL EQUIPMENT. Add the following:

“Switches, cutouts, relays, lighting contactors, terminal blocks, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications shall conform to the applicable rulings and standards of the institute of Electrical and Electronic Engineers or the National Electrical Manufacturer’s Association. When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment shall be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the Plans or in the proposal. Contractor shall confirm quantity for all electrical equipment with the Plans. Proposed electrical equipment for the vault shall be as follows:

- (a) Radio Control Interface/Relay Control Interface Panel. A relay interface control panel shall be provided with Item AR109620 to interface the L-821 panels and the L-854 radio controller, to each respective constant current regulator and each respective navaid lighting contactor. Radio control interface/relay control interface panel shall be designed by an FAA approved L-821 control panel manufacturer, as detailed on the Plans and as specified herein. Control relays for use in the radio control

- interface/relay control interface panel shall have 10 Amp (minimum) rated contacts at 240 VAC with 120 VAC coils. Radio control interface/relay control interface panel shall be installed in NEMA 12 enclosure sized as required to house components and associated control wiring. Radio control interface/relay control interface panel shall be manufactured by the same panel builder that manufactures the L-821 panels. The radio control interface/relay control interface panel shall be manufactured by Siemens Airfield Solutions, Inc., 977 Gahanna Parkway, Columbus, Ohio 43230, Phone: (614) 861-1304 or (800) 545-4157, Fax: (614) 864-2069, or an equivalent FAA-approved L-821 control panel manufacturer.
- (b) Control Cable Terminal Panels. Control cable between the vault and the ATCT shall be 2 sets of 37 conductor #12 AWG Control Cable, as specified under Item 108. Cable shall terminate in a terminal block enclosure at each location. Terminal blocks shall be NEMA rated 600-Volt, 30 Amp, suitable for the respective wire sizes, Square D Class 9080, Type GM6, or approved equal, housed in a NEMA 12 enclosure with hinged cover adequately sized for the conduits, cable and terminations (minimum 36 in. high by 24 in. wide by 8 in. deep). IEC rated terminal are not acceptable. Terminals shall be labeled and numbered 1 through 74. Control cable terminal panel located at the vault shall be included with Item AR109620. Control cable terminal panel located at the air traffic control tower vault shall be included with Item AR109600.
- (c) Lighting Contactor Panel for Airport NAVAIDS. The lighting contactor panel for use with the airfield Navaids (including the Airport Rotating Beacon, L-807 Wind Cone, and Runway 18R-36L PLASI units) and shall be as detailed on the Plans. The lighting contactor panel shall be included with Item AR109620.
- (d) Type S-1 Series Plug Cutouts. Provide series plug cutouts for each constant current regulator as detailed on the Plans. Series plug cutouts shall be Type S-1, rated 5KV, 20-Amp, and shall comply with FAA AC 150/5340-4C. Series plug cutouts shall be Crouse-Hinds, Type S-1, Model 2, Catalog Number 30775, or an approved equal. Note Crouse-Hinds Type S-1, Model 3, Catalog Number 30771 series plug cutouts are not acceptable because the handle is not removable. Siemens SCO Series cutouts are not acceptable because they do not function the same as the Crouse-Hinds, Type S-1, Model 2, Catalog Number 30775 cutout. Airport Lighting Company S-1 Series cutouts are not acceptable because the manufacturer has noted their cutouts are not recommended to operate with the handle pulled/removed. Other cutouts, that do not function the same as the Crouse-Hinds, Type S-1, Model 2, Catalog Number 30775 units, are not acceptable. Install the series plug cutouts in a NEMA 1 or NEMA 12 painted steel enclosure adequately sized to house the cutout(s), with a hinged cover and back panel to mount the cutouts. All enclosures shall be pad lockable.
- (e) Transient Voltage Surge Suppressor (TVSS) for Vault. AC power surge arrester/TVSS shall be UL-listed per UL 1449, Second Edition, and shall conform to the applicable requirements of FAA-STD-019d dated August 9, 2002, "LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND SHIELDING

- REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT". AC power surge arrester/TVSS for the main distribution panel shall be suitable for a 240/120 VAC, 3-phase, 4-wire, plus ground system with a surge current rating of 240,000-Amps, 8 x 20 microsecond wave per mode (L-L, L-N, L-G, N-G), and status indication lights in a NEMA 12-rated enclosure, Lightning Protection Corporation Model LPC 2061-8U-G, or approved equal. Include six spare indicator lamps with each AC power surge arrester/TVSS.
- (f) Circuit Breakers. **Branch circuit breakers to be installed in the existing Square D NQOD20L100CU, Series E2, 100 Amp, 120/240 VAC, 1 phase, 3 wire panelboard shall be compatible with the existing panelboard and manufactured by Square D.** Circuit breakers shall be bolt-on type with an amp interrupting capacity of 10,000 Amps minimum at 120/240 VAC. Circuit breaker amperage trip settings and number of poles shall be as detailed on the Plans. Replacement circuit breakers for existing circuits shall be sized as detailed on the Plans.
- (g) Double Throw Not Fusible Safety Switch. Double throw not fusible safety switch for use as a manual transfer switch shall be UL listed, heavy duty, 200 Amp, 240 VAC, 2-pole with equipment ground kit in a NEMA 1 enclosure, Cutler-Hammer Catalog Number DT224UGK with ground kit or approved equal. Switch must be suitable to connect a single power source to either of two different loads. The switch will be used to connect power to either of two different constant current regulators. Switches that void the UL listing for this application are not acceptable.
- (h) Junction and Pull Boxes. Junction and pull boxes shall be sized, as required for conductors and splices and per 2008 NEC Article 314. Boxes shall be UL-listed. Special boxes made to suit conditions shall be used to accommodate the respective application, or where required by the NEC, even though they might not be indicated on the Drawings. Boxes located at the vault interior shall be NEMA 12. Boxes located at the vault exterior shall be NEMA 4 stainless steel. Provide duct seal at all conduit penetrations into the vault from the exterior.
- (i) Liquid-Tight Flexible Metal Conduit. Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible hot dip galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes and be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight flexible metal conduit shall be Anaconda Sealtite Type UA as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, (Phone: 217-234-8844), Licutite Type LA as manufactured by Electric-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, (Phone: 630-529-2920 or 1-800-323-6174), or approved equal. Do not install liquid-tight, flexible metal conduit that is not UL listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation."

109-2.23 WIRE. Add the following to Section (a) Control Circuits:

“THWN Wire. Cable shall comply with Underwriters’ Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters’ Laboratories for type THHN or THWN. Cable shall be UL-listed and marked THWN. Power and control wiring shall be Encore, Superior Essex, Southwire Company Type THWN, or approved equal.”

Delete paragraphs 1, 2, and 3 under Section (b) Power Circuits.

Add the following:

“Power Cable (600-Volt and Below). All power wiring, 600-Volt and below, shall be the type, size, and number of conductors as noted on the Plans.

THWN Wire. Cable shall comply with Underwriters’ Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-Volt. Insulation shall be polyvinyl-chloride conforming to Underwriters’ Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters’ Laboratories for type THHN or THWN. Cable shall be UL-listed and marked THWN-2. Power and control wiring shall be Encore, Superior Essex, Southwire Company Type THWN-2, or approved equal. **Note where THWN wiring is referenced on the Plans, it shall be THWN-2.**

XHHW Wire. Cable shall be UL-listed as Type XHHW-2 per UL Standard 44. Cable shall also conform to ICEA S-95-658/NEMA WC70 and Federal Specification A-A-59544. Conductors shall be Class B stranded, annealed, uncoated copper per UL Standard 44. Insulation shall be rated for 600-Volt. Insulation shall be cross-linked polyethylene complying with the physical and electrical requirements of UL Standard 44 for Type XHHW-2. XHHW wire may be used in place of THWN wire for all applications and shall be Southwire Type XHHW-2, or approved equal.

Series Circuit 5000-Volt Cable. Cable for use with series circuit airfield lighting shall be FAA-L-824, Type C cable complying with Item 108. L-824 cable shall be FAA approved and listed in the current AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum. Circuits for use with constant current regulator outputs (runway or taxiway lighting circuits) shall use 5000-Volt rated cable.

Grounding electrode conductors and/or bonding jumpers shall be the size and type, as detailed on the Plans. Ground wire for bonding constant current regulator housings,

cutout enclosures, and other vault equipment frames to the vault ground bus shall be #6 AWG stranded copper.”

### **CONSTRUCTION METHODS**

109-3.10 GENERAL. Add the following to this section:

“The Contractor shall furnish and install all materials necessary for complete and operational installation of the vault equipment, as specified herein and as shown on the Plans. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 – National Electrical Code (NEC) most current issue in force, and all other applicable local codes, laws, ordinances, and requirements in force. Electrical equipment shall be installed in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

- (a) Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.
- (b) Contractor shall keep a copy of the Plans, Special Provision Specifications including any addenda, and copies of any change orders on site at all times during construction.
- (c) Contractor shall coordinate work and any power outages with the Airport Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures including, but not limited to, 29 CFR section 1910.147 The Control of Hazardous Energy (lockout/tagout).
- (d) All electrical equipment installed by the Contractor shall be properly labeled, and all cables must be tagged.
- (e) All changes to the airfield lighting system control wiring will be documented by the Contractor and provided to the Resident Engineer.
- (f) Locate Existing Underground Utilities and Cables. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either



expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract. All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities."

109-3.11 POWER SUPPLY EQUIPMENT. Add the following to this section:

Constant Current Regulators. Install constant current regulators in conformance with the manufacturer's recommendations, as detailed on the Plans and as specified herein. Maintain working clearances in front of constant current regulators per the requirements of NEC 110.26 and 110.34. Maintain clearance around constant current regulators for air flow and cooling per the respective manufacturer's recommendations. Confirm circuit breaker sizes for constant current regulators are sized in conformance with the respective manufacturer's recommendations and/or requirements and NEC. Where necessary to accommodate the respective constant current regulator input amperage requirements, circuit breakers, conductors, and conduits shall be adjusted (increased in size) to meet the manufacturer's recommendations and/or requirements and the NEC. Conduit connections to constant current regulators shall be with UL-listed, liquid-tight, flexible metal conduit. Include an external bonding jumper or internal equipment ground wire with each piece of liquid-tight, flexible metal conduit that is connected to a constant current regulator to comply with NEC 350.60. Furnish and install control wiring, as detailed on the Plans. Bond each constant current regulator enclosure frame, to the vault ground bus with a #6 AWG (minimum), bare-stranded, copper-bonding jumper."

109-3.12 SWITCHGEAR AND PANELS. Add the following to this section:

- (a) Installation of Control Panels. Install control panels, as detailed on the Plans and in conformance with the respective panel manufacturer's requirements and/or recommendations.

- (b) Installation of S-1-Type Cutouts. Install plug cutouts in conformance with the manufacturer's recommendations, as detailed on the Plans and as specified herein. Provide NEMA 1 or NEMA 12 painted steel enclosures adequately sized for the cutouts and cables with hinged cover and back panel to mount the plug cutouts.
- (c) Surge Arrester Installation. Install Surge Protector Devices (SPD)/TVSS devices in conformance with of FAA-STD-019d, dated August 9, 2002, "LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT" and the respective manufacturer's directions and recommendations. Contractor shall confirm all connections to the surge arrester (phases, neutral, and ground) are completed and secure. Connection leads to the surge arrester shall be sized per the respective manufacturer's recommendation and as detailed herein, and shall be maintained as short as possible, maximum 2 ft in length, and laced together for mutual coupling. The conduit or conduit nipple connecting the SPD/TVSS device enclosure to the panel enclosure shall be sealed with duct seal or other nonflammable medium to prevent soot from entering the enclosure in the event of a SPD/TVSS device failure.
- (d) Installation of Circuit Breakers in Panelboards. Install circuit breakers in panelboards in conformance with the respective manufacturer's directions. Connect only one wire/cable to each breaker terminal. Update circuit directory to identify the respective device fed by each new circuit breaker.
- (e) Installation of Safety Switches. Safety switches shall be provided with appropriate mounting hardware and strut support. Strut support shall be hot-dipped, galvanized steel strut support, Unistrut P-1000 HG, or approved equal. Provide zinc rich paint applied to field cuts of strut support to minimize the potential for corrosion per the respective strut support manufacturer's recommendation. All hardware shall be corrosion-resistant. Mount safety switches securely in accordance with the manufacturer's recommendations/instructions and as required for the respective application. Inspect all safety switches for proper operation, tight and secure connections, and correctness. All safety switch enclosures shall be bonded to ground with a ground lug or bar and ground wire. Field cut holes in safety switch enclosures to accommodate conduit entrances. Where safety switch enclosures are provided with concentric knockouts, and the respective conduit does not use the largest knockout, install a grounding bushing with ground wire connections between the bushing and the ground bus. Where safety switches enclosures are used for service entrance applications provide a grounding bushing with ground wire connections between the bushing and the ground bus at each metal conduit entry. Do not use safety switch enclosures for a splice box or for a pull box. Do not route control wires or other circuit wiring through a safety switch enclosure. Where splices are required or other control circuit wires are installed in the respective conduit to a safety switch, provide a separate junction box to accommodate the splices and/or other circuit conductors. Provide weatherproof, abrasion-resistant, engraved legend plates for each safety switch noting the device served, the power source, and the voltage system."

109-3.13 DUCT AND CONDUIT. Add the following to this section:

“(a) Conduit shall be installed in accordance with the following:

1. All service, feeder, branch circuit, and control circuit conduits shall be galvanized, rigid steel.
2. Schedule 40 PVC conduits shall be used for individual grounding electrode conductors and/or or bonding jumpers.
3. Liquid-tight, flexible metal conduit shall be used as specified herein.

(b) Conduit Runs

1. All conduits shall be sized as indicated on the Drawings, or if conduit sizes not shown, shall be in accordance with the NEC. All conduit systems shall be mechanically and electrically continuous from source of current to all outlets and grounded in accordance with the NEC.
2. Run all exposed conduit parallel to building walls using right-angle bends. Exposed diagonal runs of conduit will not be permitted. Do not install conduit on roof surfaces unless specifically indicated on the Drawings.
3. Ream conduit after threads are cut. Cut ends square, and butt solidly into couplings.
4. Prevent the accumulation of water, foreign matter, or concrete in the conduits during the execution of the work. Temporarily plug conduit, blowout, and swab before wires are pulled.
5. Fasten conduits to all sheet metal boxes and cabinets with two locknuts in accord with NEC, where insulated bushings are used and where bushings cannot be brought into firm contact with the metal enclosures; otherwise, use at least a single locknut and bushing.
6. Provide conduit expansion joints at building expansion joints for conduit runs 1½ in. and larger. Provide conduit expansion joints or flexible conduit connection at building expansion joints for conduits less than 1½-in.
7. Seal each underground joint and make water-tight.
8. Where building construction or other conditions make it impossible to use standard threaded couplings, install water-tight, threaded unions.

9. Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with conduit bending machine to avoid changing the internal diameter of the conduit and not damage its protective coating either inside or outside. Individual bends shall not exceed 90 degrees and not more than 270 degrees total bends will be allowed in any one conduit run. Where more bends are necessary, and conduit runs exceed 150-lin. ft, install a suitable pull box or junction box.
10. Provide empty conduits installed with a pull wire. Pull wire shall be No. 14 AWG zinc-coated steel, or of plastic having not less than 200-lb. tensile strength. Leave not less than 12-in. of slack at each end of the pull wire.
11. Use liquid-tight, flexible metal conduit for final connection to motors, constant current regulators, transformers, portable equipment, and for equipment subject to vibration and noise transmission. For each conduit sizes up to 1-in. trade size, flexible conduit shall be minimum length of 12-in. and a maximum length of 36-in. For conduit sizes above 1-in. trade size, flexible conduit shall be minimum length of 20-in. and maximum length of 48-in. Liquid-tight, flexible metal conduit shall be UL-listed and suitable for grounding. Liquid-tight, flexible metal conduit that is used for flexibility (including connections to motors, constant current regulators, and transformers) shall require and external bonding jumper or internal equipment grounding conductor per NEC 350.60. Do not install liquid-tight, flexible metal conduit that is not UL-listed. Confirm liquid-tight, flexible metal conduit bears the UL label prior to installation.

(c) Raceway Support and Hangers

1. Securely fasten raceways in-place and support from ceiling or walls at spacing not exceeding:

	<u>Material</u>	<u>Maximum Spacing of Supports</u>
a.	½-in. thru 1-in. trade size conduit	6 ft
b.	1¼-in. thru 1½-in. trade size conduit	8 ft
c.	2-in. to 4-in. trade size conduit	10 ft
d.	Liquid-Tight, Flexible Metal Conduit	4½ ft
e.	Metal Wireway	10 ft

2. Support rigid conduits within 3 ft of every outlet box, junction box, pull box, cabinet, or termination. Support flexible conduit within 12-in. on each side of every outlet box or fitting.
3. Support conduits by pipe straps, wall brackets, hangers, or ceiling trapeze. The use of perforated iron or wire for supporting conduits is prohibited.

Fasten with wood screws or screw nails to wood; by toggle bolts on hollow masonry units, by concrete inserts, or expansion bolts on concrete or spring-tension or threaded C-clamps for rigid steel conduits on steel. Do not weld conduits or pipe straps to steel structures unless specifically indicated.

4. The load applied to fasteners shall not exceed one-third the proof test load of the fasteners.
5. Fasteners attached to concrete shall be vibration-resistant and shock-resistant.
6. Where two or more conduits 1-in. trade size or larger run parallel, trapeze hangers may be used consisting of threaded solid rods, washers, nuts, and galvanized "L" angle or channel iron. Individually fasten conduits to the cross member of every other trapeze hanger with one hole straps or clamp backs with proper size bolts, washers, and nuts. When adjustable trapeze hangers are used, use U-bolt type clamps at end of conduit runs, at each elbow, and at each third intermediate hanger to fasten each conduit.
7. Make hangers of durable materials suitable for the application involved. Applied loads shall not exceed one-third of their loading capacity.
8. All screws, bolts, washers, and miscellaneous hardware used for conduit supports shall be fabricated from rust-resisting metal. Trapeze hangers shall have hanger assemblies protected with galvanized finish.”

109-3.15 WIRING AND CONNECTIONS. Add the following to this section.

“Low-voltage wiring shall maintain separation from high-voltage wiring. Low-voltage and high-voltage wiring shall not be installed in the same raceway. Low-voltage and high-voltage wiring shall not be installed in the same handhole or junction box.”

109-3.16 MARKING AND LABELING. Add the following to this section:

- “(c) Legend plates shall be provided for all equipment. Legend plates shall be provided to identify the equipment controlled, the power source, and the function of each device. Legend plates shall be weatherproof, abrasion-resistant, phenolic/plastic, engraved material and fastened with contact-type permanent adhesive, screws, or rivets. Installation shall not break, crack, or deform the legend plate. Lettering shall be ¼ in. high, black on a white background, unless noted otherwise.
- (d) Identify control wiring at each termination point and in junction/terminal boxes with wire number corresponding to the respective control wiring diagram or

respective terminal numbering arrangement. Each individual control wire shall have unique identification and shall maintain that same identification from its point of origin to its final termination point. Wire markers shall be permanent pressure sensitive label with suitable numbers or letters for easy recognition. Where new control wiring is interfaced to existing control wiring it shall also match the color coding of the existing control wiring.

- (e) Each constant current regulator shall be furnished with a phenolic-engraved legend plate that identifies the regulator number designation, the runway or taxiway served, and the power source and circuit number. Each plug cutout cabinet shall be furnished with a phenolic-engraved legend plate that identifies the respective circuit or regulator and the voltage system (5000-Volts).
- (f) Each individual circuit breaker, control panel, terminal panel, safety switch, etc. shall be furnished with a phenolic-engraved legend plate that identifies the respective device, the power source, and the respective voltage, phase, and wire. Furnish additional phenolic-engraved legend plates as detailed on the Plans and/or where required by code.
- (g) Color-code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored marking tape for phase and neutral conductors for No. 4 AWG and larger. **Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL) to comply with NEC 250.119. Neutral conductors shall have white colored insulation for No. 6 AWG and smaller to meet the requirements of NEC 200.6.** Standard colors for power wiring and branch circuits shall be as follows:

240/120 VAC, 3 Phase, 4-wire	
Phase A	Black
Phase B	Orange
Phase C	Blue
Neutral	White
Ground	Green

- (h) Furnish and install weatherproof warning label for each cutout enclosure and control panel to warn persons of potential electric arc flash hazards, per the requirements of NEC 110.16 “Flash Protection”. Labels shall also conform to ANSI Z535.4-2002 “American National Standard for Product Safety Signs and Labels”. NEC 110.16 requires that switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized shall be field marked to warn qualified persons of potential arc flash hazards. The markings shall be located so as to be clearly visible to qualified persons before

examination, adjustment, servicing, or maintenance of the equipment. This new requirement is intended to help reduce the occurrence of serious injury or death due to arcing faults to those working on or near energized electrical equipment. The warning labels are to indicate to a qualified worker who intends to open the equipment for analysis of work that a serious hazard exists and that the worker should follow appropriate work practices and wear appropriate PPE for the specific hazard. Labels shall be as detailed on the Plans or shall include at least the following information: "Warning - Potential Arc-Flash Hazards exist while working on this energized equipment. Appropriate PPE Required."

109-3.18 TESTING. The installation shall be tested in operation and as a completed unit prior to acceptance. Contractor shall furnish all equipment, meters, instruments, cable connections, tools, manpower, and labor to perform the respective tests. Test all new equipment and all existing equipment where modifications take place and confirm proper operation. Coordinate tests with the respective Airport personnel and the Resident Engineer. Tests shall include resistance, voltage, and current reading, as applicable, for the respective equipment. When tests disclose any unsatisfactory workmanship or equipment furnished under this Contract, correct defects and retest. Repeat tests until satisfactory results are obtained. When any wiring or equipment is damaged by tests, the wiring or equipment shall be repaired or replaced at no additional cost to the Contract. Test repaired or replaced items to ensure satisfactory operation. Submit three copies of all test reports to the Resident Engineer. All test reports shall be assembled and bound in a folder or binder. Each test report shall include the following information:

- Project number,
- Project title and location,
- Device or system tested,
- Test performed,
- Date performed,
- Test equipment used,
- Respective Contractor's name, address, and telephone number,
- Testing firm's name, address, and telephone number, if other than the Contractor,
- Names of individuals performing tests,
- Names of individuals observing tests,
- Statement verifying each test,
- Nameplate data from respective equipment tested,
- Test results, and
- Retest results after correction of defective components or systems, where applicable.

Test the airfield lighting controls to confirm proper operation. Perform the following tests:

- (a) Test the L-821 panel at the Air Traffic Control Tower and confirm proper operation for each switch on the panel.

- (b) Test the transfer system for the normal constant current regulator for Runway 18L-36R and the backup constant current regulator for Runway 18L-36R. Confirm each constant current regulator operates properly for all modes of operation.
- (c) Test the L-854 radio receiver when the control system is under the control of the vault. Confirm Runway 18L-36R lighting system operates as follows:
  - Preset to B1 or B2 on L-821 panel at the ATCT
  - 3 clicks – B3 – 5% Brightness and activate radio control
  - 5 clicks – B4 – 20% Brightness
  - 7 clicks – B5 – 100% Brightness
- (d) Test the L-854 radio receiver when the control system is under the control of the vault. Confirm Runway 6-24 lighting system operates as follows:
  - 3 clicks – 10% Brightness
  - 5 clicks – 30% Brightness
  - 7 clicks – 100% Brightness”

109-3.19 Control Upgrades for Runway, Taxiway, and Airfield Lighting. The existing control cables for the runway lighting and taxiway lighting that run from the Vault to the Air Traffic Control Tower shall be removed and replaced under Item AR108800. 2 sets of 37/C #12 AWG 600 Volt control cables shall be installed between the Vault and the Air Traffic Control Tower. These cables will need to interface to the new L-821 Panel at the ATCT and the new transfer relay panel at the vault. Contractor shall disconnect the existing control circuit cables and reconnect to the respective replacement cables that run between these facilities. Provide new control wiring (#12 THWN) to interface to the respective control panels at the Vault. Coordinate all work with the respective Air Traffic Control Tower Personnel, the Airport Manager, and the Resident Engineer. Control Circuits between the L-821 Panel at the Air Traffic Control Tower and the Transfer Relay Panel in the Vault shall be as detailed on the Plans.

109-3.20 GROUNDING REQUIREMENTS. Grounding shall conform to the following: The Contractor shall furnish and install all grounding shown on the Plans, as specified herein, and in conformance with latest NFPA 70 – National Electrical Code in force in order to make a complete grounding system. The reliability of the grounding system is dependent on careful, proper installation, and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in communications circuits. The following functions are particularly important to ensure a reliable ground system:

- (a) All products associated with the grounding system shall be UL-listed and labeled.



- (b) All bolted or mechanical connections shall be coated with a corrosion preventative compound before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or equal
- (c) Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2008 NEC, Article 250-12. All copper bus bars must be cleaned prior to making connections to remove surface oxidation.
- (d) Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers (from bushing to the respective ground connection/enclosure frame) for all metal conduits entering service equipment (meter bases, CT cabinet, service disconnects, service panelboards, main service breaker enclosure, etc.). Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.
- (e) All connections located above grade between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted ground connector. All bolted ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten connections to comply with tightening torques in UL Standard 486A to assure permanent and effective grounding.
- (f) All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system.
- (g) Each feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2008 NEC Table 250-122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately according to circular mil area. All equipment ground wires shall be copper, either bare or insulated, and green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.
- (h) Bond the main electrical service neutral to ground at the main service disconnect. Bond the service neutral to ground at one location only per the NEC. A grounding connection shall not be made to any neutral circuit conductor on the

load side of the service disconnecting means, except as permitted by the 2008 NEC, Article 250-24. Where the Contractor is unable to distinguish the difference between a neutral conductor and equipment grounding conductor, or other ground conductor, contact the Resident Engineer for assistance from the Project Engineer.

- (i) The secondary neutral of all transformers (separately derived system transformers) shall be grounded in accordance with the NEC. The respective grounding electrode conductor shall be connected to the neutral point of the transformer between the transformer and the output disconnect means. Size of the grounding electrode conductor shall be in accordance with the 2008 NEC, Article 250-66 and Table 250-66, unless shown larger on the Drawings. A bond shall be provided between the neutral and transformer case, or other metal that is part of the AC equipment grounding system, so as to complete a circuit for fault current to the transformer winding from the AC equipment grounding system. Size of the neutral bonding conductor shall be in accordance with the 2008 NEC, Article 250-102.
- (j) All exterior metal conduits, where not electrically continuous because of manholes, handholes, non-metallic junction boxes, etc., shall be bonded to all other metal conduit in the respective duct run and at each end with a copper-bonding jumper sized in conformance with the 2008 NEC, Article 250-102. Where metal conduits terminate in an enclosure (such as a motor control center, switchboard, etc) where there is not electrical continuity with the conduit and the respective enclosure, provide a bonding jumper from the respective enclosure ground bus to the conduit sized per the 2008 NEC, Article 250-102.
- (k) Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Where grounding electrode conductors or individual ground conductors are run in PVC conduit, do not completely encircle conduit with ferrous and/or magnetic materials. Use non-metallic, reinforced fiberglass strut support. Where metal conduit clamps are installed, use nylon bolts, nuts, washers, and spacers to interrupt a complete metallic path from encircling the conduit.
- (l) Individual ground conductors and/or grounding electrode conductors shall not be run in metallic conduit and shall not be encircled by metallic clamps. If local codes dictate that grounding conductors must be run in metal conduit or raceway, then the conduit or raceway must be bonded to the grounding conductor at both ends with a bonding jumper sized in accordance with the NEC 250.64(E). All such installations requiring individual grounding conduits to be run in metal conduit or raceway shall be verified and reviewed with the Resident Engineer. This does not apply to AC equipment ground wires run with AC circuits.

### **METHOD OF MEASUREMENT**

109-4.3. Add the following to this section:

109-4.3. Add the following to this section:

“The quantity of vault equipment to be paid for under Item AR109200 Install Electrical Equipment shall consist of furnishing and installing electrical equipment at the vault, as detailed on the Plans and specified herein. This item shall include all labor, field verification of existing conditions, transportation, equipment, materials, conductors, cables, connectors, conduits, raceways, junction boxes, surge protection, grounding, tools, coordination, relocations, operational instructions, labeling, testing and all incidentals required to place the vault and associated electrical equipment into proper working order as a completed unit to the satisfaction of the Owner and Engineer.”

109-4.4. The quantity of the L-821 Control Panel to be paid for, under Item AR109600 “L-821 Control Panel”, shall consist of removing the existing L-821 control panel at the Air Traffic control Tower and replacing it with a new L-821 control panel as detailed on the Plans and specified herein. This item shall include all labor, field verification of existing conditions, transportation, equipment, materials, terminal panels, conductors, cables, connectors, conduits, raceways, junction boxes, grounding, tools, coordination, operational instructions, labeling, testing, and all incidentals required to place the L-821 control panel into proper working order as a completed unit to the satisfaction of the Owner and Engineer.

109-4.5. The quantity of vault equipment to be paid for under Item AR109620 “Lighting Control System” shall consist of removing the existing L-821 control panel and airfield lighting control system at the vault and replacing it with a airfield lighting control system as detailed on the Plans and specified herein. This item includes interface to the existing L-854 radio receiver for pilot control of the runway lighting systems on Runway 18L-36R and Runway 6-24. This item also includes replacing the existing lighting contactor panel with a new lighting contactor panel for the airfield nav aids. This item shall include all labor, field verification of existing conditions, transportation, equipment, materials, control panels, conductors, cables, connectors, conduits, raceways, junction boxes, grounding, tools, coordination, relocations, operational instructions, labeling, testing and all incidentals required to place the airfield lighting control system modifications, upgrades, additions, and associated equipment into proper working order as a completed unit to the satisfaction of the Owner and Engineer.

### **BASIS OF PAYMENT**

Payment will be made under:

Item AR109200 Install Electrical Equipment - per lump sum  
Item AR109600 L-821 Control Panel - per each  
Item AR109620 Lighting Control System - per lump sum

**ITEM AR110**  
**2" PVC DUCT DIRECT BURY**  
**2" DIRECTIONAL BORE**  
**4" DIRECTIONAL BORE**  
**EXTEND 2-WAY DUCT**

**DESCRIPTION**

110-1.1 Add the following:

“This item of work shall consist of the installation of all proposed conduits and ducts as shown on the Construction Plans.”

110-1.2 REFERENCES

- (a) ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- (b) ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- (c) ASTM D3350 – Specification of Polyethylene Plastics Pipe and Fittings Materials.
- (d) ASTM F2160 – Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter.
- (e) NEMA TC-2 – Electrical Plastic Tubing and Conduit.
- (f) NEMA TC-3 – Fittings Rigid PVC Conduit and Tubing.
- (g) NEMA Specification TC-7 – Smooth-Wall Coilable Polyethylene Electrical Plastic Conduit.
- (h) NFPA 70 – National Electrical Code (NEC), most current issue in force.
- (i) UL Standard 6 – Rigid Metal Conduit.
- (j) UL Standard 514B – Conduit, Tubing and Cable Fittings.
- (k) UL Standard 651 – Schedule 40 and 80 Rigid PVC Conduit.
- (l) UL Standard 651B – Standard for Continuous Length High-Density Polyethylene (HDPE) Conduit.

110-1.3 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each type of conduit or duct to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the

needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Indicate the pay item number for each respective conduit or duct.
- (d) Shop drawings shall include conduit and/or duct cut sheets with type, size, specifications, UL listing, manufacturer, and catalog or part number.
- (e) Provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

### **EQUIPMENT AND MATERIALS**

**110-2.1 GENERAL.** All materials for these items shall be in accordance with the FAA Standard Specification 110 Equipment and Materials, as detailed on the Plans, and as specified herein.

- (a) The duct for extending 2-way duct (concrete-encased) shall be Schedule 40 Polyvinyl Chloride (PVC).
- (b) The duct to be directional-bored shall be Galvanized Rigid Steel Conduit (GRSC) duct, Schedule 40 PVC Conduit, Schedule 80 PVC Conduit or High-Density Polyethylene (HDPE) duct, (Schedule 40, Schedule 80, SDR 9, or SDR 11).
- (c) Item AR110202 2" PVC Duct Direct Bury shall be 2-inch High-Density Polyethylene (HDPE) duct.

**110-2.5 STEEL CONDUIT.** Replace this section with the following:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, and produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded, galvanized steel or galvanized, malleable iron, specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the

respective steel conduits used on this project are manufactured from 100 percent domestic steel.

Miscellaneous Fittings. Fittings shall be suitable for use with conduits and ducts supplied. All fittings for use with rigid metal conduit shall be threaded. Set screw-type fittings are not acceptable. All conduit bodies, fittings, and boxes installed in classified hazardous locations (Class I, Division 1 or 2, Group D) shall be suitable for use in Class I, Division 1, and Group D locations. Fittings shall be as manufactured by Appleton, Crouse-Hinds, Hubbel-Killark, O-Z/Gedney, or approved equal.”

110-2.7 PLASTIC CONDUIT. Add to this section:

“Conduits for concrete encasement shall be Schedule 40 PVC, UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651, listed suitable for concrete encasement. Conduits for directional boring shall be Schedule 40 PVC or Schedule 80 PVC conduit, UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651 and suitable for directional boring installation, Schedule 40 HDPE or Schedule 80 HDPE conduit, UL-listed, conforming to NEMA Standard TC-7 and UL 651B and suitable for directional boring installation, or Wall Type SDR 9 or SDR 11 HDPE conduit manufactured in accordance with ASTM D-3350 (Specification of Polyethylene Plastics Pipe and Fittings Materials) and ASTM F2160 (Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter), and suitable for directional boring installation. **Per NEC 300.5 (K), raceways installed using directional boring equipment shall be approved for the purpose. Provide manufacturer’s literature confirming the respective duct is suitable for directional boring with the respective Shop Drawing submittal.** Conduits shall be suitable for underground applications encased in concrete or direct burial, and suitable for exposed applications aboveground.”

110-2.9 DUCT SPACERS. Provide duct spacers to provide proper separation of conduits installed in concrete encased duct. Duct spacers shall be designed to provide 3” separation of conduits. Duct spacers shall be Underground Devices Incorporated Wunpeece Series suitable for the respective size and quantity of ducts, approved equal. Contact information for Underground Devices Incorporated is address: 3304 Commercial Avenue, Northbrook, Illinois 60062, Phone: (847) 205-9000, Fax: (847) 205-9004. Confirm catalog numbers with the manufacturer for the respective application.

110-2.10 2” HDPE UNIT DUCT. Item AR110202 2” PVC Duct Direct Bury shall be 2-inch HDPE (High Density Polyethylene) duct. HDPE Unit Duct shall be suitable for underground applications direct burial in earth or concrete, Schedule 40 minimum wall thickness, UL-listed, conforming to NEMA Standard TC-7 and UL 651B. Conduit shall be manufactured in accordance with ASTM D-3350 (Specification of Polyethylene Plastics Pipe and Fittings Materials) and ASTM F2160 (Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter). Where the 2-inch HDPE duct is also used for boring applications it shall be suitable for directional boring installation and the respective shop drawing shall include manufacturer’s literature confirming the respective duct is suitable for

directional boring installation. Sizes of smooth wall high density polyethylene duct shall conform to the minimum dimensional requirements specified below (Schedule 40 shown below):

<b>Nominal Duct Size</b>	<b>Nominal Inside Diameter</b>	<b>Minimum Wall</b>	<b>Nominal Outside Diameter*</b>
2"	2.047"	0.154"	2.375"

\* Dimensions include allowance for duct eccentricity.

## **CONSTRUCTION METHODS**

### **110-3.1 GENERAL.** Add to this section:

“The proposed conduits and ducts shall be constructed at the locations and in accordance with the details shown on the Construction Plans. Ducts shall be installed 18 in. minimum below grade. Ducts located in area subject to farming shall be 42 in minimum below grade. Where detailed on the Plans or where required to avoid obstructions, ducts shall be buried deeper. Where concrete-encased duct interfaces to directional-bored duct at a pavement crossing, the concrete encasement shall be installed up to the respective pavement edge. Where concrete-encased duct interfaces to an electrical handhole or manhole, the concrete encasement shall be installed up to the respective handhole or manhole. Provide bushings or bells at conduit terminations in electrical handholes or manholes.

Underground ducts installed by directional-boring method shall be installed in a manner that will not damage any existing underground utilities, and shall not disturb or damage the respective pavement or roadway surface. Ducts shall be directional-bored at the locations shown on the Construction Plans. The ducts will be bored at a minimum depth of 24 in. below the bottom of the pavement it is being bored under. Ducts installed under paved areas and roadways shall extend a minimum of 10 ft beyond the respective pavement or roadway surface. A pull wire will be left in the conduit if it is to be left vacant. The ends of the conduit will be sealed with approved plugs.

The proposed 2-way, concrete-encased duct extensions shall be constructed at the locations and in accordance with the details shown on the Construction Plans. The concrete encasement will be chipped back to expose the duct a sufficient amount to place a coupling band to connect the existing and proposed duct. Rebar will be drilled into the existing encasement per the duct detail in the Construction Plans, if they are not present. The existing cables that run through these ducts, that will not be replaced under this project, will be exposed a sufficient distance to allow the Contractor to align these cable with the proposed extension, and then encase these cables in a 4-in. split duct.

High Density Polyethylene Unit Duct may be installed in trench, by boring method, or plowed in conformance with the respective manufacturer’s recommendations and

instructions. Where High Density Polyethylene Unit Duct is installed by plowing method conform to the requirements of Item 108 regarding installation of unit duct.

The Contractor will determine if there is a conflict between the installation of the proposed electrical ducts and any existing utilities. He will make all necessary adjustments in depth of installation to avoid any and all proposed underground improvements.”

110-3.6 RESTORATION. Add to this section:

“Any and all trenches and disturbed areas will be backfilled and restored to a smooth grade and seeded to the satisfaction of the Engineer. All trench settlement shall be corrected for a period of one year. Restoration, grading, and seeding of areas disturbed during the installation of the proposed ducts will be incidental to the respective pay item for which the duct is installed. The fertilizing and seeding will be completed in accordance with Items 901 and 908, but will be incidental to the respective pay item for which the duct is installed.”

110-3.7 LOCATING OF EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner’s Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

Contractor shall locate and mark all existing cables within ten (10) feet of proposed excavating/trenching area. Any cables found interfering with proposed excavation or cable/trenching shall be hand dug and exposed. Any damaged cables shall be immediately



repaired to the satisfaction of the Resident Engineer at the Contractor's expense. The Resident Engineer and Owner shall be notified immediately if any cables are damaged.

Payment for locating and marking underground utilities and cables will not be paid for separately, but shall be considered incidental to the respective duct installation.

### **METHOD OF MEASUREMENT**

110-4.1. The quantity of conduit to be paid for shall be the number of lin. ft of ducts of the particular type installed and measured in-place, complete, and accepted by the Resident Engineer.

### **BASIS OF PAYMENT**

110-5.1. Payment will be made at the contract unit price per each type and size of conduit, completed and accepted. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials; for all sawing and pavement removal; for all duct interface work to handholes/manholes including coring of handholes/manholes; for all excavation and backfilling with aggregate backfill, earth backfill, and concrete; and for all labor, coordination, equipment, tools, and incidentals necessary to complete this Item.

Payment will be made under:

- Item AR110012 2" Directional Bore - per lin. ft
- Item AR110014 4" Directional Bore - per lin. ft
- Item AR110202 2" PVC Duct Direct Bury - per lin. ft
- Item AR110552 Extend 2-Way Duct - per lin. ft

**ITEM AR110610**  
**ELECTRICAL HANDHOLE**

**DESCRIPTION**

110610-1.1. This item of work shall consist of the construction of electrical handholes with lids complete, in accordance with this Specification and as detailed on the Construction Plans.

110610-1.2 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for each type of conduit or duct to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Concrete mix design for handholes to be cast in place.
- (d) Precast concrete handholes and manholes must be on IDOT (Illinois Department of Transportation) List of Certified Precast Concrete Producers. Provide information on respective precast concrete producer for precast handholes and drawings for respective handholes.
- (e) Provide cut sheets with part number and specification for handhole frame and lid.

**MATERIALS**

110610-2.1. Concrete shall conform to Item 610. The handholes shall be provided with extra heavy duty square slab type manhole frames and spring assist hatch series hinged solid lids capable of withstanding minimum 100,000-pound loads as called for in FAA Advisory Circular AC 150/5320-6D Appendix 3, NEENAH R-3498-P2S frame and lid, or an approved equal. Lids for the handholes containing high voltage cables shall include lettering labeled "HIGH VOLTAGE".

### **CONSTRUCTION METHODS**

110610-3.1. The electrical handholes shall be constructed in accordance with the details as shown on the Construction Plans.

### **METHOD OF MEASUREMENT**

110610-4.1. The number of electrical handholes to be paid for shall be the number of structures constructed in place and accepted by the Resident Engineer.

### **BASIS OF PAYMENT**

110610-5.1. Payment will be made at the contract unit price bid for each electrical handhole completed and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling, and placing of the materials; for all coring and labor associated with conduit, duct, cable in unit duct, and/or cable entries; and for all labor, equipment, tools, and incidentals necessary to complete the structure.

Payment will be made under:

Item AR110610 Electrical Handhole - per each

**ITEM AR125**  
**INSTALLATION OF AIRPORT LIGHTING SYSTEMS**

**DESCRIPTION**

125-1.1. Revise this paragraph to read as follows:

“This Item of work shall consist of furnishing installing base-mounted runway lights and base-mounted threshold lights, relocation of taxi guidance signs, adjustment of distance remaining signs and adjustment of taxi guidance signs at the locations shown on the Construction Plans and in accordance with the details shown on the Plans. This Item of work shall include the removal of base-mounted and stake-mounted runway, threshold, and/or taxiway lights. Item AS125470 Modify Existing Sign Panel shall include furnishing replacement sign panels for existing taxi guidance signs, as an Additive Alternate bid item. Also included in this Item will be the testing of the installation and all incidentals necessary to place the lighting systems into operation, completed, and to the satisfaction of the Resident Engineer.”

125-1.9 REFERENCES

- (a) ANSI C80.1 – Rigid Steel Conduit, Zinc Coated.
- (b) ANSI C80.4 – Fittings Rigid Metal Conduit and EMT.
- (c) FAA AC No. 150/5340-30D “DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS”.
- (d) FAA AC No. 150/5345-42F “SPECIFICATION FOR AIRPORT LIGHT BASES, TRANSFORMER HOUSINGS, JUNCTION BOXES, AND ACCESSORIES”.
- (e) FAA AC No. 150/5345-44H “SPECIFICATION FOR RUNWAY AND TAXIWAY SIGNS”.
- (f) FAA AC No. 150/5345-46C “SPECIFICATION FOR RUNWAY AND TAXIWAY LIGHT FIXTURES”.
- (g) FAA AC No. 150/5345-47B “ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS”.
- (h) FAA AC No. 150/5345-53 “AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM” (most current issue) and AC150/5345-53C, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- (i) UL Standard 6 – Rigid Metal Conduit.

- (j) UL Standard 514B – Conduit, Tubing and Cable Fittings.

125-1.10 SHOP DRAWINGS. The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for airfield lighting equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus 4 copies to be retained by the Project Engineer. Shop drawings shall include the following information:

- (a) Certification of compliance with the Buy American Act for all materials and equipment.
- (b) In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.
- (c) Cut sheets with part number and specifications for each airfield light fixture. Include cut sheets with part numbers and dimensions for mounting stakes, base cans, cover plates, transformers, and associated components for each light airfield fixture.
- (d) Concrete mix design.
- (e) Provide cut sheets with manufacturer's name, catalog number, dimensions, material and UL listing for each type and size ground rod. Include certification of 100% domestic steel for ground rods. Include cut sheets for exothermic weld connections, ground lugs, and ground wire.
- (f) Provide cut sheets for all types of conduit used with the airfield light fixtures (for example galvanized rigid steel conduit). Include certification that steel conduits are made with 100 percent domestic steel.

### EQUIPMENT AND MATERIALS

125-2.1 GENERAL. Add the following to this section:

- “(d) Non-metallic light fixtures or plastic couplings will not be acceptable under this Contract. All proposed runway lights shall be Type L-862, with 120-Watt quartz lamps. Threshold lights shall be Type L-862, with 200-Watt quartz lamps. Lens colors for runway and threshold lights shall be as detailed on the Plans. All lights shall have an overall height of 24 in. All of the above lights shall be manufactured in accordance to FAA Specification AC No. 150/5345-46C, or latest edition in force.

The concrete used in the construction of these Items shall be in accordance with Item 610.

- (e) The proposed taxi guidance signs and/or replacement sign panels shall conform to Advisory Circular 150/5345-44G and be FAA-approved. The signs will be Size 1, 18-in. sign face with a 12-in. legend; Style 2, powered from a 4.8 to 6.6 amp series lighting circuit; Class 2, for operation down to -55°C; medium-intensity, Mode 2, to withstand wind loads of 200 M.P.H., base-mounted, double-sided, as specified on the Plans.

Lighted taxi guidance signs on the Airport are Lumacurve signs. For this reason, all modifications to the existing signs will be Lumacurve products. Lumacurve is a brand of Standard Sign, Inc.

The signs shall read as described on the Construction Plans. The proposed taxi guidance signs will be Type L-858-Y direction, destination, and boundary signs (black legend on yellow background); Type L-858-R mandatory instruction sign (black outline on outside edge of white legend on red background); and Type L-858-L location sign (yellow legend and border on black background).

The concrete used in the construction of these Items shall be in accordance with Item 610.”

125-2.4 CONDUIT. Add the following to this section:

“Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded galvanized steel or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings Rigid Metal Conduit and EMT. Set screw type fittings are not acceptable. Galvanized rigid steel conduit shall be produced from 100 percent domestic steel.”

125-2.8 LIGHT CANS. Add the following to this section:

“Each light base can and/or splice can shall include internal and external ground lugs. Cans shall be the size and depth as detailed on the Plans. L-867 splice cans shall have galvanized steel covers, 3/8 in. thick, with stainless steel bolts.”

125-2.14 IDENTIFICATION TAGS. Identification tags shall be attached to each new fixture and sign. The tag shall be of the type and with the lettering shown on the Plans. The cost of furnishing and installing these tags shall be included in the unit price for the fixtures or signs and no additional compensation will be allowed.

125-2.15 ANTI-SEIZE COMPOUND. Prior to installing the proposed taxi guidance signs, the Contractor will apply an oxide-inhibiting, anti-seizing compound to all screws, nuts, breakable

coupling, and all places where metal comes into contact with metal. The anti-seize compound will be as manufactured by I.T.T. brand name "Contax", or approved equal.

125-2.16 STAINLESS STEEL BOLTS. All base plate-mounting bolts and stake-mounting bolts shall be stainless steel.

125-2.17 GROUND RODS. Furnish and install 5/8-in. diameter by 8-ft long (minimum), UL-listed, copper-clad, ground rod at each L-867 transformer base/light can. Steel used to manufacture ground rods shall be 100 percent domestic steel.

### **CONSTRUCTION METHODS**

125-3.1 GENERAL. Add the following to this section:

“The proposed runway and threshold lights will be installed in accordance with the details shown on the Construction Plans. The taxi guidance signs and runway distance remaining signs shall be relocated, adjusted, and/or installed in accordance with the details shown on the Construction Plans.

The existing airfield lights and taxi guidance signs designated for removal will be removed in their entirety. The Contractor will remove the existing lights and existing taxi guidance signs, including mounting stakes, bases, foundations, and transformers. The electrical wire will be disconnected from each light and placed underground at a minimum depth of 18-in. If the Contractor elects to salvage the cable within the circuit of the lights to be removed, shown in the Construction Plans as cable to be abandoned, any cost associated with removal of the cable shall be considered incidental to the Contract and no additional compensation will be allowed. The existing lights, transformers, and mounting stakes shall be turned over to the Airport Manager. Any materials not salvaged by the Airport, shall be disposed of off the airport site, in a legal manner, at the Contractor's own expense. The concrete sign bases and base mounted lights shall be removed and earth material will be placed in the hole made from the sign base removal. The disturbed area will be seeded and mulched in accordance with Item 901 and 908. The seeding and mulching will be considered as an incidental item to the sign removal and/or light removal and no additional compensation will be allowed.

Obtaining the required borrow material from an offsite borrow, placing the borrow material, grading, seeding, and mulching the disturbed areas will be considered as an Incidental Item to the proposed taxi guidance signs and lights, and no additional compensation will be allowed.

Contractor shall coordinate work and any power outages with the Airport Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health

Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures including, but not limited to, 29 CFR section 1910.147 The Control of Hazardous Energy (lockout/tagout).”

125-3.4 IDENTIFICATION NUMBERS. The Contractor will place light identification number tags on ALL of the proposed runway lights, threshold lights, taxiway lights, and taxi guidance signs as detailed on the Plans. The correct light identification numbers are shown on the Construction Plans.

125-3.5 GROUNDING FOR AIRFIELD LIGHTS AND TAXI GUIDANCE SIGNS. Grounding for Runway Lights, Taxiway Lights, and Lighted Taxi Guidance Signs shall be as detailed on the Plans and as specified herein. Per FAA AC 150/5340-30D DESIGN AND INSTALLTION DETAILS FOR AIRPORT VISUAL AIDS, Chapter 12, Part 12.6; a safety ground must be installed at each light fixture. The purpose of the safety ground is to protect personnel from possible contact with an energized light base or mounting stake as the result of a shorted cable or isolation transformer. A safety ground shall be installed at each transformer base/light can associated with runway lights, taxiway lights, and lighted taxi guidance signs. A safety ground shall also be installed at each stake-mounted light fixture. The safety ground shall be a #6 AWG bare copper conductor connected to the ground lug on the respective L-867 transformer base/light can or mounting stake and a 5/8-in. diameter by 8-ft long (minimum), UL-listed, copper-clad ground rod. Connections to ground lugs on the L-867 transformer base/light can or mounting stake shall be with a UL-listed grounding connector. Connections to ground rods shall be made with exothermic-weld type connectors, Cadweld by Erico Products, Inc., Solon, Ohio (Phone: 800-248-9353), Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone: 918-663-1440), or Ultraweld by Harger, Grayslake, Illinois (Phone: 800-842-7437). Exothermic-weld connections shall be installed in conformance with the respective manufacturer’s directions using molds, as required for each respective application. Bolted connections will not be permitted at ground rods. Top of ground rods shall be buried 24 in. minimum below grade.

### **METHOD OF MEASUREMENT**

Add the following:

“Removal and disposal of existing sign foundations associated with the relocation of a taxi guidance sign will be considered incidental to the relocation of the respective taxi guidance sign and no additional compensation will be allowed. All cable and/or cable in unit duct associated with the relocation of a taxi guidance sign will be considered incidental to the relocation of the respective taxi guidance sign and no additional compensation will be allowed.”



**BASIS OF PAYMENT**

Add the following:

“If upon delivery and incorporation of any materials, the Contractor has failed to provide the necessary submittals as required by Sections 30-18, 40-01, 40-03, and 40-11 of the Standard Specifications, Supplemental Specifications and Special Provisions, the pay item will not be included on the Contractor Progress Payment report until such submittals have been furnished.

Payment will be made under:

- Item AR125515 HIRL, Base Mounted – per each
- Item AR125550 HI Threshold Light Base Mtd – per each
- Item AR125565 Splice Can – per each
- Item AR125901 Remove Stake Mounted Light – per each
- Item AR125902 Remove Base Mounted Light – per each
- Item AR125944 Adjust Taxi Guidance Sign – per each
- Item AR125945 Adjust Distance Remain Sign – per each
- Item AR125964 Relocate Taxi Guidance Sign – per each
- Item AS125470 Modify Existing Sign Panel – per each”

**ITEM AR125967**  
**RELOCATE REILS**

**DESCRIPTION**

125967-1.1 This item of work shall consist of the relocation of the existing Runway End Identification Lights (REIL) units from the existing threshold of Runway End 36R to the proposed locations detailed on the Plans. The existing pair of REIL units are Flash Technology Electro-Flash PC 830-2, POS A, Date 11-2002, Serial No. 195767 TN, 6.6 Amp, FAA L-849. Contractor shall field verify and record the existing wiring connections for the REIL units to assist with the relocation and rewiring of these units. The REILS are powered by the Runway 18L-36R lighting series circuit and are currently in working order. Contractor shall test and confirm the REILS are operating properly in the presence of the Airport Maintenance Staff and/or the Resident Engineer prior to removing them.

**EQUIPMENT AND MATERIALS**

125967-2.1 POWER AND CONTROL CABLE: The REILS are powered by the Runway 18L-36R lighting series circuit. Series circuit power cables to the REILS shall be one conductor No. 8, 5,000-Volt, FAA L-824, Type C, stranded, in unit duct in conformance with Item 108. Series circuit power cables to the REILS shall be paid for under Item 108. Control cables between the REIL units shall be as recommended by the respective REIL manufacturer's instructions, per FAA AC 150/5345-51A, and as detailed on the Plans.

125967-2.2 CONDUIT: Conduit for the REIL system shall conform to Item 110, per the REIL manufacturer's recommendations, and as detailed on the Plans.

125967-2.3 REIL BASE/SPLICE CANS: REIL bases shall be Type L-867 Base/Splice cans as detailed on the Plans and specified herein. REIL Base/Splice cans shall conform to the requirements of FAA AC 150/5345-42F (or most current issue in force) for Type L-867, Class IA, Size D (16-inch nominal diameter), 24-inch deep, and/or as detailed on the Plans. Splice cans shall have galvanized steel covers or aviation yellow powder coat painted steel covers, 3/8 in. thick, with 2" NPT holes compatible with the respective REIL units. Include internal and external ground lugs on the L-867 base can. Include breakable couplings for mounting REILS to the respective base/foundation.

125967-2.4 SERIES CIRCUIT TRANSFORMERS. Series circuit isolation transformers for the REIL units shall be manufactured to FAA Specification AC 150/5345-47B (or current edition in force), and shall be FAA-approved (ETL-Certified). Series circuit transformer shall be properly sized for the respective REIL units in accordance with the manufacturer's instructions. Based on information from the Manufacturer's Installation Manual the REIL pair will require two L-830-10, 300-Watt, 6.6 Amp primary, 6.6 Amp secondary series isolation transformers for power. Contractor shall field verify existing transformer sizes and types and confirm proper transformer selection for the existing REIL units.

125967-2.5 ANTI-SEIZE COMPOUND: The Contractor will apply an oxide-inhibiting, anti-seizing compound to all screws, nuts, breakable coupling, and all places where metal comes into contact with metal. The anti-seize compound will be as manufactured by I.T.T. brand name "Contax" or an approved equal.

125967-2.6 STAINLESS STEEL BOLTS: All base plate mounting bolts shall be stainless steel.

125967-2.7 GROUND RODS: Ground rods shall be 3/4-inch diameter by 10-foot long UL listed copper clad, with 10-mil minimum copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.

125967-2.8 CONCRETE: Concrete associated with the each REIL foundation and/or splice can shall conform to Item 610 Portland Cement Concrete of the Standard Specifications for Construction of Airports.

## CONSTRUCTION

125967-3.1 INSTALLATION OF REILS: The Contractor will remove the existing REIL units after the existing Runway 18L-36R is closed. The Contractor will store the units in a secure location of his choosing and will be responsible for replacing them in the same condition as noted prior to removal. Any damage to these units will be repaired by the Contractor at his own expense.

The Contractor will remove the existing REIL concrete bases and dispose of them off the airport site in a legal manner. The holes left from the base removal will be filled with earth material. The earth material will be compacted to prevent any future settlement. The earth material will be taken from the proposed construction site. Any and all trenches and disturbed areas will be backfilled and restored to a smooth grade and seeded to the satisfaction of the Engineer. All disturbed areas and/or trench settlement shall be corrected for a period of one year. Restoration, grading, and seeding of areas disturbed during the relocation of the REILS will be considered as an incidental item to the relocation of the REIL units.

The REILS shall be relocated and installed at the locations shown on the Plans. Installation of REILS systems shall conform to FAA AC No. 150/5345-51A titled "SPECIFICATION FOR DISCHARGE-TYPE FLASHING LIGHT EQUIPMENT" and the respective manufacturer's instructions. The Contractor shall install splice cans and construct concrete bases for the REIL units in accordance with the respective REIL manufacturer's installation instructions and recommendations and as detailed on the Construction Plans. All required trenching and control cable between the master and slave units, associated hardware, mounting requirements, etc. shall be installed per the respective REIL manufacturer's installation instructions and recommendations, and shall be considered part of the installation with no additional compensation.

REILS shall be aimed as detailed on the Plans.

125967-3.2 ELECTRICAL: The Contractor shall furnish and install all electrical materials necessary for complete and operational installation of the REIL systems as shown on the plans and detailed herein. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of the NFPA 70 - National Electrical Code (NEC) most current issue in force. Electrical equipment shall be installed in conformance with the respective manufacturer's directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing, (or other third party listing), and/or the manufacturer's warranty of a device will not be permitted.

125967-3.3 CABLE INSTALLATION FOR REILS: Installation of cables shall conform to Item 108, the applicable sections of FAA AC 150/5345-51A, per the respective equipment manufacturer's installation instructions and recommendations, and as detailed on the Plans.

The Contractor will be responsible for installing all required control cables between the REIL units in accordance with the REIL unit manufacturer's installation instructions and recommendations and as detailed on the Plans. These cables will be considered incidental to the REIL relocation, and no additional compensation will be allowed.

125967-3.4 CONDUIT INSTALLATION FOR REILS: Installation of conduit shall conform to Item 110 and the respective REIL manufacturer's installation instructions and/or recommendations.

125967-3.5 GROUNDING FOR REILS: Grounding for REILS shall conform to the respective REIL manufacturer's installation instructions, as detailed on the Plans, and as specified herein. Furnish and install a 3/4-inch diameter by 10-foot long copper clad ground rod at each REIL unit. Bond each REIL unit housing and the REIL base can to the respective ground rod in accordance with the manufacturer's instructions with a #6 AWG bare copper grounding electrode conductor. Top of ground rods shall be buried approximately 30 inches below grade. All connections to ground rods shall be exothermic weld as manufactured by Cadweld, Thermoweld, or Ultraweld. Connections to REIL unit frames shall be as recommended by the manufacturer or with a UL listed grounding connectors. Connect one wire per ground lug or terminal unless it is listed for multiple conductors.

## **REIL OPERATION**

125967-4.1 In the automatic mode of operation the REILS shall be activated by radio control with the runway lighting series circuit corresponding to the 100% brightness level of the respective runway lights as follows:

3 clicks – Off

5 clicks – Off

7 clicks – 100% Brightness/On

In the manual mode of operation the REILS shall be activated with the runway lighting series circuit corresponding to the 100% brightness level of the respective runway lights as follows:

10% Brightness Level – Off  
30% Brightness Level – Off  
100% Brightness Level – On

The Contractor shall test the relocated units to assure that they are in proper working order. Contractor shall demonstrate proper operation and testing for the Resident Engineer.

### **BASIS OF PAYMENT**

125967-5.1 Payment shall be made at the contract unit price per pair for REIL Relocation. This price and payment shall be full compensation for removing the existing REIL units; storing the units; removal of the existing REIL bases and backfilling of the holes; furnishing, installing, and construction of the new REIL bases; for furnishing and installing conduits, ducts, and all other incidentals required to provide the electrical controls between the relocated REIL units; for furnishing and installing all materials; for all excavating, labor, tools, testing, grounding, equipment and incidentals necessary to complete this item of work. All control cable, wiring, and conduit associated with the REIL relocation shall be incidental to Item AR125967 Relocate REILS and no additional compensation will be allowed. Series circuit power wiring to the REIL units shall be paid for under Item 108.

Payment will be made under:

Item AR125967 Relocate REILS - per pair

**ITEM AR150530**  
**TRAFFIC MAINTENANCE**

**DESCRIPTION**

This Item of work shall consist of providing barriers and barricades at the construction site to protect aircraft from entering into the work area, as shown on the Proposed Construction Sequencing Plan, during construction.

**CONSTRUCTION METHODS**

Prior to the commencement of work requiring the closure of a Runway 18L-36R for the installation of the High Intensity Runway Lights (HIRLS), barriers and/or barricades will be placed as shown on the Proposed Safety Plan. The barriers and barricades will be lit with red, steady-burn or flashing lights, marked, and flagged so that they are plainly visible, night or day, to the pilots operating aircraft. The barricades will be IDOT Type 1 or Type II, placed to prevent traffic from entering the project area. The barricades will require weighting down by sand bags. The Contractor will supply enough barricades to completely secure the project area, as shown, and each barricade shall remain in place until all pavements are officially open for use by aircraft. Each barricade will block the taxiway completely, and no gap between barricades will be greater in width than 12 ft. The placement locations for the barriers and barricades are detailed on the Proposed Safety Plan. Barricades may also be required when Runway 6-24 is closed.

The proposed construction will necessitate closing of Runway 18L-36R and Runway 6-24 at various times. Any time the Contractor is working within 200 ft of the runway centerline or 100 ft of a taxiway centerline, the runway or taxiway will be closed. **Runway 18L-36R shall be closed for a maximum of 28 consecutive calendar days during the installation of the HIRLS and associated cabling and ductwork. At the end of the 28 days, the HIRLS must be fully operational and the runway must be permanently opened to traffic. Failure to reopen the runway at the end of the 28 days will result in liquidated damages in the amount of \$700 per day. There shall be no other closures to runway 18L-36R except the 28 consecutive calendar days.**

The Contractor shall expedite all construction activities that require closures to Runways 18L-36R and 6-24. The remaining taxiways shall not be closed overnight, and all lengths of closure shall be minimized. All pavements that are open to air traffic shall be maintained broom clean of all debris. All work included in opening and closing a runway or taxiway, including barricades, labor, and other necessary items, shall be incidental to this Item, and no additional compensation will be allowed. The Contractor shall stage the construction to minimize all runway and taxiway closures. **All operators of trucks and equipment operating on the airfield shall be briefed on the traffic maintenance and crossing procedures daily.**

**BASIS OF PAYMENT**

Payment will be made at the contract unit price per lump sum for providing, maintaining, and removing barriers and barricades for the project site to delineate the work site and prevent aircraft from entering the work area. The price shall be full compensation for furnishing and installation of all equipment (including two-way radios) and materials; maintenance; and for all labor and incidentals necessary to complete this Item of work.

Payment will be made under:

Item AR150530 Traffic Maintenance - per lump sum

**ITEM AS800591**  
**UPGRADE AIRPORT ROTATING BEACON**  
**(Additive Alternate No. 1)**

**DESCRIPTION**

800591-1.1. This Item of work shall include furnishing and installing a new load center at the top of the existing airport rotating beacon tower, furnishing and installing obstruction lighting with a tell-tale relay, and furnishing and installing a lightning protection system as detailed on the Plans and specified herein. This Item of work shall include all labor, tools, coordination, equipment, conduit, wiring, controls, obstruction lighting, lightning protection, grounding, site preparation, testing, and all materials and incidentals necessary to perform the upgrades to the satisfaction of the Airport Representative.

**EQUIPMENT AND MATERIALS**

800591-2.1 GENERAL. Airport lighting equipment and applicable materials covered by these Specifications shall have the prior approval of the Federal Aviation Administration (FAA) and shall be listed in Advisory Circular 150/5345-1 "Approved Airport Equipment", and/or Advisory Circular 150/5345-53 "Airport Lighting Equipment Certification Program" (latest revision). All other equipment and materials covered by other referenced Specifications shall be subject to acceptance through manufacturer's certification on compliance with the applicable specification, when requested by the Airport Representative.

800591-2.2 TELL-TALE RELAY. A tell-tale relay for interface and control of the associated obstruction lights shall be furnished and installed at the airport rotating beacon. The beacon is an L-802A 36" refurbished airport rotating beacon. The obstruction lights shall illuminate when the beacon is off or when the beacon lamp fails. Tell-tale relay shall be installed in a NEMA 4 enclosure or in the beacon base where there is adequate mounting space. Tell-tale relay shall be properly sized for the application and as recommended by the airport rotating beacon manufacturer; Hali-Brite Airfield Equipment, P. O. Box 10, Crosby, Minnesota 56441, Phone: 1-800-553-6269, Fax: 218-546-6854.

800591-2.3 LIGHTNING RODS. Air terminals shall be UL-listed, Class II (1/2" minimum diameter), nickel-plated copper with blunt tips. Lightning rods shall extend 10" minimum above the top of the airport rotating beacon and obstruction lights to conform to NFPA 780, 4.6.2 Air Terminal Height. Lightning rods shall be manufactured by Thompson Lightning Protection, Inc. 901 Sibley Highway, St. Paul, Minnesota 55118-1792, Phone: 1-800-777-1230 or 612-455-7661, Harger Lightning Protection/Grounding Equipment, 301 Ziegler Drive, Grayslake, Illinois 60030, Phone: 1-800-842-7473 or 847-548-8700. Provide two air terminals located opposite of each other on the tower, as detailed on the Plans.



800591-2.4 DOWN CONDUCTOR. The beacon tower shall serve as the down conductor where there is a continuous metallic path from the air terminal to the point of attachment to the grounding electrode conductor that bonds the tower to the ground rods.

800591-2.5 GROUND RODS. Ground rods shall be ¾" diameter by 10' long, UL-listed, copper-clad with 10-mil minimum copper coating. Steel used to manufacture ground rods shall be 100 percent domestic steel.

800591-2.6 LOAD CENTER OR PANELBOARD. Load center/panelboard shall be provided with plug-on or bolt-on circuit breakers of size and rating as detailed on the Plans. Breakers shall be 1 or 2 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breakers shall have an overcenter, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication. Handles shall have "ON," "OFF," and "TRIPPED" positions. Circuit breakers shall be UL-listed in accordance with UL Standard 489, shall be rated 120/240 volts AC, 1 phase 3-wire, and shall be the size, type, number of poles, trip rating, and Amp Interrupting Capacity as detailed on the Plans for the respective application. Load center/panelboard bus structure and main lugs or main circuit breakers shall have current ratings as shown in the panel schedule on the Plans. Such ratings shall be in accordance with UL Standard 67. Bus bar connections to the branch circuit breakers shall be the "distributed phase" or phase sequence type. All current carrying parts of the bus structures shall be plated. The load center/panelboard bus assembly shall be enclosed in a steel cabinet suitable for the respective location. A circuit directory frame and card with a clear plastic cover shall be provided on door interior. Circuit directory shall be typed indicating each branch circuit of the load center or panelboard. Revise directory to reflect circuiting changes as required. Load centers and/or panelboards and the respective enclosures shall be as detailed on the Plans. AC surge protectors for use with the respective load center and/or panelboard shall be as detailed on the Plans.

800591-2.7 WIRE. Wire for power and control circuits shall be THWN copper conductors. Cable shall be 1/C sized as indicated on the Plans. Cable shall comply with Underwriters' Laboratories Standard UL-83 and shall be UL-listed as VW-1. Conductor shall be soft annealed uncoated copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600V. Insulation shall be polyvinyl-chloride conforming to Underwriters' Laboratories requirements for Type THW. The outer covering shall be nylon conforming to Underwriters' Laboratories for type THHN or THWN-2. Cable shall be UL-listed and marked THWN-2. Power and control wiring shall be Southwire, Type THWN-2, or approved equal.

800591-2.8 CONDUIT.

- (a) Galvanized Rigid Steel Conduit (GRSC). Rigid Steel Conduit and fittings shall be hot-dipped, galvanized, UL-listed, produced in accordance with UL Standard 6 – Rigid Metal Conduit and ANSI C80.1 – Rigid Steel Conduit, Zinc Coated. Couplings, connectors, and fittings for rigid steel conduit shall be threaded galvanized steel or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 – Fittings

Rigid Metal Conduit and EMT and UL 514B – Conduit, Tubing, and Cable Fittings. Set screw type fittings are not acceptable.

- (b) Liquid-Tight, Flexible Metal Conduit. Liquid-tight, flexible metal conduit shall consist of polyvinyl jacket over flexible, hot-dip, galvanized steel tubing. The flexible conduit shall be completely sealed from liquids, dust, dirt, and fumes, and be resistant to oil, gasoline, grease, and abrasion. Jacket shall also be sunlight-resistant. Liquid-tight, flexible metal conduit shall be UL-listed, suitable for use as a grounding conductor, and comply with Article 350 of the NEC. **Liquid-tight, flexible metal conduit and associated fittings shall be UL-listed to meet the requirements of NEC 350.6.** Liquid-tight, flexible metal conduit shall be Anaconda Sealtite Type UA as manufactured by Anamet Electrical Inc., 1000 Broadway Avenue East, Mattoon, Illinois 61938-0039, (Phone: 217-234-8844), Licutite Type LA as manufactured by Electri-Flex Company, 222 W. Central Ave., Roselle, Illinois 60172, (Phone: 630-529-2920 or 1-800-323-6174), or approved equal.

800591-2.9 OBSTRUCTION LIGHTS. Obstruction lights shall be FAA Type L-810 single unit type, 120 VAC, with Light Emitting Diode (LED) type lamps, and “Aviation” red colored lens, and shall comply with FAA AC 150/5345-43F and shall be on the current list of FAA-approved equipment noted in FAA AC150/5345-53B, or latest revision. Obstruction light fixtures shall include terminals for equipment ground wires.

## CONSTRUCTION METHODS

800591-3.1 GENERAL. The Contractor shall furnish and install all equipment and materials necessary for complete and operational installation, as shown on the Plans and specified herein. The complete installation and wiring shall be done in a neat, workmanlike manner. All electrical work shall comply with the requirements of NFPA 70 – National Electrical Code (NEC) most current issue in force. Electrical equipment shall be installed in conformance with the respective manufacturer’s directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer’s warranty of a device will not be permitted.

The Contractor should examine the proposed site to evaluate the existing conditions and the complexity of the work.

Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.

Contractor shall coordinate work and any power outages to the airport rotating beacon or other facilities located on the Airport with the Airport Manager and/or Airport personnel. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor

Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures, including, but not limited to, 29 CFR Section 1910.147 The Control of Hazardous Energy (lockout/tagout).

800591-3.2 TELL-TALE RELAY. A tell-tale relay shall be installed at the airport rotating beacon in accordance with the manufacturer's instructions for the respective application. The tell-tale relay shall be wired to activate the obstruction lights when the beacon is off or when the beacon lamp fails.

800591-3.3 LIGHTNING PROTECTION. The Contractor shall furnish and install two lightning rods, down conductor, and two  $\frac{3}{4}$ " diameter by 10' long, UL-listed, copper-clad ground rods for the beacon tower. The lightning rods shall be installed at the top of the tower, shall be located at 180° apart (opposite sides to each other), and secured to the obstruction light conduits as detailed on the Plans. The tip of the lightning rods shall extend not less than 10 inches above the top of the obstruction lights in conformance with NFPA 780 Installation of Lightning Protection Systems. Note the obstruction lights shall be at a height of not less than 4 inches above the top of the beacon. The beacon tower shall serve as the down conductor where there is a continuous metallic path from the air terminal to the point of attachment to the grounding electrode conductor that bonds the tower to the ground rods. Ground rods shall be located at least 2' from the tower foundation, and shall not be spaced less than one rod length (10') apart. The ground rods shall be driven into the earth so that the top of the rod is at least 30 inches below finish grade. The tower shall be bonded to the ground rods with a #2 AWG bare solid tinned copper conductor. Connections to the tower and ground rods shall be with exothermic-weld type connectors, Cadweld by Erico Products, Inc., Solon, Ohio, (Phone 1-800-248-9353), or Thermoweld by Continental Industries, Inc., Tulsa, Oklahoma (Phone 918-663-1440), or Ultraweld by Harger, Grayslake, Illinois (Phone 1-800-842-7437). The resistance to ground of any part of the lightning protection system shall not exceed 25 Ohms. The Contractor shall test the made electrode ground rod with an instrument specifically designed for testing ground field systems. If ground resistance exceeds **25 Ohms**, contact the Airport Representative for further direction. Copies of ground rod test results shall be furnished to the Airport Representative, upon request, for review and record purposes.

800591-3.4 INSTALLATION OF LOAD CENTERS AND/OR PANELBOARDS. The Contractor shall furnish and install a load center or panelboard at the top of the beacon tower, as detailed on the Plans and specified herein. Load centers and/or panelboards shall be thoroughly inspected for physical damage, proper alignment, anchorage, and grounding. The exterior finish shall be inspected for blemishes, nicks, and bare spots, and touched up, as required, using matching touch-up paint. Inspections shall be made for proper installation and tightness of connections for circuit breakers. Install load centers and/or panelboards as shown on the Plans and in accordance with NEMA PB1.1. Provide appropriate corrosion-resistant mounting hardware and strut support. Strut support shall be hot-dipped, galvanized steel strut support, Unistrut P-1000HG, or stainless steel strut support, Unistrut P-1000SS, or approved equal. Provide zinc rich paint applied to field cuts of strut support to minimize the potential for corrosion per the respective strut support manufacturer's recommendation. Install load centers and/or panelboards plumb. Install circuit breakers in panelboards and/or load centers in conformance with the respective manufacturer's directions. Connect only one wire/cable to each

breaker terminal. Provide filler plates for unused spaces in load centers and/or panelboards. Provide typed or neatly printed circuit directory to identify each branch circuit in the load center and/or panelboard. Revise directory to reflect circuiting changes as required. Provide legend plates for all load centers and/or panelboards to identify the area and/or equipment controlled by the load center and/or panelboard, the power source, and the voltage system. Legend plates shall be weatherproof and abrasion-resistant, phenolic material. Lettering shall be black on white background. Load centers and/or panelboards shall be thoroughly tested after installation and connection to respective loads.

800591-3.5 WIRING. The Contractor shall furnish and install all wiring, as detailed on the Plans, per the respective equipment manufacturer's recommendations and as specified herein. Installation of cable and wiring shall also conform to Item 108 Installation of Underground Cable for Airports of the Standard Specifications for Construction of Airports, IDOT/IDA.

800591-3.6 CONDUIT INSTALLATION. Installation of conduit shall conform to Item 110, Installation of Airport Underground Electrical Duct of the Standard Specifications for Construction of Airports, IDOT/IDA, as detailed on the Plans and as specified herein.

Where possible, no conduit shall be installed on top of the beacon platform floor.

Conduit size and fill requirements shall comply with Appendix C, conduit fill tables, of the NEC. It should be noted these are minimum requirements, and larger conduit sizes or smaller fill requirements shall be used whenever specified or detailed on the Drawings.

Liquid-tight, flexible metal conduit shall be provided as a connection between each motor junction box (or any other piece of equipment subject to movement or vibration) and the rigid conduit system.

Ream conduits only after threads are cut. Cut joints square to butt solidly into couplings. Where necessary to join two pieces of conduit, and it is impossible to use standard couplings, use 3-piece, malleable iron, conduit coupling. The use of running thread is prohibited. This applies to all rigid conduit installations, underground or otherwise.

Where conduit enters a box or fitting, provide a steel locknut and an insulated metallic bushing. Use this method to terminate conduit in panels, pull boxes, safety switches, etc.

Provide NEMA four hubs for all conduit entries into enclosures rated NEMA 4, 4X to maintain NEMA 4, 4X rating.

800591-3.7 INSTALLATION OF JUNCTION AND PULL BOXES. Use only screws, bolts, washers, etc. fabricated from rust-resisting metals for the supporting of boxes. Install pull boxes in runs of conduit such that a total of 360 degrees in bends is not exceeded. Junction boxes shall be installed at all points in conduit runs where taps or splices are located. Boxes required by code or need which are not detailed on the Plans shall be considered incidental to the respective work Item, and will not be paid for separately.

800591-3.8 INSTALLATION OF OBSTRUCTION Lights. Obstruction lights shall be installed on the beacon tower in accordance with FAA Advisory Circular 150/5370-10A. Part XI—LIGHTING INSTALLATION, Item L-101 Airport Rotating Beacon. Two obstruction lights shall be installed on top of the airport rotating beacon tower located 180° apart (opposite sides to each other). These lights shall be mounted on 1” GRSC extensions to a height not less than 4 inches above the top of the beacon. They shall be connected into the tell-tale relay which will activate the obstruction lights when the beacon is off or when the beacon lamp fails.

800591-3.9 LOCATE EXISTING UNDERGROUND UTILITIES AND CABLES. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size, and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor’s responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his operational plans, and shall obtain from the respective utility companies detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner’s Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract.

All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

800591-3.10 MARKING AND LABELING. Legend plates shall be provided for all equipment. Legend plates shall be provided to identify the equipment controlled, the power source, and the function of each device. Legend plates shall be weatherproof, abrasion-resistant, phenolic/plastic-engraved material, and fastened with contact-type, permanent adhesive, screws, or rivets. Installation shall not break, crack, or deform the legend plate. Lettering shall be ¼” high, black on a white background, unless noted otherwise. Each panelboard/load center shall be furnished with a phenolic-engraved legend plate that identifies the panel designation, the power source, and the respective voltage, phase, and wire. Color code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored insulation or colored marking tape for phase and neutral conductors for No. 4 AWG and larger. Insulated ground conductors shall have green colored insulation for all conductor AWG and/or KCMIL. Standard colors for power wiring and branch circuits shall be as follows:

<b>120/240 VAC, 1 Phase, 3-wire originating from a 240/120VAC, 3 Phase , 4-Wire System</b>	
<b>Phase A</b>	Black
<b>Phase C</b>	Blue
<b>Neutral</b>	White
<b>Ground</b>	Green

800591-3.11 GROUNDING REQUIREMENTS. Grounding shall conform to the following, as applicable: The Contractor shall furnish and install all grounding shown on the Plans and/or as may be necessary or required to make a complete grounding system, as required by the latest NEC (NFPA 70) in force. The reliability of the grounding system is dependent on careful, proper installation and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in circuits. The following functions are particularly important to ensure a reliable ground system:

- (a) All products associated with the grounding system shall be UL-listed and labeled.
- (b) All bolted or mechanical connections shall be coated with a corrosion-preventative compound before joining, Sanchem Inc. "NO-OX-ID "A-Special" compound, Burndy Penetrox E, or equal.
- (c) Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2008 NEC Article 250-12. All copper bus bars must be cleaned prior to making connections to remove surface oxidation.
- (d) Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.
- (e) Furnish and install ground rods at all locations where shown on the Plans or specified herein. Ground rods for electrical installations shall be 3/4" diameter by 10' long, UL-listed, copper-clad with 10-mil minimum copper coating. Top of

ground rods shall be a minimum of 30 inches below finish grade, unless otherwise noted on the Plans. Ground rods shall be spaced, as detailed on the Plans, and in no case spaced less than one rod length apart. All connections to ground rods shall be made with exothermic-weld type connectors. Exothermic-weld connections shall be installed in conformance with the respective manufacturer's directions using molds as required for each respective application. Bolted connections will not be permitted at ground rods or at buried grounding electrode conductors.

- (f) All connections located above grade between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted ground connector. All bolted ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten connections to comply with tightening torques in UL Standard 486A to assure permanent and effective grounding.
- (g) All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system.
- (h) Each feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2008 NEC Table 250-122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately, according to circular mil area. All equipment ground wires shall be copper, either bare or insulated, green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.
- (i) Bond the main electrical service neutral to ground at the main service disconnect. Bond the service neutral to ground at one location only per the NEC. A grounding connection shall not be made to any neutral circuit conductor on the load side of the service disconnecting means, except as permitted by 2008 NEC 250-24. Where the Contractor is unable to distinguish the difference between a neutral conductor and equipment grounding conductor, or other ground conductor, contact the Airport Representative for assistance.
- (j) All exterior metal conduits, where not electrically continuous because of manholes, handholes, non-metallic junction boxes, etc., shall be bonded to all other metal conduit in the respective duct run, and at each end, with a copper-bonding jumper sized in conformance with 2008 NEC 250-102. Where metal conduits terminate in an enclosure (such as a the beacon tower pole) where there is not electrical continuity with the conduit and the respective enclosure, provide a

bonding jumper from the respective enclosure ground bus/frame to the conduit sized per 2008 NEC 250-102.

- (k) Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Where grounding electrode conductors or individual ground conductors are run in PVC conduit, do not completely encircle conduit with ferrous and/or magnetic materials. Use non-metallic, reinforced fiberglass strut support. Where metal conduit clamps are installed, use nylon bolts, nuts, washers, and spacers to interrupt a complete metallic path from encircling the conduit.

### **METHOD OF MEASUREMENT**

800591-4.1. The quantity to be paid for under this Item shall be measured for payment a unit price per lump sum, and shall consist of furnishing and installing the tell-tale relay, load center, obstruction lights, lightning protection system, and all labor, materials, equipment, electrical work, controls, grounding, tools, operational instructions, coordination, and testing required to place the respective installation into proper working order. This Item shall also include the removal of the existing load center located at the airport rotating beacon.

The 120/240 VAC, 1 phase, 3-wire with ground feeder circuit in unit duct from the airport electrical vault to the airport rotating beacon tower will be paid for separately under Item AR108088 1/C #8 XLP-USE - per lin. ft.

### **BASIS OF PAYMENT**

800591-5.1. Payment will be made at the contract unit price per lump sum for Upgrade Airport Rotating Beacon, and shall be full compensation for furnishing all equipment and materials and for all preparation, assembly, and installation of the equipment and materials, and for all labor, equipment, tools, adjusting, testing, and incidentals necessary to complete this Item.

Payment will be made under:

Item AS800591 Upgrade Airport Rotating Beacon - per lump sum.