Project Specifications and Contract Documents

For

Runway '12-30' Electrical Improvements

CIP No. 25602

MAYOR AND COUNCIL:

Phil Goode, Mayor
Connie Cantelme, Council Member
Lois Fruhwirth, Council Member
Ted Gambogi, Council Member
Brandon Montoya, Council Member
Eric Moore, Council Member
Cathey Rusing, Council Member

CITY CLERK:

Sarah M. Siep

AIRPORT DIRECTOR:

Rick Crider

Notice Inviting Bids

Runway '12-30' Electrical Improvements

DESCRIPTION: The project generally consists of electrical infrastructure improvements to Runway '12-30', including the removal and replacement of the existing incandescent lighting with new cable and FAA-approved and certified LED equipment.

MANDATORY PRE-BID CONFERENCE: May 1, 2025, at 11:00a.m., City of Prescott Regional Airport Administration 6630 Airport Avenue, Prescott, Arizona 86301

BID OPENING: Thursday, May 15, 2025, at 2:00p.m. **City Council Chambers 201 N. Montezuma Street, Prescott, Arizona 86301**

In accordance with local and State law, sealed bids with the project name on outside of envelope will be received by the Office of the **City Clerk at 201 N. Montezuma Street, Suite 302, Prescott, Arizona 86301**, until 2:00pm on the date specified above, for the services specified herein. Bids will be opened and read aloud at the above noted date, time, and location. Any bid received at or after 2:00pm on the referenced date will be returned unopened.

The City of Prescott reserves the right to accept or reject any or all bids, and/or some or all of the alternates bid, and waive any informality deemed in the best interest of the City and to reject the bids of any persons who have been delinquent or unfaithful in any contract with the City.

Copies of the Plans, Project Specifications and Contract Documents are available for inspection at the Airport Administration, or may be obtained free of charge on the City's website at https://prescott-az.gov/budget-and-finance/purchasing/.

PUBLISH: April 6 and 13, 2025

Runway '12-30' Electrical Improvements

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Attachments:

- Attachment A: List of Subcontractors/Firm & DBE Utilization
- Attachment B: Letter of Intent to Perform as a Subconsultant/Subcontractor/Supplier
- Attachment C: Identification Statement for DBE
- Attachment D: Demonstration of Good Faith Efforts
- Prequalification Form
- Contractor Questionnaire
- Final Project Specifications
- Construction Safety & Phasing Plan
- Engineering Plans

Special Instructions

Bids will be returned unopened if not submitted properly sealed and prior to the time set forth in the Notice Inviting Bids.

Bids shall be enclosed in a sealed envelope, addressed to the Office of the City Clerk, and marked on the outside, lower right-hand corner indicating:

1. Bidder's Name
2. Project Title
3. Bid Opening Date and Time
4. Acknowledgement of Addenda Received, if applicable

Federal Aviation Administration (FAA) Grant Award

The work for the PRC Runway '12-30' Electrical Improvements project is being performed under a grant agreement between the City of Prescott and Federal Aviation Administration (FAA). Said agreements require the City of Prescott to obtain approval from FAA for all contract awards and modifications thereof. The Notice to Proceed (NTP) will not be granted (or any modification) until the approval of such an award is received from the FAA.

Disadvantaged Business Enterprise Requirements

Attention of bidders is particularly called to the requirements for Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) participation as described in the Bid Proposal. All bidders will be required to furnish information about DBE/SBE firms as required by Attachments A, B, C, and D. **It is not required of the Bidder to meet the DBE/SBE goals stated herein to be considered a responsive or responsible bidder.**

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Prescott Airport to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE contract goal of 5.46% has been established for this contract (Good Faith Efforts). The bidder/offeror shall make good faith efforts, as defined in Instructions to Bidders.

The bidder/offeror will be required to demonstrate Good Faith Efforts by completing Attachments A, B (if needed), C, and D of these contract documents.

The undersigned hereby assures that he will make a good faith effort, as defined in Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of 5.46% of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE). In the event that the bidder for this project qualifies as a DBE, the contract goal shall be deemed to have been met.

All Bidders are required to complete (at the time of bid) Attachment A – List of Subcontractors/Firm & DBE Utilization. All Bidders shall report the names, addresses, and DBE/SBE status of each Subcontractor anticipated to be used on the project (if applicable), including contact information and the bid amount of all subcontractors for the proposed work on the Subcontractors List.

Any Subconsultant, Subcontractor, or Supplier with the intent to perform on this project as a DBE is required to submit Attachment B. Attachment C (if needed) is to be completed for the combined project, and authorized by each Subconsultant, Subcontractor, Supplier and provided at the time of bid by the Prime Contractor.

All Bidders are required to complete (at the time of bid) Attachment D – Demonstration of Good Faith Efforts, which is a location for the contractor to list all the DBE/SBE Subconsultants, Subcontractors, or Suppliers contacted during the development of his bid for the combined project.

The undersigned also assures that he will include the DBE clauses required by the sponsor's DBE Program in all subcontracts which offer subcontracting opportunities.

Mandatory Pre-Bid Conference

The pre-bid conference is mandatory for potential bidders. Bids will only be accepted from contractors in attendance as established on the sign-in sheet. Anything discussed, or not discussed, in the meeting shall not change the requirements of the bid documents. Any changes to the bid documents shall be in writing. The minutes of this pre-bid conference will be distributed to all attendees. The minutes shall not be considered part of any addendum and shall not be considered part of the contract documents for the project.

The mandatory pre-bid conference will be held on May 1, 2025, at 11:00a.m. at this location:

City of Prescott
Regional Airport Administration
6630 Airport Avenue
Prescott, AZ 86301

Bid Submittal

All bids must contain the following completed forms, provided herein:

1. Bidding Schedule (page 9)
2. Proposal (pages 11-12)
3. Attachment A – List of Subcontractors & DBE Utilization
4. Attachment B – Letter of Intent to Perform as DBE Subcontractor
5. Attachment C – Identification Statement for DBE
6. Attachment D – Demonstration of Good Faith Efforts
7. Prequalification Form
8. Contractor's Questionnaire
9. Bidder's Affidavit (page 14)
10. Proposal Guarantee (certified check, cashier's check, or surety bond)
11. Addendum Acknowledgement (all pages), if applicable

Failure to complete and sign (where required) and return the above documents with your bid may render it irregular. It is not necessary to return a complete copy of the Notice Inviting Bids, Project Specifications and Contract Documents, other than the documents noted above. Bids shall be submitted as one (1) original with one (1) **flash drive** and must conform to this request.

DELIVERY OF SUBMITTALS

Sealed bids will be received **before 2:00p.m. on Thursday, May 15, 2025**, at the **City Clerk's Office, 201 N. Montezuma Street, Suite 302, Prescott, Arizona 86301**, at which time all

submittals will be publicly opened. **The City will not accept delivery of the bid at any other City location.**

Any submittals received at or after 2:00p.m. on the above-stated date will be returned unopened. Firms are solely responsible for the delivery of their submittals to the above location by the time and date specified. The City is not responsible for lateness of mail, carrier, etc. The City will not accept delivery of the bid at any other city locations. The time and date stamp in the City Clerk's Office shall be the official time of receipt. Electronic or facsimile submittals will not be considered. Modifications to submittals will not be considered after the 2:00p.m. deadline.

The outside of the submittal envelope shall indicate the name and address of the respondent; shall be addressed to the City Clerk, City of Prescott, at the above address; and shall be clearly marked:

Notice of Inviting Bids:
Runway '12-30' Electrical Improvements
Due before 2:00p.m. on May 15, 2025

Requests for Information

Questions pertaining to this project prior to opening and award of the contract shall be directed to:

Jaimie Sventek
Contracts Coordinator
City of Prescott – Purchasing
contracts@prescott-az.gov

Requests for information must be received **by 5:00p.m. on Tuesday, May 6, 2025.** Responses or addenda will be issued **no later than 12:00p.m. (noon) on Monday, May 12, 2025.** It is the prospective proposer's full responsibility to check the City's website at https://prescott-az.gov/budget-and-finance/purchasing/ for Addenda related to this procurement. A signed copy with all pages of the addenda must be submitted with the proposal package.

Scope of Work

The intent of the Plans and Specifications is to prescribe a complete work for the described project which the Contractor shall perform in a manner acceptable to the City Airport Director and in full compliance with the terms of the Contract.

Unless otherwise specified in the Special Provisions, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and incidentals, but not limited to, dust and traffic control measures, and to perform all work involved in executing the Contract in a satisfactory and workmanlike manner within the specified time.

Project Schedule

The Contractor shall fully complete all work under this Contract within sixty-two (62) calendar days beginning with the calendar day as noted in the Notice to Proceed. The Contractor shall at all times during the continuance of the Contract prosecute the work with such work force and equipment as is sufficient to complete the project within the time specified.

The following milestones are estimates of the earliest dates possible for planning purposes only and shall not represent any contractual commitment whatsoever on the part of the City. The City reserves the right to amend the project schedule as necessary.

Award of Contract	June 10, 2025
Pre-Construction Meeting	Week of June 16, 2025
Notice to Proceed	Week of June 30, 2025
Expected Completion Date	As noted on the Notice to Proceed

Proposed Phasing and Sequencing

The project consists of three phases of construction. The phasing limits for this project, as well as the haul routes, the Contractor's Staging & Storage Area, taxiway closures and aircraft detouring are all shown on Construction Safety & Phasing Plan. The construction duration and phasing for the project is detailed below.

Phase I. – This phase involves construction located on Runway '12-30', north of Runway '3R-21L' Runway Safety Area (RSA). This will consist of the removal and replacement of the existing incandescent runway edge lights, in-pavement lights, runway end/threshold lights, and airfield guidance signage with new FAA-approved and certified LED equipment; new airfield lighting cable, a new constant current regulator (CCR), and circuit breaker in the Airfield Lighting Vault. Additional LED airfield guidance signage and runway end/threshold lighting fixtures will be added.

- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.
- Runway '12-30' will be closed for night work.
- Taxiways 'E4', 'F4' and part of Taxiway 'C' will be closed for night work.

Phase II. – This phase involves construction located on Runway '12-30', south of Runway '3R-21L' RSA. This will consist of the removal and replacement of the existing incandescent runway edge lights, runway end/threshold lights, and airfield guidance signage with new FAA approved and certified LED equipment, and new airfield lighting cable.

- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.
- Runway '12-30' will be closed for night work.
- Taxiways 'E1', 'E2', 'E3', 'F1', 'F2', 'F3', and part of Taxiway 'D' will be closed for night work.

Phase III. – This phase involves construction located on Runway '12-30', within Runway '3R-21L' RSA. This will consist of the removal and replacement of the existing incandescent runway edge lights with new FAA approved and certified LED equipment, and new airfield lighting cable.

- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.

- Runway ‘12-30’ and ‘3R-21L’ will be closed for night work.
- Runway ‘3L-21R’ will be open for nighttime operations.
- A portion of Taxiway ‘E’ and Taxiway ‘F’ will be closed for night work.

Final Completion – This will mark the completion of all construction in Phase I to III. A pre-final walk-though will be completed by the Resident Engineer, Airport, and the Contractor. The Contractor shall be provided with a Substantial Completion letter including a punchlist of any remaining items to complete before Final Completion. The construction warranty will begin once the punchlist items are complete and approved.

Total Project Duration – 62 Calendar Days. This will include the completion of all punchlist items noted in the Substantial Completion letter.

Haul Routes and Staging Areas

Within approved set of Engineering Plans, Drawing G1.5, Sheet 5 of 43 “Airport and Project Site Plan” shows the project area, as well as Contractor’s Primary and Secondary Staging and Storage Areas and haul routes to access the various phases of work.

City Protest Policy

Any protest against the solicitation or award must be filed with the City Clerk’s Office by 4:00p.m. up to ten (10) days after award. All such protests shall be in writing and contain the following: 1) Name, address, email address and telephone number of the interested party; 2) Signature of the interested party or its representative; 3) Identification of the purchasing department and Project name; 4) Detailed statement of the legal and factual grounds for protest including copies of relevant documents; and 5) Form of relief requested. Protesting parties must demonstrate as part of their protest that they made every reasonable effort within the schedule and procedures of this solicitation to resolve the basis or bases of their protest during the solicitation process, including asking questions, seeking clarifications, requesting addenda, and otherwise alerting the City to perceived problems so that corrective action could be taken prior to the selection of the successful vendors. The City will not consider any protest based on items which could have been or should have been raised prior to the deadline for submitting questions or requesting addenda. The filing of a protest shall not prevent the City from executing an agreement with any other proposer.

Buy American Preference

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

Bid Schedule

Runway '12-30' Electrical Improvements						
PROJECT#: 25602						
Line No.	**Item**	**Description**	**Qty**	**Unit**	**Unit Cost**	**Amount**
General Construction Items						
1	C-105-6.1	Mobilization	1	LS		
2	GTP-50.01.1	Location of Underground Utilities	1	LS		
3	GTP-60.04.1	Airfield Safety and Security	1	LS		
		General Construction Items Subtotal			*$*	
Electrical Items						
4	L-100-5.1	Remove and Temporarily Reinstall Runway Edge, End / Threshold Light and Isolation Transformer, Base Can to Remain	58	EA		
5	L-100-5.2	Remove Existing Runway Edge, End / Threshold Light and Isolation Transformer, Remove Base Can	2	EA		
6	L-100-5.3	Remove and Temporarily Reinstall In-pavement Runway Edge Light and Isolation Transformer, Base Can to Remain	2	EA		
7	L-100-5.4	Remove Existing Conductor, Conduit to Remain (15480 LF)	1	LS		
8	L-100-5.5	Remove, Temporarily Mount and Power Airfield Guidance Sign and Isolation Transformer, Demo Sign Base	7	EA		
9	L-100-5.6	Remove and Salvage Airfield Guidance Sign and Isolation Transformer, Sign Base to Remain	15	EA		
10	L-100-5.7	Excavate and Remove Existing Junction Can / Pull Box	1	EA		
11	L-100-5.8	Temporary Airfield Lighting Circuit Jumpers	1	LS		
12	L-100-5.9	Disconnect and Remove Existing CCR for Reinstallation or Return to Owner	6	EA		
13	L-100-5.10	Install and Reconnect Existing Relocated CCR, Reconnect Existing Feeder, Control / Monitoring Unit to Existing ALCMS and Test	3	EA		
14	L-100-5.11	Provide, Install and Connect New 10kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	2	EA		
15	L-100-5.12	Provide, Install and Connect New 7.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	1	EA		
16	L-100-5.13	Provide, Install and Connect New 2.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	1	EA		
17	L-100-5.14	Provide and Install New Eaton, Type FD 20Amp, 2-Pole, 480V Breaker in Existing Panel	1	EA		
18	L-100-5.15	Provide and Install New Eaton, Type FD 30Amp, 2-Pole, 480V Breaker in Existing Panel	2	EA		
19	L-100-5.16	Provide and Install New Eaton, Type FD 40Amp, 2-Pole, 480V Breaker in Existing Panel	3	EA		
20	L-100-5.17	Provide Coordination and Tech Support for Manufacturer Testing and Commissioning of Relocated Existing and New CCRs	1	LS		
21	L-108-5.1	L-824, Type C, 1/C #8 AWG, 5kV Cable	11,050	LF		
22	L-108-5.2	L-824, Type C, 2/C #8 AWG, 5kV Cable	6,905	LF		
23	L-110-5.1	Single-way, (1) - 2" Conduit, Direct Earth Buried with Counterpoise	565	LF		
24	L-115-5.1	New L-867B Junction Can / Light Base with Blank Cover and Gasket	2	EA		
25	L-115-5.2	New 3" L-867B Base Can Extension on Existing Light Base with Concrete Surround for Raising Low Edge Light Bases	4	EA		
26	L-125-5.1	New L-852D(L) LED Medium Intensity Runway Edge Light (W/W) on Existing L-868 Light Base	2	EA		
27	L-125-5.2	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer, on New Concrete Sign Base	1	EA		
28	L-125-5.3	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	3	EA		
29	L-125-5.4	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	3	EA		
30	L-125-5.5	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA		
31	L-125-5.6	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	2	EA		
32	L-125-5.7	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA		
33	L-125-5.8	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	2	EA		
34	L-125-5.9	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor	4	EA		
35	L-125-5.10	New L-858 Size 1, 4-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	1	EA		
36	L-125-5.11	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA		

Runway '12-30' Electrical Improvements						
PROJECT#: 25602						
37	L-125-5.12	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor	1	EA		
38	L-125-5.13	36" Concrete Sign Base Extension, Installed On Existing Sign Base (if Required)	2	EA		
39	L-125-5.14	Install and Connect New Sign Ground w/ Rod at New Sign on Existing Base (If Required)	5	EA		
40	L-125-5.15	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on New L-867 Base Can	1	EA		
41	L-125-5.16	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	17	EA		
42	L-125-5.17	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on New L-867 Base Can	1	EA		
43	L-125-5.18	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	21	EA		
44	L-125-5.19	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional R/R) and Isolation Transformer on New L-867 Base Can	2	EA		
45	L-125-5.20	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA		
46	L-125-5.21	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	2	EA		
47	L-125-5.22	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA		
48	L-125-5.23	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA		
49	L-125-5.24	New L-861(L) LED Runway Edge Light (Omni-Directional W/W) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	2	EA		
50	L-125-5.25	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional W/Y) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	2	EA		
51	L-125-5.26	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA		
52	L-125-5.27	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA		
53	L-125-5.28	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA		
54	L-125-5.29	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA		
Electrical Improvement Items						
				Electrical Improvements Subtotal	*$*	
				Total Bid Amount	**$**	

TOTAL BID AMOUNT:

Dollars

(In Written Words)

Company Name

Signature of Company Official

Date Signed

Title

Email

Proposal

Date: _____

Proposal of _____
(Name)

Corporation organized and existing under the laws of the State of Arizona; a partnership consisting of _____ or an individual trading as _____ .

TO THE HONORABLE MAYOR AND COUNCIL
CITY OF PRESCOTT
PRESCOTT, ARIZONA

Ladies and Gentlemen:

The Undersigned hereby proposes and agrees to furnish any and all required labor, material, construction equipment, transportation, and services for completion of the Runway '12-30' Electrical Improvements Project, in strict conformity with the plans and specifications, at the total base bid price of: _____ Dollars

($ _____).

The Undersigned hereby declares that he has visited the site and has carefully examined the Contract Documents relating to the work covered by the above bid or bids.

The Proposal Guarantee (Certified Check, Cashier's Check, or Bid Bond) attached, payable to the City of Prescott in the sum of not less than ten percent (10%) of the total bid price submitted for the complete project, to ensure that the Undersigned, if his bid is accepted, shall enter into contract and give the bonds and certificates of insurance required. In the event that the contract and bonds and certificates of insurance required are not furnished to the City within the time required, then and in that event the City may retain from the proposal guarantee an amount, not to exceed the amount of the proposal guarantee, representing the difference between the amount specified in the proposal or bid, and such larger amount that the City in good faith contracts with another party to perform the work covered by the proposal or bid.

The project shall be completed within sixty-two (62) calendar days after the starting date set forth in the NOTICE TO PROCEED.

The Undersigned hereby declares, as bidder, that the only persons or parties interested in this PROPOSAL as principals are those named herein; that no elected official or employee of the City is in any manner interested directly or indirectly in this PROPOSAL or in the profits to be derived from the contract proposed to be taken, other than as permitted by law; that this bid is

made without any connection with any other person or persons making a separate bid for the same purpose; that the bid is in all respects fair and without collusion or fraud; that he has read the NOTICE INVITING BIDS, CONTRACT DOCUMENTS AND PROJECT SPECIFICATIONS, and agrees to furnish the items and perform the work called for in accordance with the provisions of said form of Contract and the Specifications and to deliver the same within the time stipulated herein, and that he will accept in full payment therefore the total bid price named in this Proposal.

The bidder shall be an A-General Engineering contractor properly licensed in the State of Arizona at the time of bidding to perform construction in connection with fixed works, including streets, roads, power and utilities plants, dams, hydroelectric plants, sewage and waste disposal plants, bridges, tunnels, and overpasses and shall also be licensed to perform work within residential and commercial property lines, or shall be properly licensed to sub-contract residential or commercial work, as may be required in the Scope of Work.

Any bid submitted without the proper contracting license to perform the required work shall be considered non-responsive and rejected.

The bidder further agrees that, upon receipt of written notice of the acceptance of this PROPOSAL, he will execute the Contract in accordance with the PROPOSAL as accepted and furnish the required bonds TEN (10) days from the date of mailing of said Notice of Award to him at his address as given below, or within such additional time as may be allowed by the City; and that upon his failure or refusal to do so within said time, then the certified or cashier's check or bid bond accompanying this bid shall be cashed or enforced and the money payable pursuant thereto shall be forfeited to and become the property of the City as liquidated damages for such failure or refusal; provided that if said bidder shall execute the Contract and furnish the required bonds within the aforesaid time, his certified or cashier's check, if furnished, shall be returned to him within three (3) days thereafter, and the bid bond, if furnished, shall become void.

Bidder understands and agrees that the City reserves the right to reject any or all bids and to waive any informality in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Bidder acknowledges receipt of the following Addenda: _____

The undersigned is the holder of Arizona State Contractor's License No(s). and Classification(s):

_____

Respectfully submitted,

_____

Bidder (Authorized Signature)

Corporate Seal

By: _____

Title: _____

Bidder's Contact Information:

Physical Address: _____

Mailing Address: _____

Telephone No: _____

Email Address: _____

Names and addresses of all members of the firm or names and titles of all officers of the corporation:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Bidder's Affidavit

Runway '12-30' Electrical Improvements

State of _____)
) ss.
County of _____)

_____, being first duly sworn, deposes and says:

That he/she is _____ of _____
(Title) (Bidder)

who submits herewith to the City of Prescott, Arizona, a Proposal:

That all statements of fact in such Proposal are true.

That said Proposal was not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation.

That said bidder has not, directly, or indirectly by agreement, communication, or conference with anyone attempted to induce action prejudicial to the interest of the City of Prescott, Arizona, or of any bidder or anyone else interested in the proposed contract; and further,

That prior to the public opening and reading of proposal, said bidder:

1. Did not directly or indirectly, induce or solicit anyone else to submit a false or sham proposal;
2. Did not directly or indirectly collude, conspire, connive or agree with anyone else that said bidder or anyone else would submit a false or sham proposal, or that anyone should refrain from bidding or withdraw his proposals;
3. Did not in any manner, directly or indirectly, seek by agreement, communication or conference with anyone to raise or fix the proposal price of said bidder or of anyone else, or to raise or fix any overhead, profit or cost element of his proposal price, or of that of anyone else;
4. Did not, directly or indirectly, submit his proposed price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association organization, bid depository or to any member or agent thereof, or to any individual or group of individuals, except the City of Prescott, Arizona, or to any person or persons who have a partnership or other financial interests with said bidder in his business.

By: _____

SUBSCRIBED AND SWORN to before me by _____

this _____ day of _____ , 20 _____.

_____ _____
Notary Public Commission Expires

CONSTRUCTION CONTRACT

Project Title

Contract No. 20**-***

THIS AGREEMENT made and entered into this ** day of **, 20**, by and between ** of the city of **, county of **, state of **, hereinafter designated "Contractor", and the City of Prescott, a municipal corporation, organized and existing under and by virtue of the laws of the State of Arizona, hereinafter designated "City".

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid by the said City, and of the other covenants and agreements herein contained, and under the penalties expressed in the bonds provided, hereby agrees, for him/herself, his heir, executors, administrators, successors and assigns as follows:

ARTICLE I - SCOPE OF WORK: The Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities, required to perform all work for the construction of the project described as City of Prescott: ** Project and install the material therein for the City, in a good and workmanlike and substantial manner and to the satisfaction of the City through its engineers and under the direction and supervision of the Airport Director, or their properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared by the engineers for the City, and with such written modifications of the same and other documents that may be made by the City through the Public Works Director or their properly authorized agents, as provided herein.

ARTICLE II - CONTRACT DOCUMENTS: The Notice Inviting Bids, Project Plans and Specifications, MAG Specifications and Details, City Supplement to MAG, Special Provisions, Addenda, Contractor's Affidavit Regarding Settlement of Claims and Certification of Completion of Warranties, Contractor Bid Proposal as accepted by the Mayor and Council per Council Minutes of **, 20**, Proposal Guarantee, Performance Bond, Payment Bond, Certificates of Insurance and required Endorsements, Contract Allowance Authorizations and Contract Amendments, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE III - TIME OF COMPLETION: The Contractor hereby agrees to commence work on or before the tenth (10th) day after written notice to do so, unless such commencement of work is mutually agreed to be extended by the parties due to material unavailability and delayed lead times. The Contractor will complete the work within ** (**) calendar days after the date of the written notice to commence work, subject to such extensions of time as are provided by the City Supplement to MAG. The contract will close 60 days after the substantial completion date, to finalize the payment process.

ARTICLE IV - COMPENSATION: Contractor shall be paid, pursuant to the provisions as set forth in the Contract Documents, a not to exceed amount of ** dollars and ** cents ($**), plus any approved contract amendments, for the full and satisfactory completion

SAMPLE

of all work as set forth in the Project Plans, Specifications and Contract Documents. Retention shall be in accordance with A.R.S. § 34-221. If the Contractor claims that any instructions involve additional/extra cost, it shall give the Director written notice thereof within forty-eight (48) hours after the receipt of such instructions, and in any event before proceeding to execute the services / work. No such claim shall be valid unless so made. The Contractor shall do such additional/extra services/work upon receipt of an accepted Contract Amendment or other written order of the Director. In the absence of such Contract Amendment or other written order of the Director, the Professional shall not be entitled to payment for such additional/extra services/work. In no case shall services/work be undertaken without written notice from the Director to proceed with the services/work. All Contract Amendments shall be approved by the Director, but Contract Amendments over $50,000 must also be approved by City Council.

ARTICLE V – CONFLICT OF INTEREST: Pursuant to A.R.S. § 38-511, the City may cancel this contract, without penalty or further obligation, if any person significantly involved in initiating, negotiation, securing, drafting or creating the contract on behalf of the City is, at any time while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. In the event of the foregoing, the City further elects to recoup any fee or commission paid or due to any person significantly involved in initiating, negotiation, securing, drafting or creating this contract on behalf of the City from any other party to the contract, arising as a result of this contract.

ARTICLE VI - AMBIGUITY: This Agreement is the result of negotiations by and between the parties. Although it has been drafted by the Prescott City Attorney, it is the result of the negotiations between the parties. Therefore, any ambiguity in this Agreement is not to be construed against either party.

ARTICLE VII - NONDISCRIMINATION: The Contractor, with regard to the work performed by it after award and during its performance of this contract, will not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, the Americans With Disability Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09 as amended.

ARTICLE VIII - INDEPENDENT CONTRACTOR STATUS: It is expressly agreed and understood by and between the parties that the Contractor is being retained by the City as an independent contractor, and as such the Contractor shall not become a City employee and is not entitled to payment or compensation from the City or to any fringe benefits to which other City employees are entitled other than that compensation as set forth in Article IV - Compensation above. As an independent contractor, the Contractor further acknowledges that he is solely responsible for payment of any and all income taxes, FICA, withholding, unemployment insurance, or other taxes due and owing any governmental entity whatsoever as a result of this Agreement. As an independent contractor, the Contractor further agrees that he will conduct himself in a manner consistent with such status, and that he will neither hold himself out nor claim to be an officer or employee of the City by reason thereof, and that he will not make any claim, demand or application to or for any right or privilege applicable to any officer or employee of the City, including but not

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limited to workmen's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

ARTICLE IX - CITY FEES: Prior to final payment to the Contractor, the City shall deduct therefrom any and all unpaid privilege, license and other taxes, fees and any and all other unpaid moneys due the City from the Contractor and shall apply to those moneys to the appropriate account. Contractor shall provide to the City any information necessary to determine the total amount(s) due.

ARTICLE X - LIQUIDATED DAMAGES: All time limits stated in the Contract Documents are of the essence and should the Contractor fail to complete the work required to be done on or before the time of completion as set forth in these Contract Documents, including any authorized extension of time, it is mutually agreed and understood by and between the parties that the public will suffer great damages; that such damages, from the nature of the project, will be extremely difficult and impractical to fix; that the parties hereto wish to fix the amount of said damages in advance; and that the sum of $**.00 per day for each and every day's delay in completion and acceptance of the work required to be done by the Contractor subsequent to the time of completion, including any authorized extensions of time, is the nearest and most exact measure of damages for such breach that can be fixed now or could be fixed at or after such breach and that, therefore, the Owner and Contractor agree to fix said sum of $**.00 per day for each and every said day's delay as liquidated damages, and not as a penalty or forfeiture for the breach of the agreement to complete the work required to be done by the Contractor on or before the time of completion and acceptance and, in the case of such breach, the Owner shall deduct said amount from the amount due the Contractor under the contract. In the event the remaining balance due the Contractor is insufficient to cover the full amount of assessed liquidated damages, then the Contractor or the surety on the bonds shall pay the difference due the Owner.

ARTICLE XI - OTHER WORK IN PROJECT AREA: The City, any other contractors, whether under contract with the City, a third party, and/or utilities, may be working within the project area while this Contract is in progress. The Contractor herein acknowledges that delays and disruptions may, and in all likelihood, will occur due to other work. The Contractor's bid shall be deemed to have recognized and included costs arising from and associated with other work in the project area disclosed by the Contract Documents or which would be apparent to an experienced contractor exercising due diligence during inspection of the project documents, the question-and-answer session in the pre-bid process or during site inspection. No payment will be made for any delays or disruptions in the work schedule that are wholly the fault of the Contractor, its agents, employees, or any of the Contractor's subcontractors. In the event the Contractor encounters delay or disruption in the project schedule due to factors not wholly the fault of the Contractor or within the Contractor's control then the Contract may be adjusted pursuant to the Delay's and Extension of Time provisions of this Contract and a timely request submitted for Contract Amendment. Failure to submit a timely request for Contract Amendment shall be deemed a waiver of any entitlement to additional compensation.

ARTICLE XII - BONDS:

A. On or before the execution of the contract, the Contractor shall obtain in an amount equal to the full contract price a performance bond pursuant to A.R.S. § 34-222, conditioned upon the faithful performance of this contract in accordance with the plans, specifications, and conditions herein. The bonds shall be solely for the protection of the City. A copy of this bond shall be filed with the Prescott City Clerk.

B. Contractor shall also obtain a payment bond, pursuant to the provisions of A.R.S. § 34-222, in an amount equal to this full contract price herein, said bond to be solely for the protection

SAMPLE

of claimants supplying labor or materials to the Contractor or his subcontractors in the prosecution of the work provided for in this contract. A copy of this bond shall be filed with the Prescott City Clerk.

C. All bonds must be written by an insurance company authorized to do business in the State of Arizona, to be evidenced by a Certificate of Authority as defined in A.R.S. § 20-217, a copy of which certificate is to be attached to the applicable bid bond, payment bond and performance bond. In addition, depending upon the nature of the contract and amount thereof, the City Manager may also require insurance companies and/or bonding companies to have an "A" rating or better with Moody's or A.M. Best Company, and/or to be included on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended) by the audit staff, Bureau of Accounts, US Treasury Department.

ARTICLE XIII – SUBCONTRACTORS:

A. During performance of this Agreement, the Contractor may engage such additional subcontractors as may be required for the timely completion of the construction. The addition of any Subcontractors shall be subject to prior written approval by the City. In the event of sub-contracting, the sole responsibility for fulfillment of all terms and conditions of this Agreement rests with the Contractor.

B. The Contract Amount includes payment for any and all services to be rendered by the Contractor or Subcontractors which the Contractor may employ for this Agreement. It is expressly agreed by and between the parties that the Contractor is solely responsible for all payment to such any other Contractors or Subcontractors retained by the Contractor. The Contractor agrees to indemnify and save harmless the City of Prescott against any and all liens, claims of liens, suits, actions, damages, charges and expenses whatsoever, which said City may suffer arising out of the failure to pay for all labor performance and materials furnished for the performance of said project when completed.

ARTICLE XIV – INDEMNITY:

The Contractor shall defend, indemnify and hold harmless the City, its departments, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys fees and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of the Contractor or any of the Contractor's owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under Worker's Compensation Law or arising out of failure of such Contractor to conform to any Federal, State, or local law, statute, ordinance, rule, regulation, or court decree. It is the specific intentions of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts of Indemnitee, be indemnified by the Contractor from and against any and all claims. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the City, its departments, officers, officials, agents, and employees for losses arising from the work performed by the Contractor for the City.

ARTICLE XV – RIGHT TO ASSURANCE:

If the City in good faith has reason to believe that the Contractor does not intend to or is unable to perform or continue performing under this Contract, the Airport Director may demand in writing that the Contractor give a written assurance of intent to perform. Failure by the Contractor to provide

SAMPLE

written assurance within the number of days specified in the demand may, at the City's option, be the basis for terminating the Contract.

ARTICLE XVI – TERMINATION FOR CONVENIENCE:
The City reserves the right to terminate the Contract, in whole or in part at any time, when in the best interests of the City without penalty or recourse. Upon receipt of the written notice, the Contractor shall stop all work, as directed in the notice, notify all subcontractors of the effective date of the termination, and minimize all further costs to the City. In the event of termination under this paragraph, all documents, data, and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the City upon demand. The Contractor shall be entitled to receive just and equitable compensation for work completed, and materials accepted before the effective date of the termination.

ARTICLE XVII - MISCELLANEOUS:

A. All pay applications need to have these items contract number, pay application number, dates of service and date submitted. They need to be submitted to the project manager for review. Once they review and sign off, they will submit to our accounts payable department for payment processing.

B. The parties hereto expressly covenant and agree that in the event of a dispute arising from this Agreement, each of the parties hereto waives any right to a trial by jury. In the event of litigation, the parties hereby agree to submit to a trial before the Court. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project, which is the subject of this Agreement.

C. Final Payment Acknowledgement to be signed by the contractor and sent in with the final pay application. This is to further certify that the project is completed to acceptable standards as defined in the plans and specifications per the Project Contract Agreement. Any changes to the plans have been noted on the Construction As-built Mylar Drawings certified by the Engineer of Record. The revised As-built Drawings have been delivered and approved by the Airport department. All materials used and workmanship performed are expressly warranted to be free of defects for a period of twenty-four (24) months from the date of final acceptance by the City of Prescott.

D. Contractor's Affidavit Regarding Settlement of Claims and Certification of Completion of Warranties is to be signed and returned at the end of the two-year warranty period that is determined per the warranty letter sent out when the project has been completed.

E. The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorney fees, either pursuant to the Contract, pursuant to A.R.S. § 12-341.01 (A) and (B), A.R.S. §34-301, §34-302 & §34-321 or pursuant to any other state or federal statute, court rule, case law or common law. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project that is the subject of this Agreement.

F. In the event of default, neither party shall be liable for incidental, special, or consequential damages.

G. Any notices to be given by either party to the other must be in writing, and personally delivered or mailed by prepaid postage, at the following addresses:

SAMPLE

City of Prescott **
201 N Montezuma Street *
Prescott, AZ 86301 **
contracts@prescott-az.gov **

H. This Agreement shall be construed under the laws of the State of Arizona.

I. This Agreement represents the entire and integrated Agreement between the City and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both the City and the Contractor. Written and signed amendments shall automatically become part of the Agreement, and shall supersede any inconsistent provision therein; provided, however, that any apparent inconsistency shall be resolved, if possible, by construing the provisions as mutually complementary and supplementary.

J. In the event any provision of this Agreement shall be held to be invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term, condition, or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party.

K. No oral order, objection, claim or notice by any party to the other shall affect or modify any of the terms or obligations contained in this Agreement, and none of the provisions of this Agreement shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing. No evidence of modification or waiver other than evidence of any such written notice, waiver or modification shall be introduced in any proceeding.

L. Contractor agrees that notwithstanding the existence of any dispute, the Contractor shall continue to perform the obligations required of Contractor during the negotiation and resolution of any such dispute unless specifically enjoined or prohibited by an Arizona Court of competent jurisdiction.

M. In the event of a discrepancy between this Agreement and other documents incorporated into this Agreement, this Agreement shall control over Exhibit “A”.

N. Non-Availability of Funds: Fulfillment of the obligation of the City under this Agreement is conditioned upon the availability of funds appropriated or allocated for the performance of such obligations. If funds are not allocated and available for the continuance of this Agreement, this Agreement may be terminated by the City at the end of the period for which the funds are available. No liability shall accrue to the City in the event this provision is exercised, and the City shall not be obligated or liable for any future payments as a result of termination under this paragraph.

O. Compliance with Federal and State Laws: All Services performed by the Contractor shall be performed in compliance with all applicable federal, state, county, or city laws, rules, regulations, and ordinances, including, without limitations, those set forth on the attached Exhibit C, if applicable. The Contractor, at the Contractor’s expense, shall be responsible for obtaining all necessary licenses, permits and governmental authorizations required to perform the Services. The Contractor understands and acknowledges the applicability to it of the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989.

SAMPLE

P. Nondiscrimination and Equal Employment Opportunity: The Contractor and any Subcontractors are required to comply with all applicable provisions of Title VII of the Civil Rights Act, Sections 501 and 505 of the Rehabilitation Act, Section 109 of the Housing and Community Development Act, the Age Discrimination Act, the Americans With Disabilities Act, the Equal Pay Act, the Genetic Information Non-Discrimination Act, the Vietnam Era Veterans Readjustment Act, and all applicable federal regulations or executive orders related to these laws. Additionally, the Contractor and any Subcontractors are required to comply with Arizona law on nondiscrimination and equal employment opportunity, including the Arizona Civil Rights Act and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09, as amended. The Contractor agrees not to discriminate on the grounds of age, race, color, national origin, religion, sex, disability, pregnancy, veteran, familial status, or any other protected status in the selection and retention of employees and subcontractors, including procurement of materials and leases of equipment.

Q. Employees on Public Works Construction Projects: E-Verify Requirements:

1. The Contractor shall comply with A.R.S. § 34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. § 34-302, "Residence Requirements for Employees", as amended.

2. Under the provisions of A.R.S. § 41-4401, the Contractor hereby warrants to the City that the Contractor and each of its Subcontractors will comply with, and are contractually obligated to comply with, all Federal Immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A) (hereinafter referred to as "Contractor Immigration Warranty"). The Contractor further understands and acknowledges that:

   a. A breach of the Contractor Immigration Warranty shall constitute a material breach of this Agreement and shall subject the Contractor to penalties up to and including termination of this Agreement at the sole discretion of the City.

   b. The City retains the legal right to inspect the papers of any Contractor or Subcontractors' employee to ensure that the Contractor or Subcontractor is complying with the Contractor Immigration Warranty. The Contractor agrees to assist the City in regard to any such inspections.

   c. The City may, at its sole discretion, conduct random verification of the employment records of the Contractor and any of the Subcontractors to ensure compliance with the Contractor Immigration Warranty. The Contractor agrees to assist the City in regard to any random verification performed.

   d. Neither the Contractor nor any Subcontractor shall be deemed to have materially breached the Contractor Immigration Warranty if the Contractor or Subcontractor establishes that it has complied with employment verification provisions prescribed by Sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. § 23-214(A).

   e. The provisions of this Article shall be included in any contract the Contractor enters with any and all of its Subcontractors who provide Services under this Agreement. "Services" are defined as furnishing labor, time, or effort in the State of Arizona by a Contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement of real property.

SAMPLE

R. Israel: Contractor certifies that it is not currently engaged in and agrees for the duration of this Agreement that it will not engage in a “boycott”, as that term is defined in A.R.S. § 35-393, of Israel.

S. Force Labor of Ethnic Uyghurs Certification: Pursuant to A.R.S. § 35- 394, Contractor certifies that the firm does not currently, and agrees for the duration of the contract that it will not, use:

1. The forced labor of ethnic Uyghurs in the People’s Republic of China

2. Any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China; and

3. Any Contractor / subcontractors or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China.

If the Contractor becomes aware during the term of the Contract that the company is not in compliance with the written certification, the Firm shall notify the City of Prescott within five business days after becoming aware of the noncompliance. If the Contractor does not provide City of Prescott with a written certification that the Company has remedied the noncompliance within 180 days after notifying the City of Prescott of the noncompliance, this Contract terminates, except that if the Contract termination date occurs before the end of the remedy period, the Contract terminates on the Contract termination date.

T. Contracting with small and minority firms, women's business enterprise and labor surplus area firms:

1. The Company will take all necessary affirmative steps to assure that minority firms, women’s business enterprises, and labor surplus area firms are used when possible.

2. Affirmative steps shall include:

   a. Placing qualified small and minority businesses and women's business enterprises on solicitation lists

   b. Assuring that small and minority businesses, and women’s business enterprises are solicited whenever they are potential sources.

   c. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women’s business enterprises.

   d. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women’s business enterprises.

   e. Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce.

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DATED: _____ day of _____, 20___

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year first set forth above.

** (Company Name)

_____
(Authorized Signature)

By: _____
(Printed Name)

Title: _____

Email: _____

City of Prescott, a municipal corporation:

_____
Philip R. Goode, Mayor

ATTEST:

_____
Sarah M. Siep, City Clerk

APPROVED AS TO FORM:

_____
Joseph D. Young, City Attorney

SAMPLE

INSURANCE REQUIREMENTS

Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

The City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, or subcontractors. The Contractor is free to purchase such additional insurance as may be determined necessary.

ADDITIONAL INSURANCE REQUIREMENTS:
The policies shall include, or be endorsed to include the following provisions:

1. On insurance policies where the City of Prescott is named as an additional insured, the City of Prescott shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.

Additional Insured:
City of Prescott
201 N. Montezuma Street
Prescott, AZ 86301

2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

All certificates required by this Contract shall be emailed directly to coi@prescott-az.gov. The City contract number and project name/description shall be noted on the certificate of insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. Any Renewal of insurance certificates with endorsements will need to be emailed to the above emails at least two weeks prior to expiration.

NOTICE OF CANCELLATION:
With the exception of a ten (10) day notice of cancellation for non-payment of premium, and changes material to compliance with this contract in the insurance policies above shall require a thirty (30) day written notice.

ACCEPTABILITY OF INSURERS:
Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VII, unless otherwise approved by the City of Prescott. General liability, automobile liability, and worker's compensation insurance is to be placed with an insurer admitted in the state in which operations are taking place.

SAMPLE

VERIFICATION OF COVERAGE:

Contractor shall furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project and warranty period as set forth in warranty letter. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

MAG Specifications, Sections 103.1 through 103.8, including: Unless otherwise specifically required by the Special Conditions, the minimum limits of public liability and property damage liability shall be as follows:

1. Contractor shall provide coverage with limits of liability not less than those stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a following form basis.

   Commercial General Liability – Occurrence Form –

   Policy shall include bodily injury, property damage, broad form, contractual liability and XCU coverage.

   - General Aggregate $ 3,000,000
   - Products – Completed Operations Aggregate $ 3,000,000
   - Personal and Advertising Injury $ 1,000,000
   - Each Occurrence $ 1,000,000
   - Fire Legal Liability (Damage to Rented Premises) $ 100,000 (if applicable)

The policy shall be endorsed to include the following additional insured language:

"The Contractor agrees to endorse the City of Prescott as an Additional Insured on the Commercial General Liability with the following Additional Insured endorsement, or similar endorsement providing equal or broader Additional Insured coverage, the CG 2010 10 01 Additional Insured - Owners, Lessees, or Contractors, or CG2010 07 04 Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization endorsement in combination with the additional endorsement of GC2037 10 01 Additional Insured – Owners, Lessees, or Contractors – Completed Operations shall be required to provide back coverage for the contractor's "your work" as defined in the policy and liability arising out of the products-completed operations hazard."

Business Automobile Liability: Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

- Combined Single Limit (CSL) $ 1,000,000

The policy shall be endorsed to include the following additional insured language:

"The City of Prescott shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles, owned, leased, hired, or borrowed by the Contractor."

SAMPLE

Worker's Compensation and Employer's Liability

Workers' Compensation	Statutory
Employer's Liability	
• Each Accident -	$1,000,000
• Disease – each employee -	$1,000,000
• Disease – policy limit -	$1,000,000

Policy shall contain a waiver of subrogation against the City of Prescott for losses arising from work performed by or on behalf of the Contractor.

Professional Liability (Errors and Omissions Liability) – *if applicable*

• Each Claim	$ 1,000,000
• Annual Aggregate	$ 2,000,000

1. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract and that either continuous coverage will be maintained, or an extended discovery period will be exercised for a period of two (2) years at the time work under this contract is completed.

2. The policy shall cover professional misconduct or lack of ordinary skill for those positions defined in the Scope of Work of this contract.

Notice of Cancellation: With the exception of a ten (10) day notice of cancellation for non-payment of premium, any changes to material to compliance with this contract in the insurance policies above shall require thirty (30) day written notice.

Such policy shall not exclude coverage for the following:

1. Injury to or destruction of any property arising out of the collapse of/or structural injury to any building or structure due to grading of land, excavation, borrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work.

2. Injury to or destruction of wires, conduits, pipes, mains, sewers, or other similar property or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of grading of land, paving, excavating, drilling; or injury to or destruction of any property at any time resulting there from.

3. Injury to or destruction of any property arising out of blasting or explosion.

4. Motor vehicle public liability and property damage insurance to cover each automobile, truck, and other vehicle used in the performance of the Contract in an amount of not less than $1,000,000.00 for one person, and $1,000,000.00 for more than one person, and property damage in the sum of $1,000,000.00 resulting from any one accident which may arise from the operations of the Contractor in performing the work provided for herein.

The Contractor shall carry and maintain fire and extended coverage with an endorsement for vandalism and malicious mischief in Contractor's name and also in the name of the City in an amount of at least ONE HUNDRED PERCENT (100%) of the Contract amount (if applicable).

SAMPLE

The Contractor shall secure "all risk"-type builder's risk insurance for work to be performed. Unless specifically authorized by the City, the amount of such insurance shall not be less than ONE HUNDRED PERCENT (100%) of the contract price. Such policy shall include coverage for earthquake, landslide, flood, collapse, or loss due to the results of faulty workmanship, during the contract time and until final acceptance of work by the City (if applicable).

SAMPLE

FINAL PAYMENT ACKNOWLEDGEMENT

To the City of Prescott, Arizona:
Company Name
**Address
**City, State, Zip
**Email

Company Name, has submitted the final pay application for the **Project Title project Contract No. 20**-*** in the consideration of:

$ _____ .
(Total Final Project Amount)

as full and complete payment under the terms of the Contract. All materials used and workmanship performed are expressly warranted to be free of defects for a period of twenty-four (24) months from the date of final acceptance by the City of Prescott, as stated in the warranty letter to be provided.

The Undersigned further agrees to indemnify and save harmless the City of Prescott against any and all liens, claims of liens, suits, actions, damages, charges and expenses whatsoever, which said City may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said project within the next 90 days.

Signed and dated this _____ day of _____, 20____.

_____
(Authorized Signature)

By: _____

Title: _____

State of _____)
) ss.
County of _____)

SUBSCRIBED AND SWORN to before me by _____

this _____ day of _____ , 20 _____.

_____ _____
Notary Public Commission Expires

SAMPLE

CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AND CERTIFICATION OF COMPLETION OF WARRANTIES

Project: **Project Title**
Contract Number: 20**-***

To the City of Prescott, Arizona:

1. This affidavit is to certify that all lawful claims for materials, rental of equipment and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.
2. The Undersigned, for the consideration of $ _____
   (Total project price)
   as set out in the final pay application, as full and complete payment under the terms of the Contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above-described project. The Undersigned further agrees to indemnify and save harmless the City of Prescott against any and all liens, claims of liens, suits, actions, damages, charges and expenses whatsoever, which said City may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said project.

Signed and dated this _____ day of _____ , 20 ___ .

_____
(Authorized Signature)

By: _____

Title: _____

State of _____)
) ss.
County of _____)

SUBSCRIBED AND SWORN to before me by _____

this _____ day of _____ , 20 _____.

_____ _____
Notary Public Commission Expires

SAMPLE

CITY OF PRESCOTT

Prescott Regional Airport

Runway '12-30' Electrical Improvements

PRC Project No: 25602

ATTACHMENT A

List Of Subcontractors/Firm & DBE Utilization

(To be completed by the Prime Contractor – Submitted with Bid)

In compliance with bidding requirements, the undersigned hereby submits the names (in the table below) of all Subcontractors anticipated to be used in the work required to complete **PRC Runway '12-30' Electrical Improvements** project.

The bidder certifies that all Subcontractors listed are eligible to perform work on public projects.

SUBCONTRACTOR'S NAME	SUBCONTRACTOR'S ADDRESS	AGE OF FIRM (YEARS)	WORK TO BE PERFORMED BY SUBCONTRACTOR	DOLLAR AMOUNT OF WORK	DBE? Y/N	DOLLAR AMOUNT OF DBE WORK
1.						
2.						
3.						
4.						
5.						
6.						

SUBCONTRACTOR'S NAME	SUBCONTRACTOR'S ADDRESS	AGE OF FIRM (YEARS)	WORK TO BE PERFORMED BY SUBCONTRACTOR	DOLLAR AMOUNT OF WORK	DBE? Y/N	DOLLAR AMOUNT OF DBE WORK
7.						
8.						
9.						
10.						
11.						
12.						

THE TOTAL PROPOSED CONTRACT VALUE OF DBE FIRM UTILIZATION LISTED ABOVE IS $_____

OR _____ % OF THE TOTAL BID AMOUNT.

THE UNDERSIGNED HEREIN AFFIRMS THAT THE BIDDER WILL ENTER INTO A FORMAL AGREEMENT WITH THE DBE CONSULTANTS/ CONTRACTORS/ SUPPLIERS LISTED HEREIN CONDITIONED UPON THE EXECUTION OF A CONTRACT WITH THE CITY OF PRESCOTT.

_____	_____	_____	_____
Name (Type or Print)	Title of Signer (Type or Print)	Signature	Date

CITY OF PRESCOTT
Prescott Regional Airport
Runway '12-30' Electrical Improvements
PRC Project No: 25602

ATTACHMENT B

Letter of Intent to Perform as a Subconsultant/Subcontractor/Supplier
(To be completed by the DBE/SBE Subcontractor/Supplier)

TO: _____
(Insert name of prime contractor or general bidder)

1. The undersigned is certified as a DBE as of the date of this bid with the following agency:

_____ (please provide agency name and complete Attachment C)

2. The undersigned is prepared to perform the following scope(s) of work on the above referenced project:

COMPLETE THIS PORTION IF SCOPE OF WORK IS BID BY UNIT PRICE OR HOURLY RATE (TRUCKING, HAULING, UNIFORMED OFFICERS, ETC.)				
DESCRIPTION	**NAICS CODE**	**UNIT/ HOUR ESTIMATE**	**UNIT/ HOURLY PRICE**	**TOTAL MINIMUM CONTRACT AMOUNT**
				$

COMPLETE THIS PORTION IF SCOPE OF WORK IS NOT BID BY UNIT PRICE OR HOURLY RATE		
DESCRIPTION	**NAICS CODE**	**TOTAL BID AMOUNT**
		$

3. The undersigned affirms that of the trucking/hauling work quoted above, the following applies:

No. of trucks needed to perform the project		No. of trucks owned by DBE to be used on project	
No. of trucks to be leased from a DBE		No. of trucks to be leased from a non-DBE	

4. The undersigned affirms the amount of fees and commissions for work quoted above is as follows:

Unit Price Bid $ _____ Fees/Commissions Portion of Bid $_____

5. The undersigned will sublet and/or award $ _____ of work bid to a non-DBE firm.

6. The undersigned will sublet and/or award $ _____ of work bid to another certified DBE firm.

On the _____ day of _____, 20__ , by signature below, the undersigned agrees to enter into a formal agreement/subcontract for the work cited herein should the prime contractor receive award of this contract from the City of Prescott.

_____	_____
(Print DBE Firm Name)	(Phone Number)
_____	_____
(Authorized Signature)	(Print Name and Title)

CITY OF PRESCOTT
Prescott Regional Airport
Runway '12-30' Electrical Improvements
PRC Project No: 25602

ATTACHMENT C

Identification Statement for DBE

(To be completed by any DBE who is not certified by the agencies listed in Attachment B)

The undersigned herein affirms that the firm submitting this statement has qualified as a DBE and holds a current DBE certification from a U.S. Department of Transportation (USDOT) recognized certifying agency as follows:

DBE/SBE CERTIFYING AGENCY: _____ PHONE #: _____

EXPIRATION DATE OF CURRENT DBE/SBE CERTIFICATION: _____, 20__

DBE/SBE BUSINESS NAME: _____

DBE/SBE PRINCIPAL BUSINESS ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE #: (_____) _____

DBE/SBE QUALIFYING OWNER: _____ TITLE: _____

LICENSES HELD BY DBE/SBE FIRM: _____

ISSUED BY: _____

SERVICES/WORK/PRODUCTS PROVIDED: _____

SIGNED AND DATED this_____ day of _____ , 20 __ .

_____ (Authorized Signature)

_____ (Print Name and Title)

CITY OF PRESCOTT

Prescott Regional Airport

Runway '12-30' Electrical Improvements

PRC Project No: 25602

ATTACHMENT D

Demonstration of Good Faith Efforts

(To be completed by the Prime Contractor – Submitted with Bid)

In compliance with bidding requirements, the undersigned hereby submits the following DBE companies were contacted in regard to performing work for the **PRC Runway '12-30' Electrical Improvements** project.

The bidder certifies that all names listed are eligible to perform work on public projects.

DBE/SBE NAME	DBE/SBE ADDRESS	AGE OF FIRM (YEARS)	WORK TO BE PERFORMED BY DBE/SBE	CERTIFIED DBE (Y OR N)	CERTIFIED SBE (Y OR N)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

DBE/SBE NAME	DBE/SBE ADDRESS	AGE OF FIRM (YEARS)	WORK TO BE PERFORMED BY DBE/SBE	CERTIFIED DBE (Y OR N)	CERTIFIED SBE (Y OR N)
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

Name (Type or Print) | Title of Signer (Type or Print) | Signature | Date

CITY OF PRESCOTT

Prescott Regional Airport

Runway '12-30' Electrical Improvements

PRC Project No: 25602

PREQUALIFICATION FORM

(In Lieu of ADOT Prequalification Letter)

Each bidder is required to furnish satisfactory evidence of competency to perform the work for the **PRC Runway '12-30' Electrical Improvements** project.

In Lieu of submitting the following data, the attached ADOT Prequalification Letter certifies that the bidder is prequalified with and is on the current "bidder's list" of the Arizona Department of Transportation.

ADOT Letter attached? YES _____ NO _____

If no prequalification letter is available or if it does not qualify for the full amount of the bid, this form must be completed and submitted with the bid.

To: City of Prescott
Attention: Finance Contracts
201 N Montezuma Street
Prescott, Arizona 86301

Name of Bidder: _____

Corporation _____ Partnership ____ Joint Venture ____ Individual ____ Other _____

Date of Incorporation or Organization _____ State _____

A. Principal's names and titles (President, Vice President, Secretary, Treasurer, Partner. etc)

_____

_____

_____

B. List Contractor Licensing information for the State of Arizona:

Type	License #	Description
_____	_____	_____
_____	_____	_____

C. List contract work categories normally performed by bidder's own forces:

_____

_____

D. Name of Bonding Company: _____

Surety & Agent: _____

Address: _____

Phone: _____ Fax: _____

E. Bank Reference:

Banker: _____ Phone: _____

Bank: _____

Address: _____

F. Trade References:

1. Contact: _____ Phone: _____

   Company: _____

   Address: _____

2. Contact: _____ Phone: _____

   Company: _____

   Address: _____

3. Contact: _____ Phone: _____

   Company: _____

   Address: _____

G. Within the last 5 years has your organization: (if yes attach explanation and details)

- failed to complete a construction contract or subcontract?
  Yes _____ No _____

- filed a lawsuit or requested arbitration to settle a construction contract?
  Yes _____ No _____

- had judgment, claim, lien, arbitration, or suit against it that is still outstanding?
  Yes _____ No _____

- had an officer or principal that has failed to complete a construction contract?
  Yes _____ No _____

H. Attach separate sheets containing the following information:

1. The latest certified audited financial statement of the organization financially responsible for the contract including balance sheet, income statement, current assets, fixed assets, current liabilities, other liabilities and statement preparer's name and address. If an audited statement is not provided, an explanation is required.

2. The major construction projects the organization has performed in the last 3 years. List the project name, location, owner, engineer, contract administrator or inspector, contract amount, percent completion, date of completion, percent of cost done with your forces.

3. Resumes of the key individuals that will be responsible for this contract.

4. Major equipment owned by the organization.

The undersigned bidder certifies that the information provided herein is true and not misleading.

By: _____ (Print or Type)

Title: _____

Signature: _____

Witness: _____ (Print or Type)

Signature: _____

Address: _____

_____

Note: Provision of the above information in other formats may be used in lieu of this form.

CITY OF PRESCOTT
Prescott Regional Airport
Runway '12-30' Electrical Improvements
PRC Project No: 25602

CONTRACTOR QUESTIONNAIRE

The contractor is required to complete the following questionnaire.

Yes	No	
❑	❑	1. Has the City of Prescott or other governmental entity incurred costs as a result of contested change order(s) from the undersigned company?
❑	❑	2. Has the City of Prescott or other governmental entity been involved in litigation relative to contract performance with the undersigned company?
❑	❑	3. Has the undersigned company failed to meet bid specifications or time limits on other contracts?
❑	❑	4. Has the undersigned company abandoned a contract or refused to perform without legal cause after submitting a bid?
❑	❑	5. Has the undersigned company had bidding errors or omissions in two or more bid submissions within a thirty-six-month period?
❑	❑	6. Has the undersigned company failed to perform or performed unsatisfactory of two or more contracts within a thirty-six-month period?
❑	❑	7. Does the undersigned company have adequate equipment, personnel and expertise to complete the proposed contract?
❑	❑	8. Does the undersigned company have a record of safety violations in two or more contracts within a thirty-six-month period?
❑	❑	9. Does the undersigned have a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of such a contract or subcontract within a ten-year period?
❑	❑	10. Has the undersigned company been convicted of a criminal offense within a ten-year period of embezzlement, theft, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which might affect responsibility as a municipal contractor?

❑ ❑ 11. Has the undersigned company been convicted of state or federal antitrust statutes within a ten-year period arising out of submission of bids or proposals?

❑ ❑ 12. Has the undersigned company been disbarred or a similar proceeding by another governmental entity?

If you answered "yes" to Items 1-6 or 8-12 or answered "no" to Item 7, please attach a full explanation to this questionnaire.

Company: _____

Address: _____

_____	_____
Name (Type or Print)	Signature
_____	_____
Title (Type or Print)	Date

Prescott Regional Airport
Ernest A. Love Field (PRC)

Runway '12-30' Electrical Improvements

PRC Project No: 25602
Dibble Project No: 1023143.15
FAA Grant No. 3-04-0030-059-2025

Final Project Specifications

Registered Professional Engineer (Civil)
CERTIFICATE NO.
47425
DUANE H.
DANA
Date Signed 03/21/25
ARIZONA, U.S.A.

CITY OF PRESCOTT
ARIZONA
PRESCOTT REGIONAL AIRPORT
Ernest A. Love Field

DIBBLE

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DIVISION II

FEDERAL CONTRACT PROVISIONS

CITY OF PRESCOTT
Prescott Regional Airport
Runway '12-30' Electrical Improvements
City Project No: 25602
FAA Grant No: 3-04-0030-059-2025

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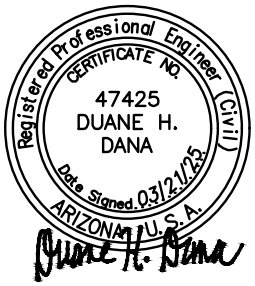

A1 ACCESS TO RECORDS AND REPORTS

Access to Records and Reports

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENT

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity

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:

Timetables

Goals for minority participation for each trade: 11.57%
Goals for female participation in each trade: 6.9%

These goals are applicable to all of 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 the 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 specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. 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 Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4) As used in this notice and in the contract resulting from this solicitation, the "covered area" is the City of Prescott, Yavapai County, Arizona.

A3 BREACH OF CONTRACT TERMS

Breach of Contract Terms

Any violation or breach of terms of this contract on the part of the Contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the Contractor must correct the breach. Owner may proceed with termination of the contract if the Contractor fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

FAA Buy American Preference

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

Certification of Compliance with FAA Buy American Preference – Construction Projects

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e., not both) by inserting a checkmark (☐) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing iron, steel and manufactured products produced in the United States;

b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.

c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or

d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

a) To provide to the Airport Sponsor or the FAA evidence that documents the source and origin of the iron, steel, and/or manufactured product.

b) To faithfully comply with providing U.S. domestic products.

c) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

d) Certify that all construction materials used in the project are manufactured in the U.S.

☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

a) To the submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.

b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.

c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.

d) To furnish U.S. domestic product for any waiver request that the FAA rejects.

e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) – The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire

b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;

c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the "facility/project." The required documentation for a Type 3 waiver is:

1) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;

2) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

3) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.

4) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver (Unreasonable Costs) – Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from
b) At minimum two comparable equal bids and/or offers;
c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

A5 CIVIL RIGHTS - GENERAL

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);

- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 et seq.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);

- The Age Discrimination Act of 1975, as amended (42 USC § 6101 et seq.) (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;

- The Federal Aviation Administration's Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

1) **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3) **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4) **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5) **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
    a) Withholding payments to the Contractor under the contract until the Contractor complies; and/or
    b) Cancelling, terminating, or suspending a contract, in whole or in part.

6) **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

A7 CLEAN AIR AND WATER POLLUTION CONTROL

Clean Air and Water Pollution Control

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceed $150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

Contract Workhours and Safety Standards Act Requirements

1) **Overtime Requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2) **Violation; Liability for Unpaid Wages; Liquidated Damages.** In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the 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 or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of

this clause, in the sum of $29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3) **Withholding for Unpaid Wages and Liquidated Damages.** The Federal Aviation Administration (FAA) or the Owner 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 paragraph (2) of this clause.

4) **Subcontractors.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor 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 paragraphs (1) through (4) of this clause.

A9 COPELAND "ANTI-KICKBACK" ACT

Copeland "Anti-Kickback" Act

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

Davis-Bacon Requirements

1) **Minimum Wages.**

   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 the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent 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 provisions of paragraph (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 29 CFR § 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 (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 easily be seen by the workers.

ii) **(A)** The contracting officer shall require that any class of laborers or mechanics, including helpers, 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 therefore 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;
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.

(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, U.S. Department of Labor, Washington, DC 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.

(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.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (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.

2) **Withholding.**

The Federal Aviation Administration or the Sponsor 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 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 Federal Aviation Administration 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 worker; 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 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 that 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 costs 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.

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 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request 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 them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(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 provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

2) That each laborer and 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.

(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 (3)(ii)(B) of this section.

(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 (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, 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, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, 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 Office of Apprenticeship Training, Employer and Labor Services 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 Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, 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 that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that 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 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. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor 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 29 CFR §§ 5.5(a)(1) through (10) 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 any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7) **Contract Termination: Debarment.**

A breach of the contract clauses in paragraph 1 through 10 of this section 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 reference 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 USC § 1001.

A11 DEBARMENT AND SUSPENSION

Certification of Offeror/Bidder Regarding Debarment

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Certification of Lower Tier Contractors Regarding Debarment

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must confirm each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally-assisted project. The successful bidder will accomplish this by:

1) Checking the System for Award Management at website: http://www.sam.gov.
2) Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3) Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

Bid Information submitted as a matter of responsibility:
The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
2) A description of the work that each DBE firm will perform;
3) The dollar amount of the participation of each DBE firm listed under (1);
4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and

6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the City of Prescott to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The City of Prescott encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Contract Assurance (49 CFR § 26.13)

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 DOT-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, which may include, but is not limited to:

1) Withholding monthly progress payments;
2) Assessing sanctions;
3) Liquidated damages; and/or
4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than seven (7) days from the receipt of each payment the prime contractor receives from the City of Prescott. The prime contractor agrees further to return retainage payments to each subcontractor within seven (7) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City of Prescott. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to the Solicitation (or an approved substitute DBE firm) without prior written consent of the City of Prescott. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the City of Prescott. Unless the City of Prescott's consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The City of Prescott may provide such written consent only if the Sponsor agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the City of Prescott its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the City of Prescott, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the City of Prescott and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City of Prescott should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the City of Prescott may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

A13 DISTRACTED DRIVING

Texting when Driving

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding $10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

A15 DRUG FREE WORKPLACE REQUIREMENTS

None. The Drug-Free Workplace Act of 1988 does not apply to contractors, subcontractors, or subgrantees, although the Federal grantees workplace may be where the contractors, subcontractors, or subgrantees are working.

A16 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

Equal Opportunity Clause

During the performance of this 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, sexual orientation, gender identity, 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, sexual orientation, gender identify, 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 behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5) 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.

6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any such 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 in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

8) The Contractor will include the provisions of paragraphs (1) through (8) 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 September 24, 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 may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Standard Federal Equal Employment Opportunity Construction Contract Specifications

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 (OFCCP), U.S. 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:

1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
3) 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
4) 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 part 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 7p 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 a 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 in meeting 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.

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 onsite 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 at 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 Contractor 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 agreement; 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 superintendents, general foremen, 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.

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 work force.

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 supervisor's 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 7p). 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 7p 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 specific 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, sexual orientation, gender identity, 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 employment 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 part 60-4.8.

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 this 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).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

Certification Regarding Lobbying

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an 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 sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients 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.

A19 PROHIBITION OF SEGREGATED FACILITIES

Prohibition of Segregated Facilities

a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.

b) "Segregated facilities," as used in this clause, 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 that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A21 PROCUREMENT OF RECOVERED MATERIALS

Procurement of Recovered Materials

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

1) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or
2) The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;

b) Fails to meet reasonable contract performance requirements; or
c) Is only available at an unreasonable price.

A22 RIGHT TO INVENTIONS

None. This clause is not applicable to construction, equipment, or professional service contracts unless the contract includes experimental, developmental, or research work.

A23 SEISMIC SAFETY

None. There are no seismic safety requirements to be met in the project area.

A24 TAX DELINQUENCY AND FELONY CONVICTIONS

Certification of Offeror/Bidder Regarding Tax Delinquency and Felony Convictions

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (☐) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1) The applicant represents that it is (☐) is not (☐) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is (☐) is not (☐) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A25 TERMINATION OF CONTRACT

Termination for Convenience (Construction & Equipment Contracts)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1) Contractor must immediately discontinue work as specified in the written notice.

2) Terminate all subcontracts to the extent they relate to the work terminated under the notice.

3) Discontinue orders for materials and services except as directed by the written notice.

4) Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.

5) Complete performance of the work not terminated by the notice.

6) Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1) Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;

2) Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

3) Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and

4) Reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Cause (Construction)

Section 80-09 of FAA Advisory Circular 150/5370-10H establishes standard language for conditions, rights, and remedies associated with Owner termination of this contract for cause due to default of the Contractor.

A26 TRADE RESTRICTION CERTIFICATION

Trade Restriction Certification

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and

3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

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

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

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 an Offeror or subcontractor:

1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or

2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or

3) who incorporates in the public works project any product of a foreign country on such USTR list.

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.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

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

A27 VETERAN'S PREFERENCE

Veteran's Preference

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

A28 DOMESTIC PREFERENCES FOR PROCUREMENTS

Certification Regarding Domestic Preferences for Procurements

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

END OF FEDERAL CONTRACT PROVISIONS

"General Decision Number: AZ20250049 01/03/2025

Superseded General Decision Number: AZ20240049

State: Arizona

Construction Type: Highway

County: Yavapai County in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	• Executive Order 14026 generally applies to the contract. • The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	• Executive Order 13658 generally applies to the contract. • The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025

CARP1912-002 07/01/2024

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                                    Rates           Fringes

Carpenter.......................$  35.89             14.98
----------------------------------------------------------------
 ENGI0012-046 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Bulldozer...................$  35.56             18.12
----------------------------------------------------------------
 ENGI0012-051 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Paver/Spreader/Finish
     equipment (asphalt,
     aggregate, & concrete)......$ 35.56             18.12
----------------------------------------------------------------
 ENGI0012-052 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Scraper.....................$  35.56             18.12
----------------------------------------------------------------
 ENGI0012-053 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Tractor.....................$  35.56             18.12
----------------------------------------------------------------
 ENGI0012-057 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Drill Rig/Auger.............$ 36.64             18.12
----------------------------------------------------------------
 ENGI0012-064 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Bobcat/Skid Steer/Skid
     Loader......................$  32.29             18.12
----------------------------------------------------------------
 ENGI0012-066 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Backhoe/Backhoe & Loader
     Combo/Track Backhoe.........$ 35.56             18.12
----------------------------------------------------------------
 ENGI0012-067 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Compactor/Roller............$  35.56             18.12
----------------------------------------------------------------
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 ENGI0012-069 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Loader/Front End Loader.....$ 35.56             18.12
----------------------------------------------------------------
 ENGI0012-070 12/01/2024

                                    Rates           Fringes

TRUCK DRIVER
     Off Road Truck.............$ 35.56             18.12
----------------------------------------------------------------
 ENGI0012-071 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Crane/Derrick..............$  36.64            18.12
----------------------------------------------------------------
 ENGI0012-072 12/01/2024

                                    Rates           Fringes

Power Equipment Operator:
Excavator/Trackhoe
     1/2 cubic yard or smaller...$ 35.56             18.12
     Greater than 1/2 cubic yard.$ 36.64             18.12
----------------------------------------------------------------
 ENGI0012-074 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Motor Grader/Blade..........$ 36.64             18.12
----------------------------------------------------------------
 ENGI0012-075 12/01/2024

                                    Rates           Fringes

POWER EQUIPMENT OPERATOR:
     Mechanic...................$  37.67             18.12
----------------------------------------------------------------
 LABO1184-016 06/01/2024

                                    Rates           Fringes

Power Equipment Operator:
     Horizontal Directional
     Drill......................$  30.72              8.37
----------------------------------------------------------------
 LABO1184-017 06/01/2024

                                    Rates           Fringes

Laborer: Fence Erector...........$ 26.15              8.37
----------------------------------------------------------------
 LABO1184-018 06/01/2024

                                    Rates           Fringes

Laborer: Grade Setter............$ 26.15              8.37
----------------------------------------------------------------
 LABO1184-021 06/01/2024
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                                    Rates           Fringes

Traffic Control..................$ 26.15              8.37
----------------------------------------------------------------
 LABO1184-025 06/01/2024

                                    Rates           Fringes

Laborer: Asphalt, Includes
Raker, Shoveler, Spreader and
Distributor......................$  28.65              8.37
----------------------------------------------------------------
 LABO1184-033 06/01/2024

                                    Rates           Fringes

Power Equipment Operator:
     Trencher....................$  29.62              8.37
----------------------------------------------------------------
 LABO1184-039 06/01/2024

                                    Rates           Fringes

Laborer: General................$ 26.15              8.37
----------------------------------------------------------------
 LABO1184-041 06/01/2024

                                    Rates           Fringes

Laborer: Mason Tender...........$ 26.15              8.37
----------------------------------------------------------------
 LABO1184-044 06/01/2024

                                    Rates           Fringes

Power Equipment Operator:
     Forklift....................$  29.62              8.37
----------------------------------------------------------------
 LABO1184-047 06/01/2024

                                    Rates           Fringes

Truck Driver:
     Concrete....................$  29.62              8.37
----------------------------------------------------------------
 LABO1184-048 06/01/2024

                                    Rates           Fringes

Truck Driver:
     Dump........................$  29.62              8.37
----------------------------------------------------------------
 LABO1184-049 06/01/2024

                                    Rates           Fringes

Truck Driver:
     Water.......................$  29.62              8.37
----------------------------------------------------------------
  SUAZ2023-026 11/19/2024

                                    Rates           Fringes

Cement Mason/Concrete finisher...$ 30.09              0.00
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Electrician.	$ 29.00	7.58
Ironworker.	$ 33.15	18.57
Laborer: Concrete Saw (Hand Held/Walk Behind).	$ 25.22	5.08
Laborer: Landscape Laborer.	$ 18.03	0.00
Laborer: Pipelayer.	$ 25.85	7.09
Painter: Pavement Marking.	$ 24.60	6.34
Painter: Sign and Display Erector.	$ 18.03	0.00
Power Equipment Operator: Boom/Crane Truck.	$ 43.11	10.87
Power Equipment Operator: Broom/Sweeper.	$ 26.47	7.26
Power Equipment Operator: Concrete Pump Truck.	$ 43.11	10.87
Power Equipment Operator: Concrete Screed.	$ 25.70	7.15
Power Equipment Operator: Field Equipment Serviceperson.	$ 35.39	11.50
Power Equipment Operator: Grade Checker.	$ 29.74	13.07
Power Equipment Operator: Milling Machine.	$ 30.09	6.45
Power Equipment Operator: Oiler.	$ 31.56	10.69
Truck Driver: Oil Distributor.	$ 29.75	8.04
Truck Driver: Sweeper.	$ 20.24	5.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted

average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

DIVISION III

GENERAL TECHNICAL PROVISIONS

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Item 50 General Specifications

50.01 Utilities and Existing Facilities

This item shall govern the field location of all underground existing utilities in areas to be improved, to avoid conflicts with proposed surface or underground improvement. Work under this section shall include, but not be limited to, the location of all underground facilities. Underground facilities means any item that is buried or placed below ground for use in connection with the storage or conveyance of water, sewage, electronic, telephone or telegraphic communications, electric energy, oil, gas or other substances, and shall include, but not be limited to pipes, sewers, conduits, cables, valves, lines, wires, manholes, attachments and those portions of poles and their attachments below ground, including electrical and communication ducts, airfield lighting and control cables, fiber optic lines, storm drains, electrical and telephone lines. The Contractor shall employ a private utility location service to locate the existing Owner and non-Owner utilities prior to starting the work. The Contractor shall pot hole and use prudent care when excavating and locating said utilities.

The Contractor shall comply with the State requirements regarding excavation and underground utilities per A.R.S., Chapter 2, Article 6.3; and other pertinent Sections of the Blue Stake Law. The Airport is not a member, but has distribution systems for gas, electrical, water, and sewer on the site. The Contractor shall be responsible for locating all Owner and non-Owner utilities.

The Contractor's attention is directed to the following Arizona Revised Statutes:

a. ARS 40-360.22. Excavations, determining location of underground facilities; providing information. This statute requires that no person shall begin excavation before the location and marking are complete or the excavator is notified that marking is unnecessary and requires that upon notification, the Owner of the facility shall respond as promptly as practical, but in no event later than two (2) working days. This section is not applicable to an excavation made during an emergency that involves danger to life, health or property if reasonable precautions are taken to protect underground facilities.

b. ARS 40-360.23. Making excavations in careful, prudent manner; liability for negligence. This statute states that obtaining information as required does not excuse any person making any excavation from doing so in a careful and prudent manner, nor shall it excuse such persons from liability for any damage or injury resulting from his negligence.

c. ARS 40-360.28. Civil penalty; liability. If the Owner or operator fails to locate, or incorrectly locates the underground facility, pursuant to this article, the Owner or operator becomes liable for resulting damages, costs and expenses to the injured party.

50.01.01 Existing Utilities

The Contractor is hereby advised that the location of all utilities, as shown on the Plans, may not be complete nor exact and the Contractor shall verify the exact location of the utilities. The Contractor shall be responsible for any damage done to public or private property and shall be repaired at the Contractor's expense.

Location of any underground telephone lines may be field verified by calling the Blue Stake Center telephone number 263-1100 or 1-800-STAKE-IT (Outside Yavapai County) or create a ticket online using E-Stake at:

https://exactix.arizona811.com/.

The Contractor is required by Blue Stake Center to call at least two (2) working days before digging. The Contractor shall locate all utilities that Blue Stake will not locate.

The Contractor is to protect all existing facilities during construction The Contractor shall notify the appropriate Utility Company or agency of any construction that may affect their facilities.

Measurement for "Location of Underground Utilities" shall be by the lump sum for subcontractors (i.e., Utility Designation/Potholing contractor) to complete utility locating in the project area.

Payment for location of underground utilities, measured as prescribed above, shall be paid based on the cost of completed work. Such payment shall be full compensation for furnishing all labor, equipment tools and materials and for all designation, preparation, excavation, backfilling and placing of materials; and for all incidentals necessary. Payment for the cost of each utility location will not be made until survey data has been submitted and approved by the Engineer.

Payment shall be made under:

Item GTP-50.01.1 Location of Underground Utilities – per Lump Sum

50.01.02 Water for Construction Purposes

The Contractor at their expense shall provide all water required for and in connection with the work to be performed. The Contractor shall remove all temporarily installed waterlines, after completion of the work, if directed to do so by the City of Prescott or the Engineer.

It is the Contractor's responsibility to identify the water source, its compatibility, storage, and costs for all water requirements for this project. The Contractor must submit a water source and its intended use to the City of Prescott and the Engineer for approval. No direct payment will be made for construction water. The cost thereof shall be included in other items for which direct payment is made.

50.01.03 Electrical Power

All power for lighting, operation of Contractor's plant or equipment, or for any other use as may be required in the execution of the work to be performed under the provision of these Contract Documents shall be provided by the Contractor at their expense. The Contractor shall remove all temporarily-installed electrical facilities, after completion of the work, if ordered to do so by the City of Prescott or the Engineer.

50.01.04 Internet Service

The Contractor shall make all necessary arrangements with the telephone utility for high-speed internet accessible through multiple ethernet connections in the site office and additional Wi-Fi in a designated parking area, and shall pay all monthly charges. All contractors and others performing work or furnishing services at the site shall be permitted to use the Contractor's internet service without charge for all business pertaining to the work.

50.01.05 Sanitary Facilities

Contractor shall furnish temporary sanitary facilities at the site, as provided herein, at their own expense, for the needs of all construction workers and other performing work or furnishing services on the Project. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 20 persons. Contractor shall enforce the use of such sanitary facilities by all personnel at the site.

END SECTION 50

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Item 60 Airfield Barricading, Safety and Security

60.01 Airport Security Requirements

The airport is operated in strict compliance with Transportation Security Administration (TSA) and Federal Aviation Regulations (FAR), which prohibit unauthorized persons or vehicles in the Air Operations Area (AOA). Equipment and workmen will be restricted to the work area defined on the plans. Any violation by Contractor's personnel or subcontractors will subject the Contractor to penalties imposed by the TSA, FAA or PRC.

The Contractor will assume all fines against the Airport assessed to them by the FAA and/or Transportation Security Administration for the Contractor's security violations. Typical fines are ten thousand dollars ($10,000.00) or more per incident.

The Contractor shall be responsible for the protection of the construction site, and all work, materials, equipment, and existing facilities thereon, against vandals and other unauthorized persons. Security measures shall include such additional security fencing, barricades, lighting, and other measures as the Contractor may deem necessary to protect the site.

The Contractor's responsibilities for work areas are as follows:

1. The Contractor shall be held responsible for controlling his employees, subcontractors, and their employees with regard to traffic movement.

2. The Contractor shall rebuild, repair, restore, and make good at his own expense all injuries or damages to any portion of the work occasioned by his use of these facilities before completion and acceptance of his work.

3. The Contractor shall submit to the Engineer in writing a detailed work plan for each construction phase. The work plan shall include, but not be limited to, temporary electrical facilities and paving/seal sequence. This plan shall be submitted 14 calendar days prior to the start of each construction phase. No work within the construction phase may commence until the phase work plan is approved.

4. The Contractor shall submit to the Engineer in writing a plan, by construction phase, for controlling construction equipment and vehicular movements in the Air Operations Area (AOA). This plan shall be submitted at the Pre-Construction Conference. No work may commence until this plan is approved. The Plan must include material haul roads.

5. Any time construction occurs within airport property, the Contractor shall be responsible for assuring that no breaches of airport property occur through his respective construction access gate. Restricted areas are fenced and must remain fenced at all times. The gates will remain closed and locked or a guard will be provided at the Contractor's expense. The Contractor will furnish the guard with a roster of his personnel and ensure that each individual has adequate identification. The duplicate keys for each lock will be turned over to the airport.

6. Airport Badges: The Contractor is made aware that the background checks and the badging process may take up to a total of 45 Calendar Days, and the Contractor shall account for this in his overall construction schedule.

a. Airport Access Badges – All Contractor and/or subcontractor personnel performing work functions in accordance with this Contract shall obtain and properly display a PRC airport security badge. The Contractor shall submit a Security Badge Application form to the PRC security office for each employee requiring unescorted access, along with the current fee for each badge. Fees for badges and permits will be applied in accordance with Schedule of Administrative Fees below. The fee must be paid for with cash or check. The Security Badge Application form and instructions are available at the Airport.

A Company Principal of the Contractor must obtain and submit a "Company Security Media Authorization" form, which is to be submitted to the PRC Badging Office. The Company Security Media Authorization will identify those individuals employed by the Contractor who are authorized to approve and sign a Security Badge Application for other employees of the Contractor. The Company Security Media Authorization form and instructions are available at the Airport.

Schedule of Administrative Fees		
Line Description of Fees	**Fee**	**Frequency**
Fingerprinting	$110	Per Time, Non-Refundable
Personnel Driver Training Permit/Badging Fee	$30	Per Badge, Non-Refundable
Lost Permit/Badge Replacement	$75	Per Badge (If lost badge not returned w/in 30 days)
Vehicle Permit	$5	Per Vehicle
1st Lost Vehicle Permit Replacement	$5	Per Permit (If lost permit not returned w/in 30 days)
2nd Lost Vehicle Permit Replacement	$25	
3rd Lost Vehicle Permit Replacement	$50	
Temporary Activity Permit	$25	Per Permit

1. All Contractor and subcontractor personnel that are to be issued an Airport Identification Badge are required to attend and successfully complete a training class before being issued an identification badge. Fees for the security badge include attendance for the necessary training classes. Attendance at the security classes and issuance of the security badge may take 2 hours per person.

The types of training required will be determined by the scope and location of the work involved. All personnel that will receive Airport badges shall attend the security training. Additionally, personnel operating vehicles or equipment within the Restricted Area of the airport will attend Airport Driver training, all personnel working near active movement areas will attend the Operational Safety on Airports training and any personnel acting as a Gate Guard/Crossing Guard will attend the Gate Guard/Crossing Guard training.

2. The Contractor should allow thirty (30) business days lead time for employee badges to be issued.

3. The Contractor shall immediately notify Airport Operations/Badging Office of any Contractor personnel whose employment status has changed.

4. The Contractor shall be responsible for retrieving all security badges and keys and returning them to the Badging Office. A fee will be charged for each badge that is damaged, lost or not returned.

5. The PRC Badging Office will require the following from each badge applicant before a security badge is issued:

Security Badge Application – All employees are required to complete a security badge application form. The security badge application is available at the Airport.

Contractor-Provided Escorts – The job superintendent and assistant superintendent will be responsible for escorting their non-badged employees, visitors, vendors, subcontractors and material suppliers while on the job site, assuring that no breaches of the Airport security program occur.

Company Security Media Authorization – A Principal of the Contractor is required to complete and submit to the PRC Badging Office this form, which identifies authorized signatories for the Contractor.

For current badging hours or any other questions pertaining to badging, please contact the PRC Airport Badging Office.

Airport security badges are issued by PRC Airport Operations and will be required when working within the Restricted Area. It is recommended that Superintendents, Foremen, Supervisors, or Leads be issued an airport security badge and then provide the required escort for their work crew.

- Airport ID badges issued by the Airport are property of the Airport and must be surrendered upon the request of any Airport personnel.
- No person shall loan or provide airport ID badges to anyone other than to whom the badge was issued.
- Airport ID badges must be properly displayed on the outermost garment, above the waist, at all times while within the Restricted Area.

- Airport ID badges shall not be mutilated or altered from its original form in any way, nor shall any such media be reproduced or copied in such a manner as to degrade the security of the ID system.
- Airport ID badges are non-transferable.
- Damaged badges are subject to a replacement fee.
- Contractors are required to wear the armband that accompanies the badge.
- The Contractor shall be assessed a fee for each lost/unreturned badge.
- The Contractor must immediately report to the Badging Office any lost badge or any employee who quits or is terminated, and the employee's badge must be returned to PRC.
- All equipment operators shall be badged.
- Equipment operators cannot escort others onto the airfield while operating equipment.

b. Access Control – Any time access is required within the Restricted Areas, the Contractor shall be responsible for assuring that no breaches of airport security occur. Restricted areas are fenced and must remain fenced at all times. The gates will remain closed and locked or a guard will be provided at the Contractor's expense. The Contractor will furnish the guard with a roster of his personnel and ensure that each individual has adequate identification. The duplicate keys for each lock will be turned over to the airport authorities.

- No person shall enter the Contractor's worksite without authorization. Any person found within the worksite without proper identification as described herein shall be considered unauthorized and shall be removed from the worksite.
- All persons authorized access to the worksite shall display a valid Airport ID badge issued by PRC or be under authorized escort.
- Persons authorized to provide escorts include PRC staff and designated Contractor supervisors. The number of personnel being escorted shall not exceed ten (10) non-badged personnel; this includes vendors, subcontractors, visitors and part-time workers. Failure to provide an escort can result in loss of escort privileges, fines, revocation of the security badge, or all three.

c. Badge Challenge Procedures – All personnel are responsible for challenging and reporting anyone in their work areas not displaying an Airport ID badge. Personnel shall contact Airport Operations and/or Prescott Police Department and detain person(s) if safe to do so.

60.02 Airport Safety Requirements

a. Operating Construction Vehicles on the Airport

No vehicle shall enter the contractor worksite unless the following conditions are met:

- The driver is authorized to access the worksite.
- The driver possesses a valid driver's license.
- The vehicle is properly marked with the company name.
- Vehicle is marked with lighted beacon or checkered flag or under escort.
- Transient haul truck drivers are to be escorted on and off the airport.

Vehicle Equipment – Daytime Operations:

All Contractor vehicles and equipment operating in the AOA during daylight hours must be equipped with either a 3-foot by 3-foot international orange and white checker patterned flag mounted on a staff and secured to the vehicle in such a location as to be visible from all directions or a flashing amber beacon, light bar or similar warning light device mounted on the vehicle in such a location as to be visible from any direction.

Vehicle Equipment – Escort Operations:

Contractor vehicles may be used to escort a maximum of three (3) other vehicles onto AOA, (only for a short period of time). The vehicle providing the escort must lead and is responsible for the trailing vehicle(s).

When any vehicle other than those routinely used on the runways, taxiways and aprons is required to travel over any portion of aircraft movement areas, it shall be escorted by a vehicle properly identified to operate in the area or be provided with a flag on a staff so attached to the vehicle so that the flag will be readily visible.

A flag or escort vehicle is not required for vehicles that have been painted, marked, and lighted for routine use on aircraft movement areas. Any vehicle operation on the movement area during the hours of darkness shall be equipped with a flashing amber dome-type beacon.

Vehicular traffic crossing active movement areas must be controlled by two-way radio in communication with the control tower and by escort or flagman. The clearance shall be confirmed by the driver's personal observation that no aircraft is approaching his position.

Aircraft have the right-of-way at all times.

b. Airfield Radios

The Contractor shall be responsible for obtaining and maintaining ICOM ICA24/A6 VHF Air Band Transceiver radios, or approved equal, for his crews for use during construction and will not be permitted to borrow radios from the airport for use during construction. At a minimum, the Contractor shall provide radios for the Project Superintendent, all personnel required to control construction traffic across active runways, taxiways, and parking aprons; and operators on controlled surfaces, (i.e. sweeper operators, escort vehicles, or others who have need to operate/transit outside of the restricted construction areas). All costs associated with acquiring and

maintaining the approved radios shall be considered incidental to GTP-60.04.1 bid item and no separate payments will be made.

c. Prohibited Vehicles

The use of motorcycles, bicycles, two-wheeled motor scooters and privately-owned vehicles within the worksite is strictly prohibited.

d. Vehicle Condition

Vehicles must be in good mechanical condition with operational lights, horn, brakes, and clear visibility from the driver's seat. Trailers and semi-trailers must be equipped with proper brakes so that when disengaged from a towing vehicle, neither aircraft engine blast nor wind will cause them to become free rolling.

e. Compliance

All traffic within the Airport Restricted Area and/or contractor worksite must comply with any lawful order, signal or direction of any Airport employee. When such traffic is controlled by signs or pavement markings, such symbols shall be obeyed, unless otherwise directed by an officer or agent of the Airport.

f. Night or Low Visibility Operations

All vehicle headlights, taillights, and running or clearance lights shall be in operational condition. Headlights shall be used at all times.

g. Construction Vehicle and Equipment Markings

All construction equipment and vehicles shall have flashing amber beacons mounted at the highest point during the nighttime, and a 3' x 3' orange and white checkered flag or a flashing amber beacon during the daytime. All vehicles and equipment on the construction site shall have company designations visibly displayed. No personal vehicles will be allowed in the work area. All construction vehicles and equipment must have the company name and/or logo and vehicle number at least four (4) inches in height on each side of the vehicle.

h. Operation of Vehicles within the Airport Restricted Area

No vehicle shall operate within the Airport Restricted Area:

- In a careless or negligent manner.
- With disregard of the rights and safety of others.
- At a speed or in a way which endangers persons or property.
- While the driver is under the influence of drugs or alcohol.
- If such vehicle is loaded or maintained as to endanger persons or property.

i. Speed Limits

The speed limit on perimeter roads is 15 miles per hour. The speed limit on the haul routes is 15 miles per hour.

j. Vehicle Accidents

Each operator of a motor vehicle involved in an accident on the airport that results in damage to property or personal injury shall first contact 9-1-1 and then report it fully to Airport Operations as soon as possible after the accident. The report must include the name and address of the person reporting. Copies of reports taken by City of Prescott are acceptable for incidents that occur in the public areas of the airport.

k. Hearing Protection

Contractor personnel working on or adjacent to the AOA are encouraged to wear hearing protection.

l. Worker Injuries

In the event of a serious injury requiring medical attention, call 9-1-1 and notify the operator you are at the Prescott Regional Airport. All injuries must also be reported to Airport Operations as soon as possible.

m. After Hours Contacts

The Contractor shall submit to the Engineer a list of personnel who can be contacted 24 hours a day, seven (7) days a week and can respond in a reasonable time frame regarding any possible emergency on the work site. The list must include names, job titles and phone numbers.

n. Daily Site Inspections

Prior to the Contractor leaving the worksite for the day, an inspection of the site shall be completed. All discrepancies noted in the inspection must be corrected to the satisfaction of the Engineer prior to the Contractor leaving the worksite.

o. Deliveries

All deliveries for the Contractor shall be received by the Contractor. Deliveries will not be accepted by anyone other than the Contractor. PRC and its authorized representatives will not accept or be responsible for deliveries.

p. Runway and Taxiway Closures

Taxiway and runway closures require a minimum of:

- Prior notification and coordination in accordance with the Contract Documents.
- Closure requests shall factor in time for unanticipated events such as weather and equipment malfunction.
- Movement area closure schedules must be met. The Contractor shall advise the Engineer immediately of any need to extend a closure.
- Failure to meet a closure schedule may result in fines.
- Barricade lights must be red in color and either steady burn or flashing.
- Strict adherence and coordination with the phasing plans found within the Construction Plans.
- Lighted X's provided by the Contractor must be placed on the Runway Identification Markings. The Contractor is fully responsible to maintain, day and night, all Lighted X's including the lights and fuel.

q. Haul Routes

The Contractor and his personnel and all over vehicles shall remain on the designated haul routes as approved by the Airport of Engineer. The Contractor must follow the haul route provided on the Approved Plans, or as directed by the Airport and/or Resident Engineer. The Contractor shall keep all work areas clean of debris and shall be fully liable for any damages that occur to an aircraft caused by construction debris. The Contractor shall be responsible to restore any damages to any pavement used as haul routes incurred during construction to the original state at no additional cost to the owner. All cost associated with the restoration of the haul routes shall be considered incidental to other appropriate bid items and no separate payments will be made.

- A portion of the haul route is in the City of Prescott Public Right-of-Way and Contractor shall abide by City of Prescott Traffic regulations. Contractor shall maintain access in the vicinity of the haul routes to provide access to the parking lot and PRC vehicles.
- Placards will be issued to transient haul trucks (i.e. concrete) upon entry into the Restricted Area by the gate guard.

r. Cranes or Mobilized Equipment

All activities involving cranes or mobilized vehicles exceeding 20 feet in height on or near the AOA require 48-hour advance coordination with Airport Operations. The following information is required:

- Location of equipment
- Maximum extendable height
- Duration of use
- Daily hours of operation
- Whether or not the crane can be lowered when not in use

Equipment must be lowered to its stowed height when not in use or as otherwise directed. The highest point of each piece of equipment shall be marked by a 3' x 3' orange and white checkered flag. At night and during periods of low visibility, the highest point of the crane must be marked by a red obstruction light. Crews must be prepared to remove equipment promptly if so directed.

s. Runway Safety Areas

Construction within the following areas is prohibited, unless required by the Contract Documents and is subject to approval of the Engineer.

- Within 250 feet parallel to an active runway centerline
- Within 1,000 feet of the end of an active runway

t. Staging & Storage Area

All contractor materials, equipment and supplies shall be within the contractor's designated staging and storage area. All staging and storage areas shall be marked, debris boxes covered and area kept neat and clean of debris.

For equipment that must remain in the work area, the following conditions must be met:

- Be located outside of the runway/taxiway safety and obstruction free areas.
- Be marked with lighted barricades around the equipment perimeter with a spacing of no more than 10 feet.
- Be coordinated at least 48 hours in advance with the Engineer.
- The highest point of the equipment marked and lit with a red flashing/steady burning omni-directional obstruction light.

u. Barricades & Lighting

All construction areas shall be delineated with low-profile barricades that meet FAA standards to prevent intrusion by taxiing aircraft, vehicles, or pedestrians, (FAA AC 150/5370-2G). Low level barricades shall be orange in color with white reflective tape on both sides of the barricade and shall be a minimum of six (6) feet in length and a maximum of ten (10) inches in height, (not including required flagging or lights).

All barricades must be equipped with RED omni-directional lights, either flashing or steady burning, to provide additional visual warning whether during normal daytime and nighttime operations or during periods of reduced visibility due to weather conditions. Lights may be either battery-powered or solar powered; however, the intensity of the lights must be sufficient to adequately and without ambiguity delineate the construction areas. The Contractor is responsible to maintain all barricade lights in working conditions to the approval of Prescott Regional Airport.

Barricades should include orange or alternating orange and white checkered flags at least 20 inches by 20 inches square and securely fastened to eliminate jet engine ingestion. The barricades shall be installed so that they are always in the extended position and properly oriented. Maximum spacing between barricades shall be eight (8) feet, or as shown on the approved plans, or as directed by Prescott Regional Airport.

The use of frangible hazard markings, such as concrete barriers, railroad ties and/or metal-drum-type barricades is prohibited. For certain non-movement areas, the City may consider the use of Type II or other similar barricades with prior approval.

1. Non-Movement Areas

In addition to the general barricade requirements above, for projects that may impact airport business and facilities, it will be necessary to coordinate ingress and egress routes with the City. The Contractor shall coordinate and make provisions, including barricading, to accommodate aircraft movements to and from existing businesses and facilities within the construction area.

2. Movement Areas

In addition to the general barricade requirements above, all barricades, temporary markers, and other objects placed and left in safety areas associated with any runway, taxiway, or taxilane must be as low as possible to the ground; of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted to prevent displacement from prop wash, jet blast, rotor wash, or surface wind.

Special Requirements:

1. The Contractor shall be allowed to have a maximum of five (5) red flashing lights out of service at a single time. The Contractor shall be fined $250 each night that six (6) or more barricade lights are out of service. All fines shall be paid directly to Prescott Regional Airport.

2. The Contractor shall coordinate his construction so that taxiways and runways are open to traffic during weekends to the greatest extent possible consistent with FAA Safety Standards and Prescott Regional Airport operational requirements.

3. The Contractor shall employ a "designated" person who will be responsible for ensuring that all barricades, signs, barricade lights, and any other traffic control devices are established and maintained in strict compliance with the contract requirements. The designated person shall:

   a. Inspect all barricading and traffic control devices on a regular, recurring basis to ensure functionality and compliance with FAA standards.

   b. Ensure that existing airport signage and lighting does not conflict or create any confusion with the barricades and traffic control devises and shall immediately bring any conflicting conditions to the attention of the City Inspector.

   c. Be available 24 hours a day to maintain all barricades including lights and flags used to delineate construction and hazardous areas in fully operational condition.

   d. Ensure that flagmen, when employed, are sufficiently trained to operate safely on the airport.

v. Trenches and Excavations

Contractors shall close trenches located within active safety areas at the end of each workday. No open trenches or excavations will be allowed within the following active safety areas without prior coordination and approval with the Engineer:

- Within 250 feet parallel to a runway centerline (trenches/excavations within 500 feet of a runway centerline require a runway closure which is subject to strict controls).
- Within a taxiway object free area.
- Within 1000 feet of the end of a runway.
- Open trenches not to exceed 500 feet in length at any one time.
- Spoils from excavations are to be placed on the runway/taxiway side that is closest to the trench.
- Spoils length not to exceed 500 feet in length at any one time.
- Spoil height is not to exceed 4 feet or any height that would cause a visual obstruction.
- Spoils not returned to the trench or removed from the worksite are to be properly marked with lighted barricades with a spacing of no more than 8' or that to properly delineate the trench.

w. Stockpiled Material

Stockpiled materials are allowed only within the Contractor's designated staging & storage areas.

- Remove daily all stockpiled material from within aircraft movement areas, unless otherwise directed by the Engineer.
- No excavated or stored materials may remain within active runway or taxiway safety areas and object free zones.
- Stockpiled material may be located within the Air Operations Area only upon prior coordination and approval of the Engineer.

x. Haul Trucks

Transient haul truck drivers are not required to obtain an Airport ID badge but are required to check in with the Contractor security guard. The driver shall be issued an orange/white checkered flag to be mounted on the highest point of the truck; and shall be returned to the security guard upon check out. Advise the driver to remain on the marked haul route and follow the appropriate signs to the intended work area. At no time shall a driver unfamiliar with the worksite be allowed to deviate from the marked haul route.

y. Weapons

No person, except a peace officer, authorized air carrier employee, airport employee or a member of an armed force of the United States on official duty, shall carry any weapon, explosive, or inflammable material on or about his person, openly or concealed, on airport property. No person shall furnish, give, sell, or trade a weapon on airport property. A weapon includes all those listed in Section 13-3101, Arizona Revised Statutes.

z. Security Guard Responsibilities

- Use primary radio or back-up telephone equipment to notify Airport Operations and the Contractor Foreman of any security violation or threat to airport safety. Report any failure of radio or back-up equipment immediately.
- Assure that all authorized Contractor employees or suppliers use designated haul route and staging areas.
- Monitor the Property access gate at all times and NEVER leave a gate open, unsecured or unattended.

aa. Contractor Responsibilities

- The Contractor must maintain and provide to the Engineer a log detailing the contract number, the airfield access point used, and all authorized and anticipated subcontractors and suppliers that will be requiring entry.
- The Contractor must furnish guards with a sufficient number of flags for transient vehicles such as concrete or asphalt trucks entering the Property.
- The Contractor must furnish guards a means of securing the access point should the guard have to leave the area in an emergency.

60.03 Schedule Of Fines

Due to both the safety and security precautions necessary at PRC and the impact to airport users, failure of the Contractor to adhere to the prescribed requirements/regulations has consequences that may jeopardize the health, welfare and lives of the customers and employees at PRC, as well as the Contractor's own employees. Therefore, if the Contractor is found to be in non-compliance with the security, airfield badging/licensing and airfield safety requirements by either the Owner's personnel or the Engineer or his representatives, the Owner may issue a Notice of Violation (NOV). The Contractor may appeal the NOV; however, appeals must be made in writing, and within four (4) calendar days of the offending incident, to the PRC Project Representative. The appeal shall state, in sufficient detail, why the NOV/circumstance is unwarranted. A final and binding decision on the appeal will be made by Airport Operations within ten (10) working days of receipt of the appeal, and the Contractor will then be notified of this decision in writing. No further appeals to the specific NOV will be considered/accepted. Subsequent fines and/or requirements, if any, will be applied in accordance with the Schedule of Fines listed below and the applicable amount will be withheld from the Contractor's monthly payment application following the date of the violation. The Prime Contractor shall be held financially responsible for all NOV's issued to their subcontractors, lower tier subcontractors, or material suppliers associated with this Contract.

Schedule of Fines	
Description of Fines	**Per Person Per Occurrence**
Runway or Taxiway Safety Area Incursion	$1,000
Taxiway Incursion	$2,500
Runway Incursion	$2,500
Security Violation	$2,500 or greater
Level 1 Violation of Airport Rules and Regulations	$250
Level 2 Violation of Airport Rules and Regulations	$500
Level 3 Violation of Airport Rules and Regulations	$1,000

60.04 Traffic Control, Barricading, and Cleanup

General Requirements:

The Contractor shall submit cleanup procedures for approval by the Owner to be followed at the close of each day's work, as part of the Airfield Safety and Security Plans. At a minimum, the cleanup procedures shall include an itemized, detailed list of tasks and equipment to be used to properly clear all areas within Runway and Taxiway Safety Areas in accordance with FAA AC 150/5370-2G. The cleanup procedures shall specifically identify all work to be performed on a daily basis for each Phase of construction identified on the plans. The cleanup procedures shall also include the requirement of the Contractor and Engineer to perform a site walk of the entire effected area of construction a minimum of 2 hours before that area is scheduled to be reopened to aircraft traffic to assure that it has be cleaned and cleared of all equipment and debris in accordance with FAA AC 150/5370-2G.

The Contractor shall also be responsible for delineating the limits of construction operations consistent with the approved Phasing and Barricading Safety Plan(s) and/or as directed by the Airport. The Contractor shall submit a Phasing and Barricading Safety Plan(s) as required in the Airport's Construction Safety Plan. The Contractor shall be responsible for providing, the installation of, and the maintenance of barricades and traffic control devices necessary for the control of aircraft, vehicular, and pedestrian traffic. Any requests to modify the approved barricading and phasing plans must be submitted to the City for review and approval.

The Airfield Safety and Security and Barricade/Temporary Fencing and Traffic Control Plans must be submitted by the Contractor at the Pre-Construction Conference.

Barricade Requirements:

See **Section 60.02.u. Barricades & Lighting**.

Aircraft Movement Area:

See **Section 60.02.a. Operating Construction Vehicles on the Airport**.

Airport Construction Restrictions and Requirements:

The Contractor is responsible for compliance at all times with the policies and guidelines specified in Prescott Regional Airport's Construction Safety Plan, and with the FAA AC 150/5370-2G, *Operational Safety on Airports During Construction*. These documents may be made available to the Contractor upon request.

Approved Airfield Radios:

See **Section 60.02.b. Airfield Radios**.

Haul Route:

The Contractor must follow the haul route provided on the Approved Plans, or as directed by the Airport and/or Resident Engineer. The Contractor shall keep all work areas clean of debris and shall be fully liable for any damages that occur to an aircraft caused by construction debris. The Contractor shall be responsible to restore any damages to any pavement used as haul routes incurred during construction to the original state at no additional cost to the owner. All cost associated with the restoration of the haul routes shall be considered incidental to other appropriate bid items and no separate payments will be made.

Measurement and Payment:

Measurement and payment for Airfield Safety and Security shall be by lump sum and shall be considered full compensation for furnishing all labor, materials, fuel, warning lights, crossing guards, escorts, furnishing, placing, and maintaining (day and night) all temporary fencing, barricades and lights, Lighted-X's, all vehicle and equipment markings, security badges and training for all construction personnel, tools, equipment, flagmen, cell phones, radios, and incidentals to safely control traffic as identified in these General Technical Provisions and in the Phasing Plans to provide the proper security for Prescott Regional Airport.

Partial payments of the lump sum item will be made uniformly over the contract time, provided that the airfield safety and security is maintained and satisfactory to the Resident Engineer. All costs for all work, tools, equipment, materials, etc. for Airfield Safety and Security as described herein shall be provided in the bid line items provided below.

Payment will be made under:

Item GTP-60.04.1 Airfield Safety and Security– per Lump Sum

END SECTION 60

DIVISION IV

FEDERAL TECHNICAL SPECIFICATIONS

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Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 6 percent of the total project cost. Any amount bid in excess of 6% will be paid to the contractor after Final Completion.

105-3 Posted notices. Section does not apply.

105-4 Engineer/RPR field office. An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for Mobilization" partial payments will be allowed as follows:

- **a.** With first pay request, 25%.
- **b.** When 25% or more of the original contract is earned, an additional 25%.
- **c.** When 50% or more of the original contract is earned, an additional 40%.
- **d.** After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation*, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105-6.1 Mobilization - per Lump Sum

END OF ITEM C-105

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Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and

measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. Selective grading is not required.

b. Undercutting. Undercutting is not required.

c. Over-break. Over-break is not required.

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation is not required.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698 . As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. Not used.

152-2.7 Control Strip. Not used.

152-2.8 Formation of embankments. Not used.

152-2.9 Proof rolling. Not Used.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 8 inches and to a density of not less than 95 percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 4 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch sieve, follow the methods in ASTM D698. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D1556.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. Not Used.

152-2.14 Topsoil. Not Used.

METHOD OF MEASUREMENT

152-3.1 Unclassified Excavation shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

152-4.1 Unclassified Excavation shall be considered incidental and no separate payment shall be made.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2700 kN-m/m3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement: ASTM C150 Type II

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch	100
No. 200	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F and rising. Mixing and placement shall stop when the air temperature is 40°F and falling or when the anticipated air or ground temperature will be 35°F or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F.

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F, the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment.

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

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Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days, limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard, calculated in accordance with EB 106.

If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch	467 or 4 and 67
1 inch	57
3/4 inch	67
1/2 inch	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement: ASTM C150, *Types I, II*

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel, welded steel wire fabric, or welded deformed steel fabric conforming to the requirements of ASTM A615, ASTM A706, ASTM A775, ASTM A934, ASTM A1064, or ASTM A884.

610-2.11 Materials for curing concrete. Curing materials shall conform to White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B conforming to the requirements of ASTM C309.

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard. The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F nor more than 100°F. The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet. Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F, follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F, follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement

ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation

ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

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ELECTRICAL TECHNICAL SPECIFICATIONS

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Item L-100 Electrical General Requirements

100-1.1 General. This Item includes furnishing and installing all material, equipment and apparatus, and all labor, tools, services, and equipment required for the removal of portions of the airfield lighting system as shown on the drawings and as follows:

a. The demolition, removal and/or salvage of portions of the existing airfield lighting systems including conduit, cable, hand holes / pull boxes, lighting, light bases, signage, and concrete foundations.

b. The demolition, removal and/or salvage of electrical pull boxes and existing cables.

c. The removal of portions of runway edge lighting and signage systems.

d. The removal of existing runway lighting fixtures, cable, and conduit within areas of construction for replacement and reconnection to maintain operation of circuit.

e. Disconnection and removal or relocation of existing CCRs, Installation of new CCRs, and installation of new circuit breakers.

f. Temporary Airfield lighting power systems.

Installation shall be in accordance with Specifications FAA-C-1217 and FAA-C-1391, or as noted on the plans. Perform all work not included in the FAA Specifications in accordance with the National Electrical Code, applicable local and Prescott Airport standards and regulations.

100-1.2 Demolition and Salvage.

a. Removal and salvage of airfield electrical elements is included under this Item shall include the intent, but not limited to the specific elements, of the following:

(1) Remove and temporarily reinstall existing elevated quartz and incandescent runway edge lights and isolation transformers to maintain runway lighting during cable removals until a cutover can be scheduled to cutover for installation of all new LED runway fixtures. Offer existing fixtures and transformers to Airport for return or Contractor to dispose of off-site, existing base cans to remain.

(2) Airside Guidance Signs: temporarily mount and power existing signs as required for new signs on new or existing sign bases. Salvage existing incandescent or quartz halogen signs to Airport or properly dispose of.

(3) Disconnect existing Constant Current Regulators (CCRs) for removal and return or relocation and reconnection.

b. Any fixtures damaged that are to remain in-place or identified as remove and salvage to Prescott Airport on the plans, shall be replaced at Contractor's expense.

c. Demolition (removal and non-return to Owner or for re-installation) of other airfield electrical system elements shall include the intent, but not limited to the specific elements, of the following:

(1) Power Cables.

(2) Concrete foundations, transformer housings, light base cans and electrical hand holes / pull boxes.

(3) Conduits and fittings.

d. Demolition (removal and non-return) of other elements associated with the airfield electrical system may also be included under other items of this project. Elements covered within this specification shall include the intent, but not be limited to the specific elements, of the following:

(1) Underground conduits and duct banks, both concrete encased and direct earth buried.

(2) Grading and backfill associated with removal of the foregoing elements shall be covered under P-152, *Excavation and Embankment*.

100-1.3 New Construction Grading and Backfill.

a. Grading and backfill associated with the removal of existing items or construction of the new ducts and conduits shall be installed in accordance with P-152, *Excavation and Embankment* P-153, *Controlled Low-Strength Material (CLSM)* and P-610 *Concrete for Miscellaneous Structures*, there will be no separate measurement or payment for any backfill, compaction, restoration or materials for slurry or concrete encased conduits and duct banks but shall be considered incidental to the associated item being installed.

100-1.4 Related Documents. The General Provisions of the Contract, including General and Special Conditions, apply to work specified in this item.

a. Conflicts between Drawing and Specifications (Contract Documents) and between Contract Documents and references within the Contract Documents: Drawings and specifications are complementary. Work called for by one is binding as if called for by both. Prospective Contractors shall, as part of their proposals, enumerate, identify and list conflicts they find to exist within the Contract Documents, and between these Documents and the rules, regulations, standards and codes of the authority having jurisdiction (Airport Authority, City, County) local Utility companies and local County or State governing bodies. No Allowance shall subsequently be made to the Contractor by reason of his/her failure to have brought said discrepancies to the attention of the Consultant during the bidding period or by reason of any error on the Contractor's part.

b. Execution of Contract is evidence that Contractor has examined all existing conditions, drawings and specifications related to work, and is informed to extent and character of work. Claims made during construction for labor and materials required due to difficulties encountered as a result of Contractor's inattention to this issue, which could have been clarified prior to bid had examination been made, will be denied.

100-1.5 Temporary Lighting and Circuits.

a. Contractor shall coordinate with Airport Maintenance before the end of each work shift to verify that all airfield lighting circuits are operational. Contractor shall provide all labor and material for this work, non-pay item (NPI).

b. Contractor shall provide and maintain on site, sufficient equipment required to provide temporary lighting and circuit extensions.

c. Re-cabling associated with active runways shall be performed during coordinated runway closures in segments, reconnected to remaining existing circuit segments and tested for operation prior to the end of each shift before re-opening runway to prevent the need for excessive temporary cabling.

100-1.6 Specifications and standards. As a supplement to the installation requirements of this item, the following standards, specifications and regulations of the issues in effect on the date of this solicitation are incorporated herein by reference and are made a part hereof for electrical work and installation and splicing of underground cables.

NEC National Electrical Code

FAA-STD-019e
Lightning Protection, Grounding, Bonding and Shielding Requirements for Facilities

FAA-C-1391e
Installation and Splicing of Underground Cables
FAA-C-1217H
Electrical Work, Premises Wiring
Local Governing Bodies' Public Works Department, City of Prescott,
Codes and Regulations Yavapai Association of Governments (YAG)
Codes and Regulations Maricopa Association of Governments (MAG)
APS 2019 Electric Service Requirements Manual (ESRM)

100-1.7 Shop Drawings and Material Lists. Prior to the installation of any material and equipment and within 30 days of contract award, the Contractor shall submit to the Owner for approval electronic PDF copies of manufacturers' brochures containing complete dimensional and performance characteristics, wiring diagrams, installation and operation instructions, etc., for the equipment listed in the individual L-Series specification Items. Each submittal shall be titled and include the corresponding specification section(s).

A materials list shall be submitted listing each specification paragraph number and stating whether the materials proposed are as specified or are substitutions. If the item is a substitute item, a complete submittal as described in the above paragraph shall be provided for that item.

Submittal data shall be presented in a clear, precise, and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provide they are as a good quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be labeled and titled by specification section. The Engineer reserves the right to reject any and all equipment, materials, or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

EQUIPMENT AND MATERIALS

100-2.1 Equipment. Conduits, conduit fittings, conductors, connectors, boxes, and wiring devices shall meet requirements of Specification FAA-C-1217 and Item L-110.

100-2.2 Conduit, Underground. Conduits run underground are specified in Item L-110 of these specifications. Existing conduit will remain for reuse and installation of new cables as indicated in plans.

100-2.3 Conduit Fittings. Each conduit and nipple entrance to duct and other such electrical enclosures shall be fitted with double locknuts (one each side of metal penetrated) and insulating bushing. Bushings on 1-1/4 inch and larger conduits shall be insulated metallic, type OZ/Gedney Cat. No. IBC Series, or equal; bushings for 3/4 inch and 1 inch shall be plastic insulated T&B rated for 150 C, or equal. All insulated bonding and grounding bushings of conduits for 2400 volts or higher voltages, for conduit going underground, and for conduits going into concrete slabs shall be OZ/Gedney Cat. No. IBC-xxL (fitted with grounding lug), or equal. The bushings shall be connected to the grounding system within the terminating enclosure and not on the underground end. The buried end of each conduit shall be fitted with a thermosetting, plastic-insulated, metallic bushing. All openings where conduits enter junction boxes, other enclosures and shelters shall be sealed weather tight. The conduit shall be capped, if left empty, or sealed with Ducseal, or equal, around the conductors for exterior conduits.

100-2.4 Concrete-encased Duct. Concrete-encased PVC duct shall be as specified in Item L-110.

100-2.5 Concrete Duct Markers. Markers shall be as specified in Item L-110 and as detailed on drawings.

100-2.6 Concrete Handholes. Hand holes shall be as specified in Item L-115 and as detailed on drawings.

100-2.7 Light Bases and Transformer Housing. New light bases, transformer housings, junction cans and covers shall be specified in items L-115 or L-125 and as detailed on drawings.

CONSTRUCTION METHODS

100-3.1 Existing Utilities. Prior to any excavation or trenching, Contractor shall provide utility locator or contact Blue Stake to locate any existing cables and utilities, which will be crossed by the trench. Where existing underground utilities are shown on plans to conflict with existing conduit removal and / or new conduit installation, Contractor shall pothole to verify the location and depth. Ensure these utilities are permanently disconnected if they are going to be demolished. The existing service lines shall be exposed by hand digging in those areas that will be crossed and shall be protected from any possible damage. If any damage occurs, it shall be the Contractor's responsibility to immediately repair such damage with materials and methods approved by the Owner and in compliance with applicable codes and standards, at Contractor's expense. Existing utilities to be abandoned shall be removed at the point of crossing as shown on the drawings.

100-3.2 Demolition. Airfield Lighting and Signage.

a. Removal of existing conductors associated with runway(s) and taxiway(s) that are required to remain active during daytime operations (or as required by Airport) shall be performed after isolating circuit segments affected by construction and temporary jumper installation to maintain operation of lighting during hours when construction is not occurring.

b. Removal of cables associated with lighting or signage that is to remain operational during construction shall be coordinated with Airport. Existing cables may be removed from underground conduits and sleeved with PVC conduit, secured with sandbags to provide temporary power during construction as required for facilitating removal of existing and construction of new bases, foundations, and hand holes / junction cans.

c. Removal of existing runway lighting fixtures, isolation transformers and base cans associated with runway that is to remain operational during non-construction hours will require coordination with Airport for temporary circuit jumper placement.

d. Existing L-867 bases for lighting that are to remain for reinstallation of new or existing fixtures with new hardware will likely require penetrating oil application for removal of existing mounting bolt hardware. Contractor shall be prepared for task of removing existing hardware and broken bolts for installation of new hardware and fixtures during construction.

(1) Coordinate with Airport / Operations for NOTAMs and Lockout / Tag-out of all circuits affected by construction.

(2) Remove indicated conduits, ducts and conductors from site and dispose of according to local regulations.

(3) Material and equipment not designated for re-installation, including signs, light fixtures, and isolation transformers, shall be safely stored to protect from damage during construction then offered for salvage to the appropriate Airport personnel at the end of completion. Non-re-usable material, including conduit, concrete hand holes / pull boxes, foundations, base cans, and conductors, shall become the property of the Contractor and shall be removed from the site and disposed of according to Local Ordinances, at Contractor's expense.

e. Existing signage that is required to remain operational shall remain in place on existing foundation until installation of new sign is ready to be performed. Removal of existing mounting anchors for replacement with new shall also be included in demolition efforts.

f. Replacement of existing signage on existing foundation that also require re-connection to new circuit may remain in place until installation of new sign is ready to be performed. Existing cable may be removed from underground conduit and sleeved above grade in PVC, secured with sandbags, for temporarily feeding during construction to reconnect conduit and install new cable for connection to new circuit. Removal of temporary feed cables and conduit shall be completed after installation of new sign is completed.

g. Replacement of existing signage requiring removal of existing concrete foundations for reconstruction or relocation shall include the removal of existing sign and isolation transformer for temporarily mounting on steel strut in the same general area, secured with sandbags. Signs shall be temporarily fed as required during construction of new sign bases. After construction of new base and installation of new sign, Contractor shall remove temporary sign and feeder. Both new and existing sign shall not be installed in same location without covers installed over new sign until ready for operation.

h. Removal of existing pull boxes shall include excavation to remove existing structures after cables have been removed, protection of existing conduit ends for reconnection to extend to new hand hole and backfill and compaction to restore the infield area.

i. Disconnection and removal of existing CCRs at Airfield Lighting Vault Building for relocation and reinstallation or return and installation of new CCRs with new integrated Digital Control and Monitoring Equipment (DCME) / ACE Units for connection to existing ADB Airfield Lighting Control

and Monitoring System (ALCMS) will require coordination with Airport and ATCT for lockout / tagout of affected circuit(s) and shall be performed as a one for one replacement to minimize operation of affected airfield lighting circuit.

j. Coordination with Airport for Lockout / Tagout of affected panelboard is required to install new CCR circuit breakers.

100-3.3 Conductors. Installation of underground 5 kV conductors is specified in Item L-108 of these specifications. Existing conductors for CCR power and control / communications cables will remain for reconnection to new and existing, relocated CCRs.

100-3.4 Grounding. All metal support structures, metal enclosures and CCRs shall be grounded in accordance with the requirements of the latest edition of Specifications FAA-C-1217, FAA-C-1391, and FAA-STD-019, as indicated in Item L-108 and as detailed on the drawings.

100-3.5 Ground Rods. Grounding rods shall be 3/4-inch diameter by 10 feet long copper-jacketed steel. Grounding connections to ground rods where buried or encased shall be by the exothermic weld process, Cadweld or equal. Extruded, drawn or stamped-type ground clamps will not be acceptable. The resistance to ground shall not exceed 25 ohms.

100-3.6 Ground Conductors. Equipment grounding conductors shall be insulated copper, except where shown on the project drawings to be bare, and sized as shown on the project drawings; and all grounds will be shown in accordance with Article 250 of the National Electrical Code, with FAA-STD-019 and Item L-108. Attachment of wire to supports, boxes, etc., shall be accomplished using approved ground lug attached with a separate stainless-steel screw, lock washer and nut. Screws used for support of the electrical enclosure shall not be used for connection of the ground wire. Pipe straps shall not be used for ground purposes.

COLOR CODING OF GROUND CONDUCTORS

TYPE OF GROUND CONDUCTOR	COLOR OF INSULATION
Grounding Electrode Conductor	Bare - No Insulation
Counterpoise Conductor	Bare – No Insulation
External Sign and Transformer Housing Ground Conductor	Bare – No Insulation
Equipment Grounding Conductor	Green (safety)
CCR Grounding Conductor	Bare or Insulated – Reconnect existing

The multi-ground system supplements but does not replace the equipment-grounding conductor required by the National Electrical Code.

Each of these separate ground conductors is insulated in order to keep it distinct and not allow contact with any other conductor.

Electrical continuity of cable armor or shield shall be maintained. Grounding of the cable armor or shield shall be required at all terminations and shall be accomplished by connecting a #6 AWG solid bare copper wire to the cable armor or shield by means of a compression-type ground clamp installed within the terminating enclosure. Armor or shield ground wire shall be connected to the ground electrode conductor using split bolt connector, Burndy or equal. Grounding of direct earth burial (DEB) armored power and shielding control cable shall be at each end in accordance with FAA-C-1391.

100-3.7 Identification. Conductors shall be identified as per FAA-C-1217, Section 4.6.5.2.2. Cable tagging and circuit identification markers shall be identified as per FAA-C-1391, Sections 5.11.1 and 5.11.2. Transformers, panelboards, constant current regulators, splice cabinets, enclosures and other vault equipment shall be identified by nameplate of nonferrous metal or rigid plastic, engraved with 3/8-inch high lettering with information as per FAA-C-1217, Section 4.16.

100-3.8 Contractor Testing and Submittals. Equipment and materials list and shop drawings shall be submitted as per FAA-C-1217, Section 5.1. Testing shall be required and performed as per FAA-C-1217, Section 5.3, and FAA-C-1391, Section 3.3.6. The Contractor shall pretest all cable on the reel prior to installation and provide a copy of the test results to the Owner. The Contractor shall be responsible for repairs or replacement of any cable found defective after installation.

The Contractor shall test existing affected circuits prior to start of construction and the installed airfield lighting and miscellaneous power cables at the completion of this project. The results of the testing shall be provided to the Owner for review and acceptance. The Contractor shall be responsible for repairs or replacement of any cable found defective after installation.

Installation tests in addition to all tests contained in other L-Series Items shall be provided as follows:

Item	Test Required	Manufacturer's Rep. Present?
5 kV Rated Airfield Lighting and Power Cables (On the Reel, Not Including Equipment for Contractor Quality Control. Maybe deleted per-coordination with Engineer).	Megger check at 500 to 1000 Volts prior to installation. Values of insulation resistance for each reel shall be noted and given to the Construction Manager/ Owner for acceptance. It is expected that the readings will be greater than 1000 meg-ohms (1 gig-ohm).	No
5 kV Rated Airfield Lighting and Power Cables (All Circuits Installed in This Project)	Megger check at 500 to 1000 volts at the completion of installation. Test every circuit for conductor-to-ground and conductor-to-conductor (between circuits) insulation resistance. Test results shall be tabulated and given to the Construction Manager/Owner for acceptance. It is required that the readings be greater than 100 meg-ohms.	No
5 kV Rated Airfield Lighting and Power Cables (All Circuits Installed in This Project)	Megger check at 500 to 1000 volts at the completion of installation. Test every circuit for conductor-to-ground and conductor-to-conductor (between circuits) insulation resistance. Test results shall be tabulated and given to the Construction Manager/Owner for acceptance.	No
5 kV and 600 Volt and Multi-pair Cables	If a power cable puller is used, continuous-tape pull tension readings for each section of cable shall be provided to the Construction Manager or Owner for review.	No

100-3.9 Notification of Testing. The Contractor shall notify the project RPR and the Airport, a minimum of 48 hours in advance of system, or partial system, testing including, but not limited to, installed cable insulation resistance (megger) testing, and operational testing of any modified lighting circuit.

100-3.10 Installation of Ferroresonant L-829 CCR. This item shall consist of furnishing and installing the L-829 constant current regulator (CCR) in accordance with these specifications.
This item shall also include all circuit breakers, wire and cable connections, the furnishing and installing of all necessary conduits and fittings and all necessary mounting structures. It shall also include the testing of the installation and all incidentals necessary to place the CCRs in operation as completed units to the satisfaction of the Owner / Engineer.
The L-829 CCRs shall be ETL certified according to the requirements of FAA Advisory Circular 150/5345-10 (latest edition) "Specification for Constant Current Regulators and Regulator Monitors." The L-829 shall be Ferroresonant and shall be 6.6A, 5-step 15kW with an input voltage of 208Vac, 60Hz. The remote-control voltage shall be 120Vac.
a. The CCR shall use a Ferroresonant design that produces minimal EMI, high efficiency and near unity power factor for AC 150/5345-10 test conditions. The CCR shall exceed the EMI testing requirements specified in FAA AC 150/5345-10 (current edition).
b. A single control board shall be used for all versions of the Ferroresonant CCR to make troubleshooting easier and to minimize spare parts. The CCR shall have output current surge limitation and soft-start to provide maximum airfield lamp protection. The CCR shall include overcurrent and open-circuit protection. No tools shall be needed to open a hinged front access door. To improve safety, no high voltage shall be present inside the front door area. Lightning protection on both the input and output of the CCR shall be provided.
The contractor shall furnish and install each L-829 CCR as specified in the proposal and shown in the plans. The L-829 shall be mounted in the vault at the location shown on the plans.
The CCR shall be calibrated according to the manufacturer's instructions using a True RMS meter. An open-circuit test, conducted according to the manufacturer's instructions, shall also be performed. The CCR shall then be fully tested by continuous operation for not less than 24 hours prior to acceptance. The test shall include operating the constant current regulator in each step (Local and Remote) not less than 10 times at the beginning and end of the 24-hour test.

METHOD OF MEASUREMENT

100-4.1 Remove and Temporarily Reinstall Runway Edge, End / Threshold Light and Isolation Transformer, Base Can to Remain. The quantity to be measured shall be for the removal and temporary reinstallation of existing incandescent runway lights during cable replacement until a cutover can be scheduled to remove and replace with new LED Runway fixtures within the area of construction. It shall also include removal of any broken bolts and repair of the base can threads, if required, before installation of new fixtures. Existing edge lighting fixture bases shall be protected in place per the Plans and Specifications and as accepted.

100-4.2 Remove Existing Runway Edge, End / Threshold Light and Isolation Transformer, Remove Base Can. The quantity to be measured shall be for the removal of existing incandescent runway light and to remove the existing edge lighting fixture base for installation of new L-867 light base, per the Plans and Specifications and as accepted.

100-4.3 Remove and Temporarily Reinstall In-pavement Runway Edge Light and Isolation Transformer, Base Can to Remain. The quantity to be measured shall be for the removal and temporary reinstallation of existing incandescent in-pavement runway lights during cable replacement until a cutover can be scheduled to remove and replace with new LED Runway fixtures within the area of construction. It shall also include removal of any broken bolts and repair of the base can threads, if required, before installation of new fixtures. Existing edge lighting fixture bases shall be protected in place per the Plans and Specifications and as accepted.

100-4.4 Remove Existing Conductor, Conduit to Remain (15480 LF). This item shall consist of removal and disposal off site of airfield lighting cable and / or complete removal of existing airfield lighting cable from within existing underground conduits in accordance with the Plans and Specifications and as accepted. Measured quantities for existing cable removals are provided in bid item description for Contractor to budget a lump sum price for this task. Cable removal is quantified as an effort to remove any number of conductors from within each conduit in a single run or each duct bank conduit. No separate measurement will be made for multiple conductors located in each conduit. No separate measurement will be made for slack.

100-4.5 Remove, Temporarily Mount and Power Airfield Guidance Sign and Isolation Transformer, Demo Sign Base. The quantity to be measured shall be for the removal of existing airfield guidance sign from concrete foundation, excavation for complete removal and disposal from site of concrete sign foundation including backfill and restoration of disturbed area as required. It shall also include the temporary mounting and powering of the existing sign including steel strut, PVC conduit, sandbags, hardware, any sign covers or other incidentals required to maintain operation of signs during construction or installation of new sign base and installation of new or existing sign as required by the Airport. Contractor shall also completely remove temporarily mounted signs, cables, and covers after completion and acceptance of new sign.

100-4.6 Remove and Salvage Airfield Guidance Sign and Isolation Transformer, Sign Base to Remain. The quantity to be measured shall be for the removal and safe storage of existing airfield guidance sign from concrete foundation including anchors and mounting hardware as accepted. The existing sign base shall remain for installation of new sign and concrete sign base extensions, if required, in accordance with the Plans.

100-4.7 Excavate and Remove Existing Junction Can / Pull Box. The quantity to be measured shall be for the excavation, removal and disposal off site of existing electrical pull boxes or junction cans, protection of existing conduit ends for reconnection, backfill and compaction to restore the infield area per P-152 in accordance with the Plans and Specifications and as accepted.

100-4.8 Temporary Airfield Lighting Circuit Jumpers. The quantity to be measured shall be for the installation of new and existing L-824, Type C, #8, 5 kV cables, sleeved and sandbagged for protection which shall include furnishing, installing and removal of temporary cables; temporarily mounting and feeding existing signs, temporary sign covers and re-circuiting new lights and signs as detailed on the Drawings. No separate measurement or payment will be made for moving temporary facilities as required to provide Contractor's access to work sites. The use of temporary cables covered under this item shall be limited to "jumpers" as required to maintain circuit continuity. Cable used for temporary application shall not be used for permanent application.

100-4.9 Disconnect and Remove Existing CCR for Reinstallation or Return to Owner. The quantity to be measured shall be for the removal of existing constant current regulator (CCR) with integrated digital monitoring and control equipment (DCME) / ACE units and all associated power and control / communications wiring and equipment for relocation or return to Owner. This shall also include coordination with Airport and ATCT for a one-to-one replacement to minimize impact to affected airfield lighting circuits. The existing power and control wiring and conduits will remain for reconnecting to new or relocated CCR and tested in manual and remote (ALCMS) operations in all steps before acceptance. Contractor shall offer existing CCR units not specified for relocation and reinstallation in new position to Owner as required by Airport or disposal off site in accordance with local ordinances.

100-4.10 Install and Reconnect Existing Relocated CCR and Integrated DCME (ACE Unit). The quantity to be measured shall be for the reinstallation of existing constant current regulator (CCR) with integrated digital monitoring and control equipment (DCME) / ACE units and all associated power and control / communications wiring and equipment in new location. This shall also include

coordination with Airport and ATCT for a one-to-one replacement to minimize impact to affected airfield lighting circuits. The existing power and control wiring and conduits are to remain for reconnecting to relocated CCR and tested in manual and remote (ALCMS) operations in all steps before acceptance. Contractor shall reinstall existing stacking kits associated with stacked CCR units in new position as required in accordance with the Plans.

100-4.11 Provide, Install and Connect New 10kW L-829 CCR with New Integrated Control / Monitoring Unit and Test. The quantity to be measured shall be for the installation of new, L-829 constant current regulator (CCR) with integrated digital monitoring and control equipment units and connect all associated power and control / communications wiring and equipment in specified locations. This shall also include coordination with Airport and ATCT for a one-to-one replacement to minimize impact to affected airfield lighting circuits. The existing power and control wiring and conduits are to remain for reconnecting to the new CCR and tested in manual and remote (ALCMS) operations in all steps before acceptance. Contractor shall reinstall existing stacking kits associated with stacked CCR units in new position as required in accordance with the Plans.

100-4.12 Provide, Install and Connect New 7.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test. The quantity to be measured shall be for the installation of new, L-829 constant current regulator (CCR) with integrated digital monitoring and control equipment units and connect all associated power and control / communications wiring and equipment in specified locations. This shall also include coordination with Airport and ATCT for a one-to-one replacement to minimize impact to affected airfield lighting circuits. The existing power and control wiring and conduits are to remain for reconnecting to the new CCR and tested in manual and remote (ALCMS) operations in all steps before acceptance. Contractor shall reinstall existing stacking kits associated with stacked CCR units in new position as required in accordance with the Plans.

100-4.13 Provide, Install and Connect New 2.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test. The quantity to be measured shall be for the installation of new, L-829 constant current regulator (CCR) with integrated digital monitoring and control equipment units and connect all associated power and control / communications wiring and equipment in specified locations. This shall also include coordination with Airport and ATCT for a one-to-one replacement to minimize impact to affected airfield lighting circuits. The existing power and control wiring and conduits are to remain for reconnecting to the new CCR and tested in manual and remote (ALCMS) operations in all steps before acceptance. Contractor shall reinstall existing stacking kits associated with stacked CCR units in new position as required in accordance with the Plans.

100-4.14 Provide and Install New Eaton, Type FD 20Amp, 2-Pole, 480V Breaker in Existing Panel. The quantity to be measured shall be for the installation of new, CCR feeder breakers in existing panelboards. This shall also include coordination with Airport for Lockout-Tagout of panelboard from SES to remove and replace breakers and to minimize impact to affected airfield lighting circuits. The existing power cables are to remain for reconnecting to the new CCR breaker and tested for operation before acceptance in accordance with the Plans.

100-4.15 Provide and Install New Eaton, Type FD 30Amp, 2-Pole, 480V Breaker in Existing Panel. The quantity to be measured shall be for the installation of new, CCR feeder breakers in existing panelboards. This shall also include coordination with Airport for Lockout-Tagout of panelboard from SES to remove and replace breakers and to minimize impact to affected airfield lighting circuits. The existing power cables are to remain for reconnecting to the new CCR breaker and tested for operation before acceptance in accordance with the Plans.

100-4.16 Provide and Install New Eaton, Type FD 40Amp, 2-Pole, 480V Breaker in Existing Panel. The quantity to be measured shall be for the installation of new, CCR feeder breakers in existing panelboards. This shall also include coordination with Airport for Lockout-Tagout of panelboard from SES to remove and replace breakers and to minimize impact to affected airfield lighting circuits. The

existing power cables are to remain for reconnecting to the new CCR breaker and tested for operation before acceptance in accordance with the Plans.

100-4.17 Provide Coordination and Tech Support for Manufacturer Testing and Commissioning of Relocated Existing and New CCRs. The quantity to be measured shall be for the Contractor to provide escort and tech support for Manufacturer Tech during testing and commissioning of new and relocated CCRs during ALCMS modifications. This shall also include coordination with Airport and ATCT as required for Lockout-Tagout and testing of affected circuits to minimize impact to affected airfield lighting circuits. The new and existing relocated CCRs shall be tested in manual and remote (ALCMS) operations in all steps before acceptance in accordance with the Plans.

BASIS OF PAYMENT

100-5.1 Electrical services. Payment will be made at the contract price for the electrical services completed and accepted. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete these items. The unit price of each of these items shall also include the Contractor's overhead, profit, and markup.

Payment will be made under:

Item L-100-5.1	Remove and Temporarily Reinstall Runway Edge, End / Threshold Light and Isolation Transformer, Base Can to Remain – per Each
Item L-100-5.2	Remove Existing Runway Edge, End / Threshold Light and Isolation Transformer, Remove Base Can – per Each
Item L-100-5.3	Remove and Temporarily Reinstall In-pavement Runway Edge Light and Isolation Transformer, Base Can to Remain – per Each
Item L-100-5.4	Remove Existing Conductor, Conduit to Remain (15480 LF) – per Lump Sum
Item L-100-5.5	Remove, Temporarily Mount and Power Airfield Guidance Sign and Isolation Transformer, Demo Sign Base – per Each
Item L-100-5.6	Remove and Salvage Airfield Guidance Sign and Isolation Transformer, Sign Base to Remain – per Each
Item L-100-5.7	Excavate and Remove Existing Junction Can / Pull Box – per Each
Item L-100-5.8	Temporary Airfield Lighting Circuit Jumpers – per Lump Sum
Item L-100-5.9	Disconnect and Remove Existing CCR for Reinstallation or Return to Owner – per Each
Item L-100-5.10	Install and Reconnect Existing Relocated CCR and Integrated DCME (ACE Unit) – per Each
Item L-100-5.11	Provide, Install and Connect New 10kW L-829 CCR with New Integrated Control / Monitoring Unit and Test – per Each

Item L-100-5.12	Provide, Install and Connect New 7.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test – per Each
Item L-100-5.13	Provide, Install and Connect New 2.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test – per Each
Item L-100-5.14	Provide and Install New Eaton, Type FD 20Amp, 2-Pole, 480V Breaker in Existing Panel – per Each
Item L-100-5.15	Provide and Install New Eaton, Type FD 30Amp, 2-Pole, 480V Breaker in Existing Panel – per Each
Item L-100-5.16	Provide and Install New Eaton, Type FD 40Amp, 2-Pole, 480V Breaker in Existing Panel – per Each
Item L-100-5.17	Provide Coordination and Tech Support for Manufacturer Testing and Commissioning of Relocated Existing and New CCRs – per Lump Sum

END OF ITEM L-100

Item L-108 Underground Power Cable for Airports

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the Engineer. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA-owned/operated facilities. Requirements and payment for trenching and backfilling for the installation of underground conduit and duct banks are in Item L-110, *Airport Underground Electrical Duct Banks and Conduits*.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the Engineer.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the Engineer) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise, and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be Electronic PDF, organized, labeled, and tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final

acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall be responsible to maintain a minimum insulation resistance per AC 150/5340-26C, *Maintenance of Airport Visual aid Facilities*, Table 5-1 and paragraph 5.1.3.1, with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 *Underground Electrical Cable for Airport Lighting Circuits* latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven-strand, #8 American wire gauge AWG), L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2, 75°C. Conductors for parallel (voltage) circuits shall be sized and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600 Volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600 volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks, and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Documents.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for ground wire per ASTM B3 and ASTM B8 and shall be bare copper wire per ASTM B33. See AC 150/5340-30 for additional details about counterpoise and ground wire types and installation. For voltage powered circuits, the equipment ground conductor shall be minimum No. 6 AWG, 600V rated, Type XHHW insulated, green color, stranded copper equipment ground conductor.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet long and 3/4 inch in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans and shall be one of the types listed below. No separate payment will be made for cable connections.

a. **The cast splice.** Not Used.

b. **The Field-Attached Plug-In Splice.** Figure 3 of AC 150/5345-26, *Specification for L-823 Plug and Receptacle, Cable Connectors*, employing connector kits, is acceptable for field attachment to single conductor cable. It shall be the Contractor's responsibility to determine the

outside diameter of the cable to be spliced and to furnish appropriately sized connector kits and/or adapters and heat shrink tubing with integral sealant.

c. **The factory-molded plug-in splice.** Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. **The taped or heat-shrink splice.** Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. See AC 150/5340-30 for additional information about methods of attaching a ground to a galvanized light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer Qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the Engineer proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete for cable markers shall be per Specification Item P-610, *Structural Portland Cement Concrete*.

108-2.7 Flowable Backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, *Controlled Low Strength Material*.

108-2.8 Cable Identification Tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2-inch wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the circuit's insulation resistance shall be tested, in the presence of the Engineer. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the Engineer. When the work affecting the circuit is complete, the

circuit's insulation resistance shall be checked again, in the presence of the Engineer. The Contractor shall record the results on forms acceptable to the Engineer. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Wood Preservers Association (AWPA) Red (electrical power lines, cables, conduit, and lighting cable) with continuous legend magnetic tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Wherever possible, cable shall be run without splices, from connection to connection.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the Engineer or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed or at least once in each access point where L-823 connectors are not installed.

Provide not less than 3 feet of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the Engineer.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in Duct Banks or Conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous, and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the Engineer prior to any cable installation. If required by the Engineer, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the Engineer. Cable pull tensions shall be recorded by the Contractor and reviewed by the Engineer. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the Engineer, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement, or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

Re-cabling associated with active runways shall be performed during coordinated runway closures in segments, reconnected to remaining existing circuit segments with new primary connector kits and tested for operation prior to the end of each shift before re-opening runway. Insulation resistance testing of new cable may be performed in segments after each shift before connection to existing circuit and after lighting circuit cable replacement is completed.

108-3.3 Installation of Direct-Buried Cable in Trenches. Not Used.

108-3.4 Cable Markers for Direct-Buried Cable. Not Used.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. **Cast Splices.** These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the Engineer.

b. Field-Attached Plug-In Splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. In all cases the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint.

c. Factory-Molded Plug-In Splices. These shall be made by plugging directly into mating connectors. In all cases, the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint.

d. Taped or Heat-Shrink Splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. Throughout the rest of the splice less tension should be used. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering, or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminates prior to application.

Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare Counterpoise Wire Installation for Lightning Protection and Grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The Engineer shall select one of two methods of lightning protection for the airfield lighting circuit based on the frequency of local lightning:

a. **Equipotential.** This is where the counterpoise is bonded to the light base (edge lights included) and counterpoise size is as shown on the plans.

b. **Isolation.** The counterpoise is not bonded to edge light fixtures, in-pavement fixtures are boned to the counterpoise. The counterpoise size is as shown on the plans.

Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables.

For edge light fixtures installed in turf (stabilized soils) and for raceways or cables adjacent to the full-strength pavement edge, the counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable.

The counterpoise conductor shall be installed 8 inches minimum below grade.

Each light base or mounting stake shall be provided with a grounding electrode.

When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed, or soft drawn, solid copper conductor.

For raceways installed under pavement; for raceways and cables not installed adjacent to the full strength pavement edge; for fixtures installed in full strength pavement and shoulder pavement and for optional method of edge lights installed in turf (stabilized soils); and for raceways or cables adjacent to the full strength pavement edge, the counterpoise conductor shall be centered over the raceway or cable to be protected as described below.

The counterpoise conductor shall be installed no less than 8 inches above the raceway or cable to be protected, except as permitted below.

The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise conductor shall be installed no more than 12 inches above the raceway or cable to be protected.

The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection.

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

If shown on the plans or in the specifications, a separate equipment (safety) ground system shall be provided in addition to the counterpoise wire using one of the following methods:

c. A ground rod installed at and securely attached to each light fixture base, mounting stake, and to all metal surfaces at junction/access structures via #6 AWG wire.

d. For parallel voltage systems only, install a #6 AWG green insulated equipment ground conductor internal to the conduit system and securely attached it to each light fixture base internal grounding lug and to all metal surfaces at junction/access structures. Dedicated ground rods shall be installed and exothermically welded to the counterpoise wires at each end of a duct bank crossing under pavement.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

108-3.7 Counterpoise Installation Above Multiple Conduits and Duct Banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete cone of protection measured 22-1/2 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise Installation at Existing Duct Banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic Bonding. Bonding of counterpoise wire shall be by the exothermic welding process. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the Engineer, the welding kits, materials, and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See also AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical

characteristics to the satisfaction of the Engineer. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 100 meg-ohms.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 meg-ohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the Engineer prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet installed with primary connector kits, grounding conductor and grounding connectors ready for operation, and accepted by Owner / Engineer. Separate measurements shall be made for each single cable (1/C), cable pair (2/C) or feeder set, installed in duct bank or conduit with associated ground wire and connections included in Contractor's price. The measurement for this item shall include additional quantities required for slack – 5' per cable end at each light base, junction can or transformer housing and 15' per cable end at each manhole or hand hole. No separate measurement will be made to multiply the number of individual conductors installed in a single conduit, in one installation effort.

108-4.2 Counterpoise wire and connections are considered incidental to the installation of duct bank or conduit, per item L-110. No separate payment will be made.

108-4.3 Ground rods shall be considered incidental to the installation of counterpoise, light base, transformer housing, sign, or other grounding. No separate payment will be made.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	L-824, Type C, 1/C #8 AWG, 5kV Cable – per Linear Foot
Item L-108-5.2	L-824, Type C, 2/C #8 AWG, 5kV Cable – per Linear Foot

MATERIAL REQUIREMENTS

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program Commercial Item Description
A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation) Commercial Item Description
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes
FED SPEC J-C-30	Cable and Wire, Electrical (Power, Fixed Installation)
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

REFERENCE DOCUMENTS

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems
MIL-S-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

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Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits, counterpoise conductor, ground rods and connections including all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the Engineer and replaced with materials that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise, and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be Electronic PDF, labeled and tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final

acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel Conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mil of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions.

110-2.3 Plastic Conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split Conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit Spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads, they shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall conform to Item P-610, Structural Portland Cement Concrete, using 1-inch maximum size coarse aggregate with a minimum 28-day compressive strength of 4000 psi. Where reinforced duct banks are specified, reinforcing steel shall conform to ASTM A615 Grade 60. Concrete and reinforcing steel are incidental to the respective pay item of which they are a component part.

110-2.7 Flowable Backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, *Controlled Low Strength Material*. Fill shall be designed to achieve a 28-day compressive strength of 200 psi (1.4 MPa) under pavement.

110-2.8 Detectable Warning Tape. Plastic, detectable, American Wood Preservers Association (AWPA) Red (electrical power lines, cables, conduit, and lighting cable) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The Engineer shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches per 100 feet. On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. No duct bank or underground conduit shall be less than 18 inches below finished grade. Where under pavement, the top of the duct bank shall not be less than 18 inches below the subgrade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound test polypropylene pull rope. The ends shall be secured, and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet.

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxi-lanes, ramps, and aprons. When

under paved shoulders and other paved areas, conduit and duct banks shall be encased using flow-able fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4 inch sieve. Flowable backfill may alternatively be used. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under Item P-152.

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the Engineer. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the Engineer, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Alternatively, additional duct bank supports that are adequate and stable shall be installed, as approved by the Engineer.

All excavation shall be unclassified and shall be considered incidental to the respective L-110 pay item of which it is a component part. Dewatering necessary for duct installation, erosion, and turbidity control, per Federal, state, and local requirements is incidental to its respective pay item as a part of Item L-110. The cost of all excavation regardless of type of material encountered shall be included in the unit price bid for the L-110 Item.

Unless otherwise specified, excavated materials that are deemed by the Engineer to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the Engineer and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct Banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet beyond the edges of the pavement or 3 feet beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches wide tape, 8 inches minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch wide tape only for single conduit runs. Utilize the 6-inch wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the Engineer shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the Engineer.

110-3.3 Conduits Without Concrete Encasement. Trenches for single-conduit lines shall be not less than 6 inches nor more than 12 inches wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand, or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch sieve. The bedding material shall be tamped until firm. Flow-able backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet square and 4 - 6 inches thick extending approximately one inch above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from

a line of lights and signs to the equipment vault must be marked at approximately every 200 feet along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the Engineer, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the Engineer. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the Engineer. The letters shall be 4 inches high and 3 inches wide with width of stroke 1/2 inch and 1/4-inch-deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for Conduits. For conduits, 8 inches of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 "Excavation and Embankment" except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the Engineer.

110-3.6 Backfilling for Duct Banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 *Excavation and Embankment* except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the Engineer.

110-3.7 Restoration. All areas disturbed by the work shall be restored to its original condition. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, counterpoise conductor, ground rods and connections, locator tape, trenching and backfill with designated material, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Single-way, (1) - 2" Conduit, Direct Earth Buried with Counterpoise – per Linear Foot

MATERIAL REQUIREMENTS

Advisory Circular

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3(2,700 Kn-m/m^3))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2922	Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)

NFPA-70	National Electrical Code (NEC)
Underwriters Laboratories Standard 6	Electrical Rigid Metal Conduit – Steel
Underwriters Laboratories Standard 514B	Conduit, Tubing, and Cable Fittings
Underwriters Laboratories Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
Underwriters Laboratories Standard 1242	Electrical Intermediate Metal Conduit Steel
Underwriters Laboratories Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
Underwriters Laboratories Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

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Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the Engineer. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

115-2.1 General.

All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the Engineer.

Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the Engineer) and replaced with materials that comply with these specifications at the Contractor's cost.

All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise, and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be Electronic PDF, labeled and tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Cast-in-place concrete structures are not used.

Provide precast concrete structures where shown on the plans. Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand **100,000** lbs. aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the Engineer shall be submitted by the Contractor to allow for a full evaluation by the Engineer. The Engineer shall review per the process defined in the General Provisions.

115-2.3 Junction Boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a galvanized steel blank cover, gasket, and stainless steel or coated steel hardware per FAA Engineering Brief (EB) #83. Covers shall be 3/8-inch thickness for L-867 and 3/4-inch thickness for L-868.

115-2.4 Mortar. The mortar shall be composed of one part of Portland cement and two parts of mortar sand, by volume. The Portland cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C6. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.5 Concrete. All concrete used in structures shall conform to the requirements of Item P-610, Structural Portland Cement Concrete.

115-2.6 Frames and Covers. The frames shall conform to one of the following requirements:

a.	ASTM A48	Gray iron castings
b.	ASTM A47	Malleable iron castings
c.	ASTM A27	Steel castings
d.	ASTM A283, Grade D	Structural steel for grates and frames
e.	ASTM A536	Ductile iron castings
f.	ASTM A897	Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of **125** psi and maximum load of **100,000** lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "**ELECTRIC**" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "**DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER**" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.7 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.8 Reinforcing Steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.9 Bedding/Special Backfill. Bedding or special backfill shall be as shown on the plans.

115-2.10 Flowable Backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.11 Cable Racks. Cable Racks shall be of non-conductive plastic. Cable racks shall be located as shown on the plans.

115-2.12 Plastic Conduit. Plastic conduit shall comply with Item L-110, *Airport Underground Electrical Duct Banks and Conduits*.

115-2.13 Conduit Terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.14 Pulling-In Irons. Pulling-in irons shall be manufactured with 7/8-inch diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2 inch diameter with an ultimate strength of 270,000 psi (1862 MPa)). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.15 Ground Rods. Ground rods shall be one piece, copper clad. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 10 feet long nor less than ¾ inch in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified Excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the Engineer without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the Engineer. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to the respective L-115 pay item of which it is a component part. Dewatering necessary for L-115 structure installation, erosion and turbidity control, per Federal, state, and local requirements is incidental to its respective pay item as a part of Item L-115. The cost of all excavation regardless of type of material encountered, shall be included in the unit price bid for the L-115 Item.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the Engineer. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting, and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb, or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the Engineer. Structures shall be placed after the Engineer has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 12 inches of ¾" gravel or a material approved by the Engineer as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete Structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the Engineer before the concrete is placed.

115-3.3 Precast Unit Installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and Treatment of Castings, Frames and Fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the Engineer and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written permission is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of

parts shall be reported immediately to the Engineer and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of Ladders. Not Used.

115-3.6 Removal of Sheeting and Bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The Engineer may order the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the Engineer.

Backfill shall not be placed against any structure until permission is given by the Engineer. In the case of concrete, such permission shall not be given until tests made by the laboratory under supervision of the Engineer establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the Engineer may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property, or persons due to improper placing or compacting of backfill.

115-3.8 Connection of Duct Banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches above the floor. The ground rod shall be installed within one foot of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the

ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and Repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared, and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have the backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following additional items are specifically included in each unit:

- All Required Excavation, Dewatering
- Sheeting and Bracing
- All Required Backfilling with On-Site Materials
- Restoration of All Surfaces and Finished Grading, Sodding
- All Required Connections
- Dewatering If Required
- Temporary Cables and Connections
- Ground Rod Testing

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item L-115-5.1	New L-867B Junction Can / Light Base with Blank Cover and Gasket – per Each
Item L-115-5.2	New 3" L-867B Base Can Extension on Existing Light Base with Concrete Surround for Raising Low Edge Light Bases – per Each

MATERIAL REQUIREMENTS

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular

(AC) 150/5345-7	Specifications for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)
ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime
FAA EB #83	In Pavement Light Fixture Bolts
MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair
NFPA-70	National Electrical Code (NEC)

END OF ITEM L-115

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

f. All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics. Obstruction lighting warranty is set by the individual manufacturer.

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport *Underground Electrical Duct Banks and Conduits*.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 *Underground Power Cable for Airports*.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 *Installation of Underground Cable for Airports*.

125-2.6 Retroreflective Markers. Not required

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be LED or of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

LIGHTS

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861(L)	2 – Base Mounted	1 - 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	White LEDs (Globes) Glass	10/15W	MIRL LED (Edge) Omnidirectional W/W 14" Height
L-861(L)	2 – Base Mounted	1 – 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	White/Yellow LEDs (Globes) Glass	10/15W	MIRL LED (Edge) Bidirectional W/Y 14" Height
L-861E(L)	2 – Base Mounted	1 – 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	Red/Red LEDs (Globes) Glass	10/15W	MIRL LED (Threshold) Bidirectional R/R 14" Height
L-861E(L)	2 – Base Mounted	1 – 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	Red/Green LEDs (Globes) Glass	10/15W	MIRL LED (Threshold) Bidirectional R/G 14" Height
L-861E(L)	2 – Base Mounted	1 – 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	White/Green LEDs & Globes Glass	10/15W	MIRL LED (Displaced Threshold) Bidirectional W/G 14" Height

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861E(L)	2 – Base Mounted	1 – 6.6A	N/A	4 – (Mounting Hardware)	L-867 1.5" Threaded Frangible Coupling	Green/Obscured LEDs & Globes Glass	10/15W	MIRL LED (Displaced Threshold) Unidirectional G/Obscured 14" Height

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44. The Airport has expressed that Lumacurve Signs are preferred over cabinet style signs.

SIGNS

Type	Size	Style	Class	Mode	Notes
L-858Y L-858L L-858R	1	2	2	2	Lumacurve LED Modular Refer to Plans
L-858Y L-858L L-858R	2	2	2	2	Lumacurve LED Modular Refer to Plans

125-2.9 Runway End Identifier Light (REIL). Not Required

125-2.10 Precision Approach Path Indicator (PAPI). Not Required

125-2.11 Circuit Selector Cabinet. Not Required

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867 Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. All light bases and transformer housings shall be furnished with ¾" drain holes, internal and external grounding tabs and 2" grommeted conduit openings, in accordance with the Plans. Shallow bases may be required where drainage culverts conflict with placement.

Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures. All bolts used for securing light fixtures and covers to light bases shall be stainless steel, installed with anti-seize compound.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

If applicable, bolts used to secure in-pavement light fixtures to L-868 bases shall be of sufficient length to provide full thread engagement through all spacer rings (3 maximum), flanges and multi-hole adapter rings with at least three threads exposed at bottom of base can flange, torqued to 12.5ft pounds.

METHOD OF MEASUREMENT

125-4.1 Runway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR. New LED runway edge lights will be required to be installed in one scheduled and coordinated shift as a cutover to replace existing incandescent fixtures.

Guidance signs and sign panels will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

New sign ground rods and conductors at existing sign bases will be measured by the number of each, installed and connected to new signs, in place, ready for operation, and accepted by the RPR. Bid Items that state "If Required" are intended to receive a bid price from Contractor and is only billable if needed, to prevent change orders, based on existing unknown field conditions.

New concrete sign base extensions at existing sign bases will be measured by the number of each, formed, doweled and poured to existing bases, in place, ready for operation, and accepted by the RPR. Bid Items

that state "If Required" are intended to receive a bid price from Contractor and is only billable if needed, to prevent change orders, based on existing unknown field conditions or requirements due to differing sign Manufacturers.

New Spare L-861(L) LED Runway lights w/ Stems, Frangible couplings and Isolation Transformers will be measured by the number of each type supplied to Airfield Maintenance as complete units, ready for operation, and accepted by the RPR and Airport at project end.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, guidance sign or reflective marker installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.1	New L-852D(L) LED Medium Intensity Runway Edge Light (W/W) on Existing L-868 Light Base - Per Each
Item L-125-5.2	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer, on New Concrete Sign Base - Per Each
Item L-125-5.3	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each
Item L-125-5.4	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base - Per Each
Item L-125-5.5	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each
Item L-125-5.6	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base - Per Each
Item L-125-5.7	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each
Item L-125-5.8	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base - Per Each
Item L-125-5.9	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each
Item L-125-5.10	New L-858 Size 1, 4-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base - Per Each
Item L-125-5.11	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each
Item L-125-5.12	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor - Per Each

Item L-125-5.13	36" Concrete Sign Base Extension, Installed On Existing Sign Base (if Required) - Per Each
Item L-125-5.14	Install and Connect New Sign Ground w/ Rod at New Sign on Existing Base (If Required) - Per Each
Item L-125-5.15	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on New L-867 Base Can - Per Each
Item L-125-5.16	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.17	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on New L-867 Base Can - Per Each
Item L-125-5.18	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.19	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional R/R) and Isolation Transformer on New L-867 Base Can - Per Each
Item L-125-5.20	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.21	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.22	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.23	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket - Per Each
Item L-125-5.24	New L-861(L) LED Runway Edge Light (Omni-Directional W/W) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each
Item L-125-5.25	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional W/Y) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each
Item L-125-5.26	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each
Item L-125-5.27	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each
Item L-125-5.28	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each

Item L-125-5.29	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) w/ Stems, Frangible Couplings and Isolation Transformers (Spares) - Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

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CONSTRUCTION SAFETY & PHASING PLAN

Prescott Regional Airport
RW '12-30' Electrical Improvements

PRC Project No: 25602
Dibble Project No.: 1023143.15
FAA Grant No.: 3-04-003-059-2025

Prepared For: City of Prescott

January 9, 2025

Construction Safety & Phasing Plan

Prescott Regional Airport

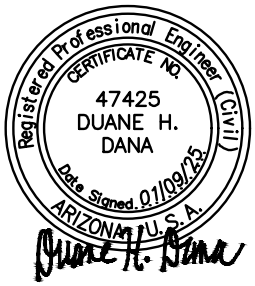
RW '12-30' Electrical Improvements

PRC Project No: 25602
Dibble Project No: 1023143.15
FAA Grant No: 3-04-003-059-2025

Prepared For:
Prescott Regional Airport
Ernest A. Love Field
6630 Airport Avenue
Prescott AZ 86301

Duane Dana, PE
Senior Project Manager

Dibble



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1. PROJECT OVERVIEW

The project will provide various improvements to the Runway '12-30' electrical infrastructure, including the removal and replacement of the existing incandescent runway edge lights, in-pavement lights, runway end/threshold lights, and airfield guidance signage with new FAA approved and certified LED equipment; new airfield lighting cable, a new constant current regulator (CCR), and circuit breaker in the Airfield Lighting Vault. Additional LED airfield guidance signage and runway end/threshold lighting fixtures will be added. The existing airfield electrical equipment has reached the end of its useful life, and occasionally becomes non-operational, which is a significant concern for airport safety and operations.

The limits of the project areas are shown in **Appendix A** – *Construction Phasing Plans*.

This *Construction Safety and Phasing Plan* (CSPP) provides specific information to the Contractor and/or Subcontractors contracted to carry out the construction contract for this project. This plan includes the requirements and procedures for accident prevention, safety requirements, and security considerations at Prescott Regional Airport. The Airport's safety objective is to achieve accident-free construction projects. Furthermore, the Contractor must be in full compliance with FAA *Advisory Circular (AC) 150/5370-2G: Operational Safety on Airports During Construction*. The CSPP and project safety and phasing requirements will be discussed in detail at the Pre-Bid and Pre-Construction Conferences.

The Contractor or Subcontractor shall conduct their operations in a manner that will provide safe working conditions for all employees, the protection of the public and all others who may be affected by construction activities. Nothing contained in this plan is intended to relieve the Contractor, Subcontractor, or suppliers of the obligations assumed by the Contractor under contract with the Airport or as required by law.

Safety must be an integral part of the job. Full participation, cooperation, and support are necessary to ensure the safety and health of all persons and property involved in the project. The purpose of phasing, marking, barricading, and lighting of airside construction areas is to delineate hazardous areas and prevent unauthorized incursions into the areas by personnel, vehicles, equipment, and aircraft during construction; and to positively separate construction activity from aircraft operations. The Contractor must submit Safety Plan Compliance Document (SPCD) prior to the issuance of the Notice to Proceed.

2. COORDINATION

A Pre-Bid Conference will be scheduled during the bidding process to allow prospective bidders an opportunity to understand the safety aspects of this project. A key topic of this meeting will include a detailed review of this CSPP, with emphasis on Contractor responsibilities for safety, as well as access and work areas in each phase.

A Pre-Construction Conference will be scheduled prior to the issuance of the Notice to Proceed (NTP). Invitees and attendees will include City staff including the Airport Design, Construction, and Operations personnel; the Engineer of Record; the Resident Engineer; FAA Air Traffic Control Tower (ATCT) personnel; and the Contractor's Project Manager/ Superintendent. Relevant safety-related issues will be discussed in detail at this meeting.

Topics of discussion will include the *AC 150/5370-2G: Operational Safety on Airports During Construction*, project scope, the Resident Engineer's responsibility and authority, identifying the Contractor's Superintendent, Notice to Air Mission (NOTAM) responsibility, phasing and scheduling of work, Notice to Proceed (NTP) date, safety during construction, security, badging and escorting requirements, quality control and testing, test reports, maintenance of record drawings, and other contract and Federal requirements.

2.1 Contractor Progress Meeting

Weekly construction progress meetings will be held where the invitees and attendees will include, at minimum, the Airport personnel, the Resident Engineer, the Contractor's Project Superintendent, and the lead personnel of each Subcontractor. In addition to the discussions on the progress of the project, operational safety procedures identified within this Safety Plan will be reviewed and discussed.

2.2 Scope or Schedule Changes

The Contractor will be required to immediately notify the Airport and Resident Engineer of any changes to the original project scope or schedule. The Airport will coordinate (as needed) any changes with the impacted stakeholders, (i.e. ATCT, tenants, FAA, etc.).

2.3 FAA/ATO Coordination

The Airport staff will be responsible for continually coordinating as required with the FAA/ATO during construction.

3. PHASING

The project will be constructed in three phases. The phasing limits for this project, as well as the haul routes, the Contractor's Staging & Storage Area, runway and taxiway closures and aircraft detouring are all shown on **Appendix A –** *Construction Phasing Plans*. All three phases will require the closure of Runway '12-30' during construction hours, which will be at night (18:00 – 06:00). Phase III will require the closure of Runway '3R-21L' during construction hours as well. The Contractor will be required to furnish and place all the lighted X's and barricades to facilitate the runway closure(s) at the beginning of each shift and will remove these before reopening the runway(s) to daytime operations at the end of each shift. All areas are required to be operational outside of construction hours and be clear of all FOD which is discussed in **Section VII** *Foreign Object Debris (FOD) Management*.

3.1 Phase Elements

The construction duration and phasing for the project is detailed below.

Phase I. This phase involves construction located on Runway '12-30', north of the Runway '3R-21L' Runway Safety Area (RSA). This will consist of the removal and replacement of the existing incandescent runway edge lights, in-pavement lights, runway end/threshold lights, and airfield guidance signage with new FAA approved and certified LED equipment; new airfield lighting cable, a new constant current regulator (CCR), and circuit breaker in the Airfield Lighting Vault. Additional LED airfield guidance signage and runway end/threshold lighting fixtures will be added.

- The construction duration shall be **14 Calendar Days**.
- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.
- Runway '12-30' will be closed for night work.
- Taxiways 'E4', 'F4' and part of Taxiway 'C' will be closed for night work.
- Contractor shall remain outside of the '3R-21L' RSA during new home run lighting cable work. Contractor's proposed method to protect the '3R-21L' RSA shall be included in the SPCD.
- New home run lighting cable work to be completed during Runway '3L-21R' closure between 2200-0600.

Phase II. This phase involves construction located on Runway '12-30', south of the Runway '3R-21L' RSA. This will consist of the removal and replacement of the existing incandescent runway edge lights, runway end/threshold lights, and airfield guidance signage with new FAA approved and certified LED equipment; new airfield lighting cable.

- The construction duration shall be **28 Calendar Days**.
- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.
- Runway '12-30' will be closed for night work.
- Taxiways 'E1', 'E2', 'E3', 'F1', 'F2', 'F3', and part of Taxiway 'D' will be closed for night work.

Phase III. This phase involves construction located on Runway '12-30', within Runway '3R-21L' RSA. This will consist of the removal and replacement of the existing incandescent runway edge lights with new FAA approved and certified LED equipment, and new airfield lighting cable.

- The construction duration shall be **6 Calendar Days**.
- No work can be completed during daytime hours within the RSA unless a runway closure is authorized by the Airport.
- Runway '12-30' and '3R-21L' will be closed for night work.
- Runway '3L-21R' will be opened for night time operations.
- A portion of Taxiway 'E' and Taxiway 'F' will be closed for night work.

Final Completion – 14 Calendar Days. This will mark the completion of all construction in Phase I to III. A pre-final walk-though will be completed by the Resident Engineer, Airport, and the Contractor. The Contractor shall be provided with a Substantial Completion letter including a punchlist of any remaining items to complete before Final Completion. The construction warranty will begin from this date.

Total Project Duration – 62 Calendar Days. This will include the completion of all punchlist items noted on the Substantial Completion letter.

3.2 Construction Safety Drawings

The Contractor will be required to provide his own detailed Barricade Plans in accordance with his anticipated operations for the review and approval of the Airport.

3.3 Runway Nighttime Closures

During phases I & II Runway '12-30' will be the only closed runway. During phase III both Runway '12-30' and Runway '3R-21L' will require night time closures. During this phase, Runway '3L-21R' will be open overnight (between 18:00 to 06:00 local), due to the overnight closure of both Runway '3R-21L' and Runway '12-30'. The Airport will be responsible for issuing all NOTAMs at least three (3) days in advance of the associated closure of Runways '3R-21L' and '12-30', as well as the overnight opening of Runway '3L-21R'.

4. AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION

4.1 Affected Areas on the Airfield

4.1.1 Closed or Partially Closed Facilities

No facilities (buildings or businesses) are anticipated to be closed or partially closed for the duration of this project. For runway and taxiway closures, reference **Section 3** *Phasing*.

4.1.2 Aircraft Rescue and Firefighting (ARFF) Access Routes

This project is not anticipated to have an impact on existing ARFF access routes. Alternate ARFF routes will be coordinated by the Airport (if needed) during the temporary closure of any portion of airfield during the respective construction phases. The Contractor will be directed to maintain the alternate access routes and all other existing routes that may be used by ARFF vehicles within the Airfield Operations Area (AOA) at all times.

4.1.3 Airport Support Vehicle Access Routes

Airport support vehicle access routes will be maintained throughout the duration of the project. If the Contractor elects to use the existing Airfield Perimeter or other Service roads, the Contractor will be required to maintain those roads at all times. Furthermore, the Contractor will be directed that Airfield Operations will always have the right-of-way. The construction haul routes are shown in **Appendix A –** *Construction Phasing Plans*.

4.1.4 Utilities for Firefighting

No underground utilities used for City firefighting operations within the AOA are anticipated to be impacted by the construction of this project. While every effort has been made to include the locations and depths of known utilities within the project areas, the Contractor will be required to pothole for utilities to avoid damage to them.

Existing fire hydrants along Wilkinson Drive (southeast), Melville Road (south), and Ruger Road (north) may be used for construction water; however, the Contractor will be required to coordinate with the Airport and City of Prescott (see also Section 6.1.3) in a manner to not impact firefighting operations.

4.1.5 Affected Approach and Departure Surfaces

Construction for this project will take place at night during full runway closures. This project will not impact the existing approach and departure surfaces.

4.1.6 Affected Instrument Approach Procedures and Navigational Aid (NAVAID) Critical Areas

Construction for this project will take place at night during full runway closures. The Airport will be responsible to issue NOTAMs three (3) days in advance for all air traffic. This project will not impact any Instrument Approach Procedure or NAVAID Critical Area.

4.2 Mitigation of Affects

4.2.1 Construction Staging Area and Haul Routes

The Contractor's staging and storage areas, haul routes, and construction access areas are shown in **Appendix A** – *Construction Phasing Plans*. The Contractor's staging areas are located outside of all Object Free Areas. Construction access areas and haul routes have been established to minimize impact to airfield operations. The Contractor will be required to supply gate guards at the construction entrances to the airfield when in use. Gate guards will not be required if the gate is closed and locked.

Transient haul truck drivers are not required to obtain an Airport ID badge but are required to check in with the Contractor's security guard. The driver shall be issued an orange/white checkered flag to be mounted on the highest point of the truck; which shall be returned to the security guard upon check out. The driver shall be advised to remain on the marked haul route and follow the appropriate signs to the intended work area. At no time shall a driver unfamiliar with the worksite be allowed to deviate from the marked haul route. A flag or flashing amber beacon can be used during the daytime and only a flashing amber beacon can be used at night. Additionally, during times of low visibility or darkness, the drivers shall be required to use a flashing amber beacon.

4.2.2 Temporary Taxi Operations

When the Contractor's operations impact any Taxiway Object Free Area (OFA), the respective taxiway will be closed, limited or offset as required in *AC 150/5370-2G: Operational Safety on Airports During Construction*. Any temporary taxi operations and alternate routes to accommodate aircraft movement needs are discussed in **Section 3** *Phasing*.

4.2.3 Detours for ARFF and Other Airport Vehicles

All determined airport support vehicle access routes or alternate routes, including established ARFF routes, will be coordinated and maintained throughout the project by the Contractor and Airport personnel. However, because each construction situation is different, the Contractor must coordinate construction vehicle traffic with the Airport Operations for each phase of construction. Contractor vehicle movements to and from the site must conform to approved Access and Haul Roads or as directed by the Airport at the weekly construction meetings. The Airport will coordinate with all stakeholders any detours from existing Airfield Service Roads as needed, throughout the duration of the project.

4.2.4 Maintenance of Essential Utilities

This project involves the replacement of essential electrical elements. The work will be conducted during nighttime closures of Runway '12-30' and when necessary, Runway '3R-21L'. The facilities must be operational during daytime hours. The Contractor will be required to provide temporary means to any impacted utilities until the impacted utilities are restored.

4.2.5 Temporary ATCT Procedures

The Air Traffic Control Tower (ATCT) will be kept abreast of all construction activities throughout the duration of the project. The Contractor will provide construction schedules at least three (3) weeks ahead of the proposed construction activities to be given to ATCT by the Airport Operations or the Resident Engineer. The ATCT will be expected to provide feedback about any concerns that the ATCT has for construction areas and Contractor movements. Project sketches and phasing plans will be provided to the ATCT so that they are aware of the impacts to aircraft operations on the ground and in the air.

While the Airport will ultimately be responsible for issuing NOTAMs related to construction activities and restrictions, the ATCT will be responsible for redirecting pilots from proceeding into construction areas.

5. PROTECTION OF NAVAIDS

5.1 NAVAID Critical Areas

It is not anticipated that any NAVAIDs will be impacted by this project. See Section 5.2 for effects of construction on NAVIAD performance. Construction activities shall take place at night, while Runway '12-30' and Runway '3L-21R', when necessary, Runway '3R-21L' is closed.

5.2 Effects of Construction on NAVAID Performance

The Airport will be responsible to issue NOTAMs for all air traffic. The Contractor's schedule will be finalized at the pre-construction meeting to provide adequate time to prepare for effects of construction. The Contractor will be required to coordinate these nightly closures a minimum of three (3) days in advance with Operations and FAA Tech Ops.

Table or list of *anticipated* NAVAID shutdowns by Phase (both airport and FAA owned). FAA will determine their actual shutdowns.

- Phase I: Runway '12-30' PAPIs and REILs, Runway '3L-21R' PAPIs
- Phase II: Runway '12-30' PAPIs/REILs
- Phase III: Runway '12-30' PAPIs/REILs, Runway '3R-21L' PAPIs, REILs, ILS (GS, LOC, & MALSR)

5.3 Protection of NAVAID Facilities

All other NAVAIDs will remain protected and in place. The Airport will be responsible to coordinate an accurate schedule of closures of Runway '3R-21L' with FAA Tech Ops to ensure operation of the ILS system prior to re-opening.

Required Distance from NAVAIDs to Construction Areas
All other NAVAID's are at a safe distance away from any construction activities.

6. CONTRACTOR ACCESS

6.1 General Items

6.1.1 Contractor Access Areas

Any time access is required within the Airport Operations Areas (AOA), the Contractor shall be responsible for ensuring that no breaches of airport security occur. The AOA is defined as any area within the secured (fenced) area and must remain fenced at all times. The Contractor's access gates will remain closed and locked (lock and key to be provided by Contractor) or a guard (badged by the Airport) will be provided at the Contractor's expense. The Contractor will furnish gate guards with rosters of his personnel and ensure that each individual has adequate identification. The following additional measures must also be taken:

- No person shall enter the Contractor's worksite without authorization. Any person found within the worksite without proper identification as described herein shall be considered unauthorized and shall be removed from the worksite.
- All persons authorized access to the worksite shall display a valid Airport ID badge issued by the Airport or be properly escorted by a badge holder authorized to escort.
- Persons authorized to provide escorts include Airport staff and designated Contractor supervisors. Airport Operations has stipulated that the number of personnel being escorted shall not exceed three (3) non-badged personnel; this includes vendors, Subcontractors, visitors and part-time workers. Failure to provide an escort can result in loss of escort privileges, fines, revocation of the security badge, or all three.

- Contractor Superintendents and Supervisors will be required to wear identifiable equipment or clothing to be easily recognized and located on site.

Reference **Section 4.2.1.** *Construction Staging Area and Haul Routes* for additional requirements imposed on the Contractor regarding the Staging Area and Haul Routes.

6.1.2 49 CFR Part 1542, Airport Security

This project will require that the Contractor and any employees, equipment operators, Subcontractors, and delivery staff working on the airfield undergo the security badging process, and will be responsible for being vigilant in helping to maintain security of the airfield. The Contractor will be responsible for posting employees/gate guards at Contractor access points into the secured area of the airfield, and locking each access gate when leaving the project each day.

The airport is operated in strict compliance with Transportation Security Administration (TSA) and Federal Aviation Regulations (FAR), which prohibit unauthorized persons or vehicles in the Air Operations Area (AOA). Equipment and workmen will be restricted to the work area defined on the plans. Any violation by Contractor's personnel or Subcontractors will subject the Contractor to penalties imposed by the TSA, FAA or the Airport.

The Contractor will assume all fines against the Airport assessed to them by the FAA/TSA for the Contractor's security violations. Typical fines are two thousand five hundred dollars ($2,500) or more per incident.

The Contractor shall be responsible for the protection of the construction site, and all work, materials, equipment, and existing facilities thereon, against vandals and other unauthorized persons. Security measures shall include such additional security fencing, barricades, lighting, and other measures as the Contractor may deem necessary to protect the site.

The Contractor's responsibilities for work areas are as follows:

- The Contractor shall be held responsible for controlling his employees, Subcontractors, and their employees with regard to traffic movement.
- The Contractor shall rebuild, repair, restore, and make good at his own expense all injuries or damages to any portion of the work occasioned by his use of these facilities before completion and acceptance of his work.
- The Contractor shall submit to the Resident Engineer in writing a detailed work plan for each construction phase. This plan shall be submitted fourteen (14) calendar days prior to the start of each construction phase. No work within the construction phase may commence until the phase work plan is approved.
- The Contractor shall submit to the Resident Engineer in writing a plan, by construction phase, for controlling construction equipment and vehicular movements in the Air Operations Area (AOA). This plan shall be submitted at the Pre-Construction Meeting. No work may commence until this plan is approved by the Airport. The plan must include material haul roads.
- The Contractor shall provide a responsible Traffic Manager whose duty shall be to direct all construction traffic on or near active runways, taxiways, haul roads and highways. Paved surfaces shall be kept clear at all times and specifically must be kept free from all debris which might damage aircraft.

The following language shall be used in all solicitations, contracts and subcontracts requiring the distribution of security badges to Contractor, Subcontractor or material supplier employees:

> **Airport Access Badging** - All Contractor and/or Subcontractor personnel performing work functions in accordance with this Contract shall obtain and properly display a Prescott Regional Airport (PRC) airport security badge. The Contractor shall submit a Security Badge Application form to the Airport security office for each employee requiring unescorted access, along with the current fee for each badge. The fee must be paid for with cash or check.

All Contractor and Subcontractor personnel that are to be issued an Airport Identification Badge are required to attend and successfully complete a training class before being issued an identification badge. Fees for the security badge include attendance for the necessary training classes. Attendance at the security classes and issuance of the security badge may take four (4) hours per person.

The types of training required will be determined by the scope and location of the work involved. All personnel that will receive Airport badges shall attend the security training. Additionally, personnel operating vehicles or equipment within the Restricted Area of the airport will attend Airport Driver training, all personnel working near active movement areas will attend the Operational Safety on Airports training, and any personnel acting as a Gate Guard/Crossing Guard will attend the Gate Guard/Crossing Guard training.

The Contractor should allow thirty (30) business days lead time for employee badges to be issued.

The Contractor shall immediately notify Airport Operations/Badging Office of any Contractor personnel whose employment status has changed.

The Contractor shall be responsible for retrieving all security badges and keys and returning them to the Badging Office. A fee will be charged for each badge that is damaged, lost or not returned.

The Airport Badging Office will require the following from each badge applicant before a security badge is issued:

> **Security Badge Application** – All employees are required to complete a security badge application form.
>
> **Contractor-Provided Escorts** – The job superintendent and assistant superintendent, will be responsible for escorting their non-badged employees, visitors, vendors, Subcontractors and material suppliers while on the job site, assuring that no breaches of the Airport security program occur.

Airport security badges are issued by the Airport Operations staff and will be required when working within the Restricted Area. It is recommended that all anticipated regular personnel obtain security badges from the airport.

Additional information regarding badges:

- Airport ID badges issued by the Airport are property of the Airport and must be surrendered upon the request of any Airport personnel.
- No person shall loan or provide airport ID badges to anyone other than to whom the badge was issued.
- Airport ID badges must be properly displayed on the outermost garment, above the waist, at all times while within the Restricted Area.

- Airport ID badges shall not be mutilated or altered from their original form in any way, nor shall any such media be reproduced or copied in such a manner as to degrade the security of the ID system.
- Airport ID badges are non-transferable.
- Damaged badges will be subject to a replacement fee.
- Contractors are required to wear the armband that accompanies the badge, if applicable.
- The Contractor shall be assessed a fee for each lost/unreturned badge.
- The Contractor must immediately report to the Badging Office any lost badge or any employee who quits or is terminated, and the employee's badge must be returned to the Airport.

No weapons will be allowed on the airport by any contractor personnel at any time.

6.1.3 Project Water Access

The contractor will be responsible for the coordination for a water meter and the appropriate water payments with the City.

6.2 Location of Stored Construction Equipment

All contractor materials, equipment and supplies shall be within the Contractor's designated staging and storage area. All storage areas shall be marked; debris boxes covered, and area kept neat and clean of debris.

For equipment that must remain in the work area, the following conditions must be met:

- Be located outside of the runway/taxiway safety and object free areas.
- Be marked with lighted barricades around the equipment perimeter with a spacing of no more than 10 feet.
- Be coordinated at least forty-eight (48) hours in advance with the Resident Engineer.
- The highest point of the equipment marked and lit with a red flashing/steady burning omni-directional obstruction light.

6.2.1 Stockpiles Within Runway Object Free Areas (ROFAs)

No stockpiles are required for this project.

6.2.2 Proper Stockpiling of Materials

No stockpiles are required for this project.

6.3 Vehicle & Pedestrian Operations

6.3.1 Construction Site Parking

Construction parking will be allowed in the Contractor's staging and storage areas, which are outside of any Object Free Areas. No personal vehicles will be allowed onto the airfield with the exception of inside the Contractor's Staging and Storage Areas.

6.3.2 Construction Equipment Parking

Construction equipment parking will be in the Contractor's staging and storage areas for any equipment that is not in use.

6.3.3 Access and Haul Roads

Access and haul roads on Airport property will be delineated with the use of low low-profile barricades, flagging, temporary construction fencing, escorts, or a combination thereof as shown in this CSPP and in the Plans. Contractor access and haul roads can be seen on **Appendix A** – *Construction Phasing Plans*. See **Section 6 -** *General Items* for further information.

6.3.4 Marking and Lighting of Construction Vehicles

All Contractor and Subcontractor vehicles must be properly marked with the company name at least four (4) inches in height on both sides of the vehicle. All vehicles must have a 3 foot by 3 foot (3'x3') orange and white checkered flag at the tallest point on the vehicle for daytime construction activities, and a flashing amber or yellow beacon, mounted at the highest point for nighttime construction.

All vehicle marking and lighting must comply with the most recent version of AC 150/5210-5D*: Painting, Marking, and Lighting of Vehicles Used on an Airport*.

6.3.5 Construction Vehicle Operations Within AOA

For the purposes of this project, the AOA is defined as any area within the secured (fenced) area of the Airport except the Contractor's Staging and Storage Area. No vehicle shall operate within the Air Operations Area (AOA):

- Unless operated by an individual in possession of a valid Airport Identification Badge with a drivers endorsement or under the direct escort of someone who is.
- In a careless or negligent manner.
- With disregard of the rights and safety of others.
- At a speed or in a way which endangers persons or property.
- While the driver is under the influence of drugs or alcohol.
- If such vehicle is loaded or maintained as to endanger persons or property.

6.3.6 Vehicle Driver Training Requirements

All Contractor and Subcontractor personnel that are to be issued an Airport Identification Badge, including for vehicular privileges, are required to attend and successfully complete a training class before being issued an identification badge. Training is to be conducted and documented in accordance with *14 CFR 139.329 Pedestrians and Ground Vehicles*. Fees for the security badge include attendance for the necessary training classes.

The types of training required will be determined by the scope and location of the work involved. All personnel that will receive Airport badges shall attend the security training. Additionally, personnel operating vehicles or equipment within restricted area of the airport will attend driver training provided by the airport, all personnel working near active movement areas will attend the Operational Safety on Airports training and any personnel acting as a Gate Guard/Crossing Guard will attend the Gate Guard/Crossing Guard training. See **Section 6.1.2.** *49 CFR Part 1542, Airport Security* for further information.

6.3.7 Two-Way Radio Communications Procedures

Should any Contractor employee need to communicate via radio with Airport Operations and/or the Air Traffic Control Tower, the following procedures will be used:

- All flaggers, spotters and observers controlling equipment crossing active aircraft areas will receive training and are required to have a fully operational Airport-approved radio to contact the Air Traffic Control Tower on the appropriate frequency to report any problems that may affect aircraft operations. (If available, an Airport radio may be issued to the Contractor for a $2,000 deposit, refundable if the radio is returned in same condition; if not, Contractor must provide an Airport-approved radio). They shall be familiar with radio call signs, frequencies and phone numbers. All observers and flaggers shall immediately contact Operations or Air Traffic Control Tower if any equipment or vehicle becomes disabled or is unable to yield to aircraft for any reason that may affect aircraft operations.
- Use primary radio or back-up telephone equipment to contact Airport Operations and the Contractor Foreman regarding any security violation or threat to airport safety. Report any failure of radio or back-up equipment immediately.
- Assure that all authorized Contractor employees or suppliers use designated haul routes and Contractor Staging and Storage Areas.
- These procedures will also be discussed at length during the Pre-Construction Meeting for this project and will be part of the vehicle driver training.

6.3.8 Maintenance of Airport Secured Area

The Contractor will be required to maintain situational awareness for the duration of this project, and will be required to report suspicious situations, persons, and/or materials to the nearest Airport employee. See **Section 6.1.2.** *49 CFR Part 1542, Airport Security* for further information.

7. WILDLIFE MANAGEMENT

Construction Contractors must operate in accordance with the airport operator's wildlife hazard management plan, controlling and removing waste or loose materials that might attract wildlife, see *AC 150/5200-33C: Hazardous Wildlife Attractants On or Near Airports*.

7.1 Trash

The Contractor shall perform daily inspections of the work areas (including the Contractor's staging and storage area) to remove any trash, debris, and food scraps and place these items in an appropriate trash receptacle. Trash receptacles, regardless of type and size, must always be covered and secured to eliminate the possibility of contents from escaping.

7.2 Standing Water

The Contractor shall conduct their operations to minimize the potential for standing water. When water begins to stand on site, the Contractor shall begin pumping water to drain the area within twenty-four (24) hours to prevent the attraction of wildlife.

7.3 Tall Grass & Weeds

The Contractor shall mow areas under their responsibility including, but not limited to, project site staging and storage areas and exclusive use haul roads to prevent the growth of vegetation over 6 inches.

7.4 Poorly Maintained Fencing and Gates

The Contractor shall close and lock any airfield access gates that are not actively in use. Any fencing installed by the Contractor shall be properly maintained to prevent the intrusion of wildlife and unauthorized people.

7.5 Disruption of Existing Wildlife Habitat

The Contractor shall report any significant wildlife sightings within the AOA to the nearest Airport employee.

7.6 Airport Wildlife Management Procedures

The Contractor will be required to follow any Airport Wildlife Management Procedures that are in place at the airport; however, at a minimum the Contractor will be required to perform the following:

- Close and lock any airfield access gates that are not in use.
- Report any significant wildlife sightings within the AOA to the Operations Manager.

8. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

This project will include the movement of construction vehicles adjacent to active airfield pavements, therefore the Contractor will be required to maintain a fully-operational sweeper vehicle on-site during the project. Furthermore, once any portion of any construction phase is ready to be opened to aircraft traffic, the Contractor, Resident Engineer, and Airport personnel shall walk the area to determine that all FOD that may have been generated is no longer present.

The Contractor will be required to keep water on construction areas to minimize the possibility of FOD generated by wind. The Contractor will be required to conduct FOD checks at the end of each working shift/day to remove any FOD that has made its way onto the airfield pavements from the Contractor's construction activities. Airport Operations and Construction Administration personnel will be present for these FOD checks to ensure compliance.

9. HAZARDOUS MATERIAL MANAGEMENT

Any hazardous or regulated waste material produced by the Contractor's operations shall be properly disposed of at the Contractor's expense pursuant to all local, state, and federal regulations. The Contractor may be required to provide test results to confirm that a contaminated area has been properly remediated.

Any hazardous materials incident shall be immediately reported to emergency personnel by dialing '911', followed by a call to Airport Operations at 928-777-1150.

10. NOTIFICATIONS OF CONSTRUCTION ACTIVITIES

10.1 Maintenance of a List of Responsible Representative/Points of Contact

A full list of Points of Contact and Contact Procedures will be developed prior to the Pre-Construction Meeting for this project. Under normal circumstances, all communications concerning the construction project between airport stakeholders and the Contractor shall be channeled through the Resident Engineer who shall be the primary point of contact for all communications concerning the construction project. Matters relating to Airport Operations and Airport Traffic Control will be handled through the Airport and the ATCT, with assistance from the Resident Engineer and/or Contractor as needed.

Contact	Phone Number	Availability
Duane Dana, P.E. Engineer-of-Record, Dibble	480-365-9056	Mon-Fri, 8:00am to 5:00pm
Pete Townsend PRC Airport Operations	928-777-1114	Mon-Fri, 8:00am to 5:00pm
Specialist on Duty PRC Airport Operations	928-777-1150	24 Hours/Day, 7 Days/Week

10.2 Local ATO/Technical Operations Personnel

The Airport will be responsible for all communications with the local ATO/Technical Operations.

10.3 ATCT Managers on Duty

The Airport will acquire a list of the ATCT Managers on duty for the project prior to construction commencing. This list will be available for use by Airport staff by the date of the Pre-Construction Meeting. This will also be a regular item discussed at the weekly construction meetings.

10.4 Authorized Representatives to the FAA's Operational Control Center (OCC)

The Airport will develop a list of authorized representatives to the OCC prior to construction commencing. This list will be provided to the OCC by the date of the Pre-Construction Meeting.

10.5 Notice to Air Missions (NOTAM)

Construction NOTAM's will be filed by the Airport approximately three (3) days prior to construction beginning in the area which the NOTAM references, or prior to any change in airfield conditions which may affect operations or safety. The Contractor will be required to submit pertinent information to the Airport for any construction items that would require the issuance of a NOTAM a minimum of two (2) weeks prior to the work being performed.

10.6 OCC Notification About Closed and/or Hazardous Conditions on the Airfield

The Airport staff will be responsible for notifying the OCC about closed facilities and/or hazardous conditions at the Airport. The OCC will be notified about closed facilities as soon as practicable following reliable scheduling meetings. Unanticipated hazardous conditions will be immediately relayed to the OCC by Airport staff.

10.7 Emergency Notification Procedures

In the event of a serious injury requiring medical attention, call '911'. Following a call to '911', the Contractor shall then call Prescott Regional Airport Operations at (928) 777-1150 (24-Hour).

The Contractor shall submit to the Resident Engineer a list of contractor personnel who can be contacted twenty-four (24) hours a day, seven (7) days a week and can respond in a reasonable time frame regarding any possible emergency on the work site. The list must include names, job titles and phone numbers.

10.8 Coordination with ARFF for Non-Emergency Issues

For any non-emergency issue that needs coordination with the Airport's ARFF, the Contractor should notify the Airport Operations Superintendent, or if unavailable, Airport Operations or the on-site Airport Project Coordinator. Non-emergency issues include but are not limited to:

- Coordination with ARFF for work in the vicinity of the ARFF building
- Coordination with ARFF for ARFF access routes around construction work areas
- Notification to ARFF about temporarily affected utilities

10.9 Notification to the FAA and Airport Users

All proposed construction activities that affect operations at the Airport will be immediately relayed to all Airport Users and the FAA by way of meetings, advisories, NOTAMs and the filing of Form 7460 as appropriate (minimum of sixty (60) days prior to the proposed construction), all issued by one of the Airport's designated staff or Resident Engineer.

10.10 FAA Notification Under CFR Parts 77 and 157

Within the project limits there will be work taking place in the ROFZ of Runway '3R-21L' and '12-30' and during their subsequent temporary closures.

10.11 FAA Reimbursable Agreements

This project is funded by ADOT, with no FAA Reimbursable Agreement.

10.12 Affected Instrument Approach Procedures

This project will not impact the existing Instrument Approach Procedures

11. INSPECTION REQUIREMENTS

11.1 Daily and Interim Inspections

Daily inspections will be required for areas with haul routes on active airfield pavements to ensure that Foreign Object Debris (FOD) is minimized. In addition, daily inspections of Contractor access areas will be performed to help ensure safety of the airfield. Daily inspections will be conducted by an Airport Operations employee, a Contractor representative, and the Resident Engineer.

Special inspections will be required for airfield facilities serving areas that are ready to be re-opened to aircraft traffic after certain phases of the project. Special inspections will be attended by an Airport Operations representative, a Contractor representative, and a Construction Administration field representative. Special inspections are to be document and records maintained in accordance with *14 CFR 139.327 Self-Inspection Program*.

All discrepancies noted in the inspection must be corrected to the satisfaction of the Resident Engineer prior to the Contractor leaving the worksite.

Should any inspection reveal any FOD concerns, the Contractor shall have a crew ready to remove any FOD prior to reopening the pavements. Should any inspection reveal work that does not meet Contract requirements or that is deficient in any way, the Contractor shall mobilize a crew as soon as possible to remedy the deficient areas so as to avoid prolonging the continued closure of the area(s).

11.2 Final Inspections

Inspections will be required at the Final Completion phase of the project. These inspections will be attended by the Contractor, Airport Manager, Operations Manager, the Resident Engineer, and Construction Administration representatives. A punch list will be developed at the Substantial Completion inspection, and any items placed on the punch list will be required to be completed within thirty (30) days. Final inspection will be scheduled fourteen (14) days after the substantial completion walkthrough.

11.3 Inspection Checklist

The Airport Manager, Operations Manager, the Engineer/Construction Manager/Resident Engineer, and the Contractor will utilize **Appendix B** – *Inspection Checklist* for evaluating the Contractor's adherence to the contract documents and this CSPP, as well as for reopening any areas to aircraft traffic.

12. UNDERGROUND UTILITIES

Prior to beginning construction on the airfield, the Contractor will be required to Blue Stake and pothole any existing utilities in the project areas that may conflict with other project elements. Protection of utilities may include, but is not limited to, flagging utilities, marking lines on pavement, placement of barricades along utility lines and at manholes. Refer to the *General Technical Provisions* for detailed direction for the location of underground utilities.

13. PENALTIES

The Contractor will be required to enforce his company's safety policies with the employees working on this project. In addition, the Airport may enforce policies that are in place to protect the safety of the Airport property, its users, and the local Airspace. These policies include, but are not limited to, the following:

- Informal conversations with the subject person or party
- Formal meetings/conversations with the subject person or party and their supervisors/managers
- Formal written notices of non-compliance from the Airport
- Immediate removal from Airport property
- Notification of law enforcement personnel for persons that cause situations posing dangerous threats to property or personal safety.

Due to the safety and security precautions necessary at the Airport, failure of the Contractor to adhere to the prescribed requirements/regulations can result in consequences that may jeopardize the health, welfare and lives of the customers and employees at the Airport, as well as the Contractor's own employees. Therefore, if the Contractor is found to be out of compliance with the security, airfield badging/licensing and airfield safety requirements by either the Airport's personnel or the Resident Engineer or his representatives, the Airport may issue a Notice of Violation (NOV). The Contractor may appeal the NOV; however, appeals must be made in writing, and within four (4) calendar days of the offending incident, to the Airport Operations Superintendent. The appeal shall state, in sufficient detail, why the NOV/circumstances are unwarranted. A final and binding decision on the appeal will be made by the Airport Director within ten (10) working days of receipt of the appeal, and the Contractor will then be notified of this decision in writing. No further appeals to the specific NOV will be considered/accepted. Subsequent fines and/or requirements, if any, will be applied in accordance with **Table 1 - Schedule of Fines**, and the applicable amount will be withheld from the Contractor's monthly payment application following the date of the violation. The Prime Contractor shall be held financially responsible for all NOV's issued to their Subcontractors, lower tier Subcontractors, or material suppliers associated with this Contract.

Table 1 - Schedule of Fines

Description of Fines	Per Person Per Occurrence
Runway or Taxiway Safety Area Incursion	$1,000
Taxiway Incursion	$2,500
Runway Incursion	$2,500
Security Violation	$2,500 or greater
Level 1 Violation of Airport Rules and Regulations	$250
Level 2 Violation of Airport Rules and Regulations	$500
Level 3 Violation of Airport Rules and Regulations	$1,000

14. SPECIAL CONDITIONS

Special unforeseen conditions or circumstances may require the activation of special procedures by the Airport. In cases involving aircraft emergencies or distressed aircraft, the Contractor may be required to temporarily halt construction activities and immediately vacate the area in which work is taking place. The Contractor will be required to promote safe and orderly removal of all Contractor personnel and equipment to an area that is no longer in conflict with the emergency at hand. The Contractor will be expected to immediately comply with all Resident Engineer directions and may only return to the subject work area when it is safe to do so.

In the event of low-visibility conditions, or other conditions which may signal the need for additional unimpeded space next to runways or taxiways, the Contractor may be required to move to another work area of the project or temporarily stop work. The Contractor will be made aware of the possibility of these situations during the Pre-Construction Conference.

15. RUNWAY & TAXIWAY VISUAL AIDS

15.1 General

Temporary visual aids may be used from time to time as the project progresses to increase safety. Any temporary visual aid will be secured either in-pavement or with heavy items preventing blow-away (against jet-blast, prop wash or a 90-mph wind), while at the same time not obscuring the objects themselves.

All temporary visual aids must have frangible connections. Connections shall be submitted for approval by the Resident Engineer.

15.2 Markings

Markings are not required for this project.

15.3 Lighting and Visual Aids

To indicate the closure of Runway '12-30' and '3L-21R', the Contractor shall furnish and place a lighted X at each end of the runway on or near the runway designation numbers facing the approach, and they must be illuminated for the duration of the closure in accordance with FAA *AC 150/5340-1M, Standards for Airport Markings*. There will be a total of 4 lighted X's needed for this project.

Connector taxiways will be barricaded with low-profile barricades and marked with Temporary Taxiway Closure Markers. For construction areas that do not include aircraft operating areas, vertical panel barricades may be used to prohibit vehicle and pedestrian traffic. Lighting for all barricades used within the AOA shall be red and shall be a steady-burn or blinking light. All barricading and lighting shall conform to the details in the plans and specifications.

Appendix A – *Construction Phasing Plans* shows the placement of the lighted X's and all barricades.

Lighting shall conform to FAA *AC 150/5340-30: Design and Installation Details for Airport Visual Aids*, *AC 150/5345-55: Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*, *AC 150/5345-50: Specification for Portable Runway and Taxiway Lights*, *AC 150/5345-53: Airport Lighting Equipment Certification Program*, *AC 150/5345-44: Specification for Runway and Taxiway Signs*, and *AC 150/5340-18: Standards for Airport Sign Systems,* as required.

15.4 Signs

Airfield signage illuminated to indicate an open facility that is closed due to construction shall be covered and secured with a material that prevents light leakage. Signs may be partially covered, as a number of signs have multiple panels. In this case, only the affected panels shall be covered.

16. MARKING & SIGNS FOR ACCESS ROUTES

Temporary signing used for Contractor access/haul routes, open trenching or other hazards shall be clear, concise, reflective, and large enough in order to minimize safety-related issues. All temporary signing shall meet the requirements of *AC 150/5340-18H* and, to the extent practicable, with the *Manual of Uniform Traffic Control Devices* (MUTCD) and/or State highway specifications. All temporary signs shall also be properly weighted and/or secured to withstand site and elemental conditions.

17. HAZARD MARKING & LIGHTING

17.1 General

Hazards, such as open trenches, manholes, and steep embankments shall be barricaded and lighted with pennant flagging or orange fabric construction fencing to prohibit accidental falls. The Contractor's site-specific and company safety plan/guidelines shall address the protection of these areas and the protection of the employees against these hazards. The Contractor shall also assign a Project Safety Officer for the project to monitor and enforce the Contractor's safety guidelines and the provisions of this CSPP.

When areas on the Airport are closed or present hazards due to construction activities, they should be marked and lighted according to *AC 150/5340-1M: Standards for Airport Markings* and *AC 150/5340-18H: Standards for Airport Sign Systems*. Marking and lighting must be approved by Airport Operations and/or the Resident Engineer.

Some less obvious construction related hazards include, but are not limited to, the following:

- Loose debris, trash, etc. in the work areas
- Loose debris, trash, etc. on or in the bed of vehicles

The Contractor shall be vigilant in keeping the work areas in a safe and trash-free condition as much as possible so as to prevent debris from making its way onto active airfield pavements. The Contractor shall also exercise due care when working in the vicinity of active aircraft. This can include the use of hearing protection and the securing of clothing and hardhats while working.

17.2 Barricades

17.2.1 Placement

Construction areas will be barricaded with either vertical panel or low-profile barricades on aircraft movement areas. For construction areas that do not include aircraft operating areas, vertical panel barricades may be used to prohibit vehicle and pedestrian traffic. All barricades must have flashing red or steady burn lights.

Barricades, temporary markers approved by the Airport, and any other warning equipment placed or left in areas adjacent to any open aircraft movement area, (i.e. runway, taxiway, taxilane, etc.), shall be as low to the ground as possible, and not more than 18 inches in height, (unless otherwise noted on the phasing plans). All barricades and temporary markers shall also be properly secured to withstand the site and elemental conditions. All barricading requirements regarding type, spacing, etc. were provided in the plans and are further identified in the Contract Documents, specifically the Special Provisions Section 60. Low-profile barricades shall be used and shall be reflective, have an omni-directional steady-burning or flashing red LED light, and shall be properly secured (screwed-in). Clamps or straps will not be allowed.

Low-profile barricades shall be spaced a maximum 10 feet on center and not more than 4 feet apart and shall be placed to prevent ground vehicle traffic from moving onto active airfield pavements (barring a deliberate act), and alert aircraft traffic of closed facilities. Low-profile barricades shall be places outside of Runway Safety Area (RSA) and Taxiway Safety Area (TSA).

17.2.2 Lights

Red lights on low-profile barricades shall be of the omni-directional, flashing or steady-burn type. The rate of flash and illumination, as well as barricade reflectivity, shall meet the requirements of the latest edition of the MUTCD. Additional lighting shall be provided if determined necessary by Airport Operations.

17.2.3 Supplement Barricades with Signs

Signage shall be installed when determined necessary by Airport Operations, i.e. “No Entry”.

17.2.4 Maintenance

The Contractor shall designate an employee (or Subcontractor) to be responsible for the regular maintenance of barricades and lighting. In addition, the Contractor shall provide an emergency contact number for the responsible individual to perform any emergency maintenance on any barricades or lighting and ensure functional operation of all hazard lighting and barricades twenty-four (24) hours per day, seven (7) days per week. The designated person or Subcontractor shall be able to respond to the Airport within one (1) hour of notification of a non-functioning barricade.

Barricading and lighting equipment shall be secured to prevent blow-down. This may include the use of water-filled items, sandbags, and/or flat heavy footings. Temporary lighting may be secured to the pavement with nails or screws.

18. WORK ZONE LIGHTING FOR NIGHTTIME CONSTRUCTION

Lighting equipment must adequately illuminate the work area for construction performed during nighttime hours following minimum illumination levels per *AC 150/5370-10H: Standard Specifications for Construction of Airports*.

19. PROTECTION OF RSA’S, TSA’S, OFA’S, OFZ’S, AND APPROACH/ DEPARTURE SURFACES

19.1 Runway Safety Area (RSA)

19.1.1 Construction Within Runway Safety Areas

Any construction within the safety area of a runway will require the closure of Runway ‘3R-21L’ and ‘12-30’. This project includes construction within the RSA of Runway ‘3R-21L’ and ‘12-30’ and will require their closure during nighttime operations. Runway ‘3R-21L’ must be reopened to operations daily. The Contractor shall provide and maintain four (4) lighted X’s and all other traffic control devices, which shall be maintained by the Contractor during such closures.

During runway closures, barricades will be placed across active taxiways to prevent runway incursion at the ROFZ, see **Section 19.3** *Obstacle Free Zone*.

There are measures that include strict coordination with the Airport, ATCT and the Resident Engineer. Contractor requests to perform work within a Runway Safety Area will require at least a three (3) day notice to the Airport. The Airport will be responsible for the issuance of all NOTAMs.

19.1.2 Adjustment of Runway Safety Areas

No RSA will be adjusted as part of this project.

19.1.3 Requirements for Open Procedures

Prior to the runway being reopened, the Contractor will be required to:

- Provide a sweeper truck and/or vacuum truck and clean runway and taxiway pavements in the vicinity of the work areas.
- Temporarily safe-up the graded/infield areas such that there are no humps, ruts, depressions, equipment, tools, or other materials within the RSA.
- Perform a FOD/safety walk of the runway pavement and the adjacent graded/infield areas with construction inspection and Airport staff to ensure compliance with these procedures.
- Perform any additional necessary actions as a result of the FOD/safety walk as required by the construction inspection and/or Airport staff.
- Remove any barricades used for the temporary nightly closure.
- Remove any lighted X's from the runway designation markings.

19.1.4 Appropriate Covering of Excavations Within RSA's

Any excavation within the RSA will be filled and compacted prior to reopening the runway.

19.1.5 Marking of Excavations and Open Trenches

Hazards, such as open trenches, major excavations, manholes, and steep embankments shall be barricaded, lighted, and outlined with appropriate caution tape or orange fabric construction fencing to prohibit accidental falls. The Contractor's site-specific and company safety plan/guidelines shall address the protection of these areas and the protection of the employees against these hazards. See **Section 17** *Hazard Marking & Lighting* for further information.

19.1.6 Maintenance of RSA's

The Contractor will be required to temporarily safe-up the graded/infield areas such that there are no humps, ruts, depressions, equipment, tools, or other materials within the RSA when any runway is reopened. Upon completion of work within the RSA, the Contractor will be required to leave the area in accordance with RSA standards, or as identified in the plans.

19.1.7 Blast Protection Procedures

The Contractor's company safety plan/guidelines shall include a provision for jet blast protection. At a minimum, it should address requirements for the securing of clothing and hardhats, as well as any requirements for hearing protection.

19.2 Runway Object Free Area (ROFA)

This project includes construction within the Runway Object Free Area of Runway '12-30' which is located 125' from the runway centerline and Runway '3R-21L/ which is located 400' from the runway centerline. No equipment or tools will be left unattended within the ROFA as the Contractor will be required to move these items to the staging and storage area when not in use.

19.3 Obstacle Free Zone (ROFZ)

This project has work that takes place within the Runway '12-30' OFZ. The OFZ is 300' wide centered on the runway centerline. While work is taking place within the OFZ, the runway will be closed. All work within the OFZ will take place at night between 18:00 and 6:00. Refer to **Appendix A** – *Construction Phasing Plans* for more detailed information.

19.4 Taxiway Safety Area (TSA)

19.4.1 Construction Within Taxiway Safety Areas

Any taxiway having construction within the Taxiway Safety Area (TSA) and Taxiway Object Free Area (TOFA) will be closed while work is taking place within the protect areas.

19.4.2 Adjustment of Taxiway Safety Areas

No TSA will be adjusted as part of this project.

19.4.3 Requirements for Open Procedures

Prior to any taxiway being reopened, the Contractor will be required to:

- Provide a sweeper truck and/or vacuum truck and clean the taxiway pavement in the vicinity of the work areas.
- Temporarily make safe the graded/infield areas such that there are no humps, ruts, depressions, equipment, tools, or other materials within the TSA.
- Perform a FOD/safety walk of the taxiway pavement and the adjacent graded/infield areas with construction inspection and Airport staff to ensure compliance with these procedures.
- Remove the low-profile barricades from the applicable taxiways.
- Perform any additional necessary actions as a result of the FOD/safety walk as required by the construction inspection and/or Airport staff.
- Remove any barricades used for the temporary nightly closure.

19.4.4 Appropriate Covering of Excavations Within TSA's

Any excavation within any TSA will be filled and compacted prior to reopening a taxiway.

19.4.5 Marking of Excavations and Open Trenches

Hazards, such as open trenches, major excavations, manholes, and steep embankments shall be barricaded, lighted, and outlined with appropriate caution tape or orange fabric construction fencing to prohibit accidental falls. The Contractor's site-specific and company safety plan/guidelines shall address the protection of these areas and the protection of the employees against these hazards. See **Section 17** *Hazard Marking & Lighting* for further information.

19.4.6 Maintenance of TSA's

The Contractor will be required to temporarily safe-up the graded/infield areas such that there are no humps, ruts, depressions, equipment, tools, or other materials within the TSA when any runway is reopened. Upon completion of work within the TSA, the Contractor will be required to leave the area in accordance with TSA standards, or as identified in the plans.

19.4.7 Blast Protection Procedures

The Contractor's company safety plan/guidelines shall include a provision for jet blast protection. At a minimum, it should address requirements for the securing of clothing and hardhats, as well as any requirements for hearing protection.

19.5 Taxiway Object Free Area (TOFA)

Any taxiway having construction within its Object Free Area will be closed during construction duration/hours. No equipment or tools will be left unattended within the TOFA as the Contractor will be required to move these items to the staging and storage area when not in use.

19.6 Runway Approach & Departure Surfaces

Any construction that impacts a Runway Approach or Departure Surface or Clearway will require the closure of the runway. The Airport will be responsible to issue any NOTAMs at least three (3) days in advance.

20. OTHER LIMITATIONS ON CONSTRUCTION

20.1 Prohibitions

20.1.1 Use of Flare Pots

The use of flare pots is not permitted within the AOA or within the airport property at any time.

20.1.2 Use of Electrical Blasting Caps

The use of electrical blasting caps is not permitted on Airport property.

20.2 Restrictions

20.2.1 Tall Equipment

The use of tall equipment is not permitted unless a 7460-1 determination letter issued.

20.2.2 Open Flame Welding and Torches

Open flame welding and the use of torches shall be approved by the Airport prior to the project commencing. Open flame welding and the use of torches may require a “Hot-Work Permit” by a governing agency (the City of Prescott). If this type of work is required on this project, the Contractor shall notify the Airport Operations Superintendent.

20.2.3 Airfield Lighting Vault Lock-Out/Tag-Out Policy

The purpose of this procedure is to standardize the lock-out/tag-out procedures between Electrical Contractors, Airport Electricians, Operations, and the Air Traffic Control Tower:

- The Airport electricians responding to a lock-out/tag-out request will coordinate with the ATCT through Operations.
- After Operations notifies electricians of closures, the Airport electricians will turn off the closed runways/taxiways using the airfield computer system.
- The Contractor will supply an approved breaker-locking device and lock, then lock off the individual breakers for the circuits to be locked out. These items will remain in the vault in a lock box provided by Airport.
- The load break elbows and/or S-1 switches will be pulled, locked on the corresponding regulator by the Electrical Contractor, and the S-1 cabinet will be locked by the Contractor.
- The Electrical Contractor and the Airport electricians must fill out lock-out/tag-out forms before leaving the Vault.

- Upon completion of the lock-out, the Contractor will remove all locks and install the load breaks and/or S-1 switches. All circuits must be verified operational in the manual mode on the regulator. Operations will perform a complete check of the lights in the field to verify actual operation.
- When that has been completed, the Airport electricians will notify the Airport Operations when lock-in is complete and regulators are in active control; Operations will notify the ATCT that they have control of the airfield lighting.
- Complete lock-out/lock-in forms.

This procedural checklist must be followed to the letter.

20.2.4 Contractor Employee Safety

The Contractor and its employees shall employ safe practices per the Contractor's safety procedures and industry safety standards. The Contractor's safety procedures will ultimately dictate the use of protective clothing and equipment for its employees, but at a minimum, the Contractor's employees must be equipped with a Type 2 safety vest and hard hat, and every employee that enters the site must be wearing said vest and hard hat. The vest and hard hat must be worn the entire time that the employee is within the AOA.

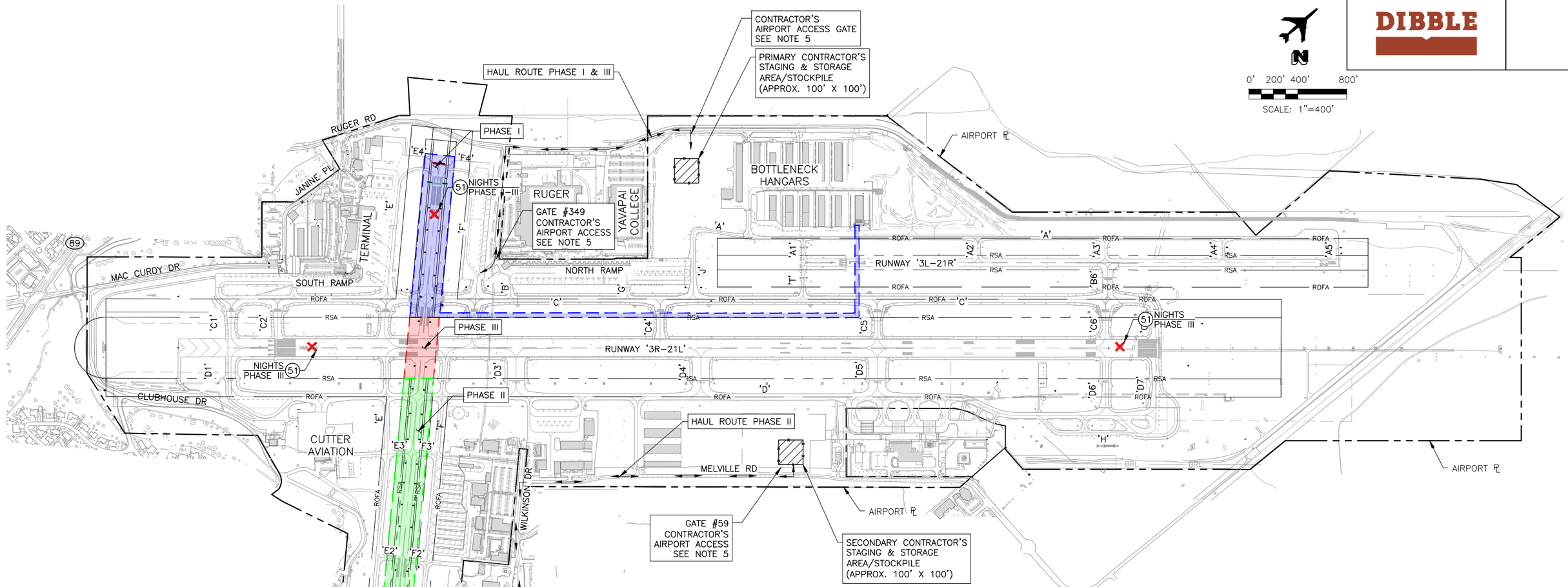
Appendix A Construction Phasing Plans

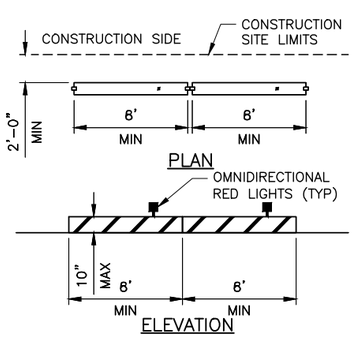
AS BUILT DATE

DIBBLE

0' 200' 400' 800'

SCALE: 1"=400'





NOTES:

1. LOW PROFILE BARRICADES AND LIGHTS SHALL BE PROVIDED AND MAINTAINED (DAY AND NIGHT) BY THE CONTRACTOR (NPI).
2. THE OWNER MAY DIRECT THE CONTRACTOR TO RELOCATE ANY BARRICADES AT THEIR DISCRETION AT NO ADDITIONAL COST TO OWNER.

1 LOW PROFILE BARRICADES
NO SCALE

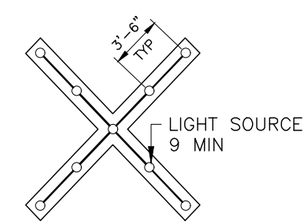
PHASING SCHEDULE

	PHASE I	(14 CALENDAR DAYS, NIGHTWORK)
	PHASE II	(28 CALENDAR DAYS, NIGHTWORK)
	PHASE III	(6 CALENDAR DAYS, NIGHTWORK)

SUBSTANTIAL COMPLETION: 48 CALENDAR DAYS
FINAL COMPLETION: 14 CALENDAR DAYS
TOTAL PROJECT DURATION: 62 CALENDAR DAYS

GENERAL PHASING NOTES

1. CONSTRUCTION TRAFFIC SHALL YIELD TO AIRCRAFT TRAFFIC AT ALL TIMES.
2. ALL WORK MUST BE COMPLETED DURING NIGHT–TIME RUNWAY CLOSURES (22:00–06:00). THE CONTRACTOR, RESIDENT ENGINEER, & AIRPORT REPRESENTATIVE SHALL WALK ALL WORK AREAS PRIOR TO RUNWAY REOPENING TO CONFIRM THAT THE AREA IS READY TO BE OPENED TO AIRCRAFT TRAFFIC.
3. CONTRACTOR SHALL PROVIDED & MAINTAIN LIGHTED X'S ON THE RUNWAY TO BE CLOSED EACH NIGHT & REMOVE FOR DAYTIME OPERATIONS.
4. BARRICADE PLACEMENT & PAVEMENT MARKING OBLITERATION MAY BE ADJUSTED AT THE DISCRETION OF THE CITY AND/OR AIRPORT STAFF TO ACCOMMODATE SPECIFIC AIRCRAFT MOVEMENT NEEDS.
5. ACCESS GATES MUST EITHER REMAIN CLOSED & LOCKED OR HAVE A CONTRACTOR–PROVIDED GATE GUARD WHEN OPEN (NPI).



TEMPORARY RUNWAY CLOSURE LIGHTED 'X' NOTES:

1. 'X'S SHALL BE LIGHTED PER FAA AC 150/5345–55A (NPI).
2. THE USE AND APPLICATION OF A LIGHTED VISUAL AID FOR RUNWAY CLOSURE IS THE SUBJECT OF AC 150/5340–1, STANDARDS FOR AIRPORT MARKINGS, AND AC 150/5370–2, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE THE NECESSARY MEANS TO SECURE THE 'X'S IN A MANNER THAT ENSURES AIRPORT SAFETY, (ANCHORING, SAND BAGS, ETC.) (NPI).

2 TEMPORARY RUNWAY CLOSURE LIGHTED 'X' DETAIL
NTS

CONSTRUCTION NOTES

51 LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1 — NPI

LEGEND

CONTRACTOR'S STAGING & STORAGE AREA

CONTRACTOR HAUL ROUTE

LIGHTED 'X'

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN OVERALL

DRN: DSO	DES: VS	CK: DHD
DATE: 10/25	DATE: 10/25	DATE: 10/25

SCALE: 1"=400'

APPENDIX A

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

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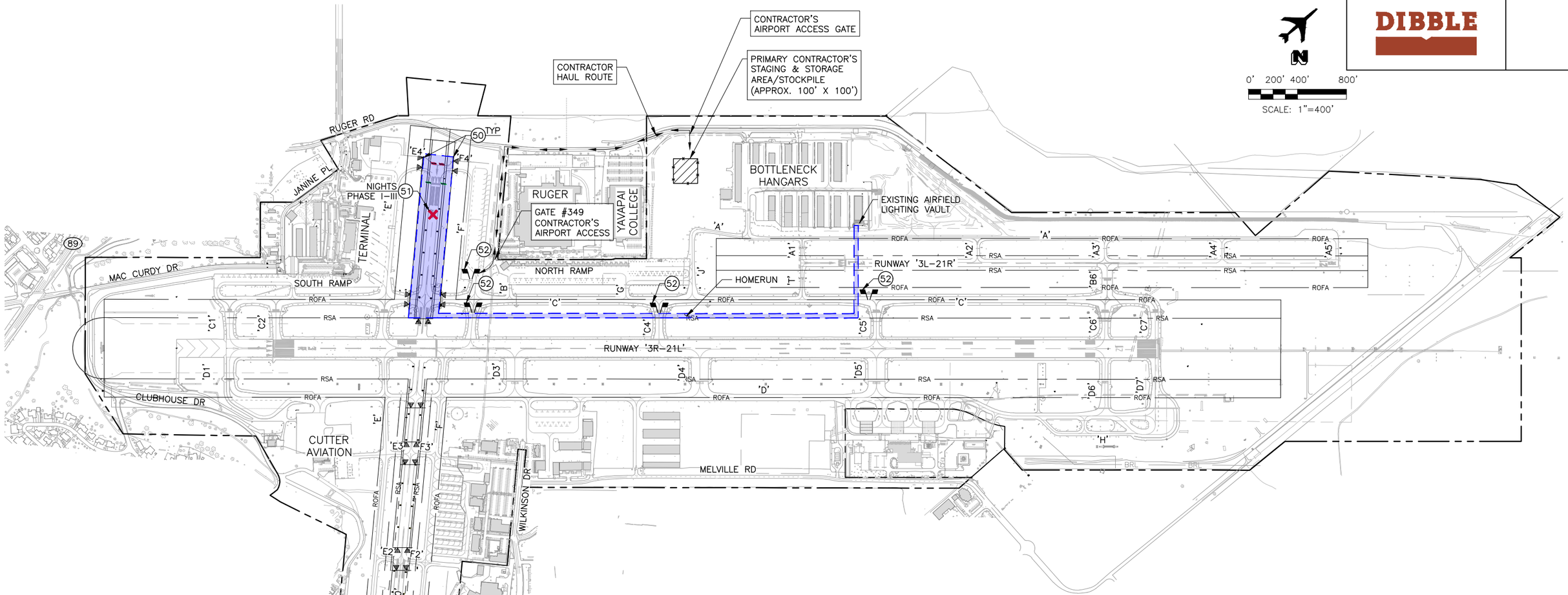
AS BUILT DATE

DIBBLE



PHASING SCHEDULE

	PHASE I	(14 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING. INSTALL ADDITIONAL RUNWAY END/THRESHOLD EDGE LIGHT. REPLACE RUNWAY CIRCUIT CABLING AND NEW CCR AND CIRCUIT BREAKER IN AIRFIELD LIGHTING VAULT.

CONSTRUCTION NOTES

50	LOW–PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI
52	CROSSING GUARD	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW–PROFILE BARRICADES
- LIGHTED 'X'
- FLAGGER

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE I

DRN: DSO	DES: VS	CK: DHD
DATE: 10/25	DATE: 10/25	DATE: 10/25

SCALE: 1"=400'

APPENDIX A

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ARIZONA811
Call 811 or click Arizona811.com

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AS BUILT DATE

DIBBLE

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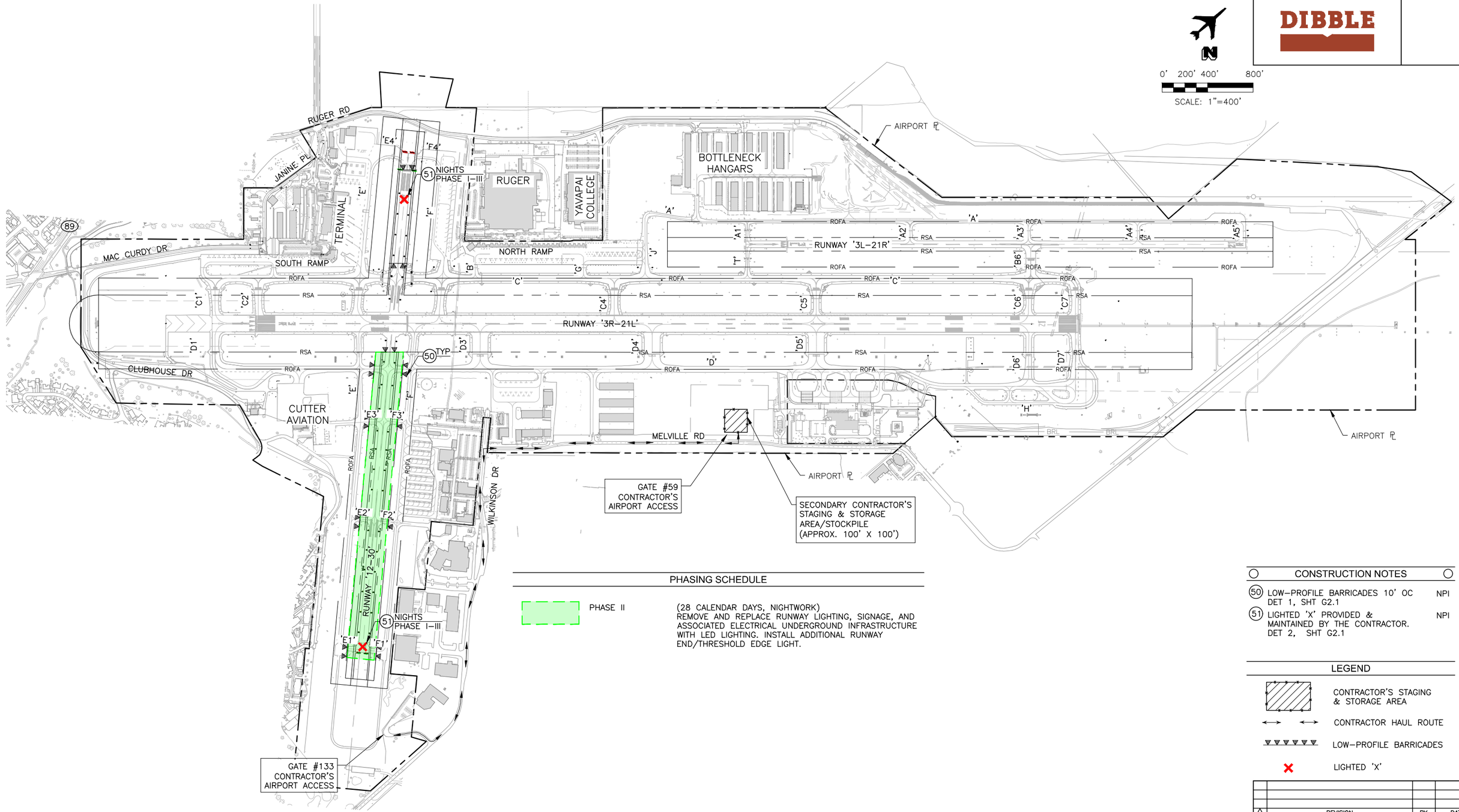
SCALE: 1"=400'



PHASING SCHEDULE

	PHASE II	(28 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING. INSTALL ADDITIONAL RUNWAY END/THRESHOLD EDGE LIGHT.

CONSTRUCTION NOTES

50	LOW–PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW–PROFILE BARRICADES
- LIGHTED 'X'

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE II

DRN: DSO	DES: VS	CK: DHD
DATE: 10/25	DATE: 10/25	DATE: 10/25

SCALE: 1"=400'

APPENDIX A

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ARIZONA 811
Call 811 or click Arizona811.com

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DIBBLE

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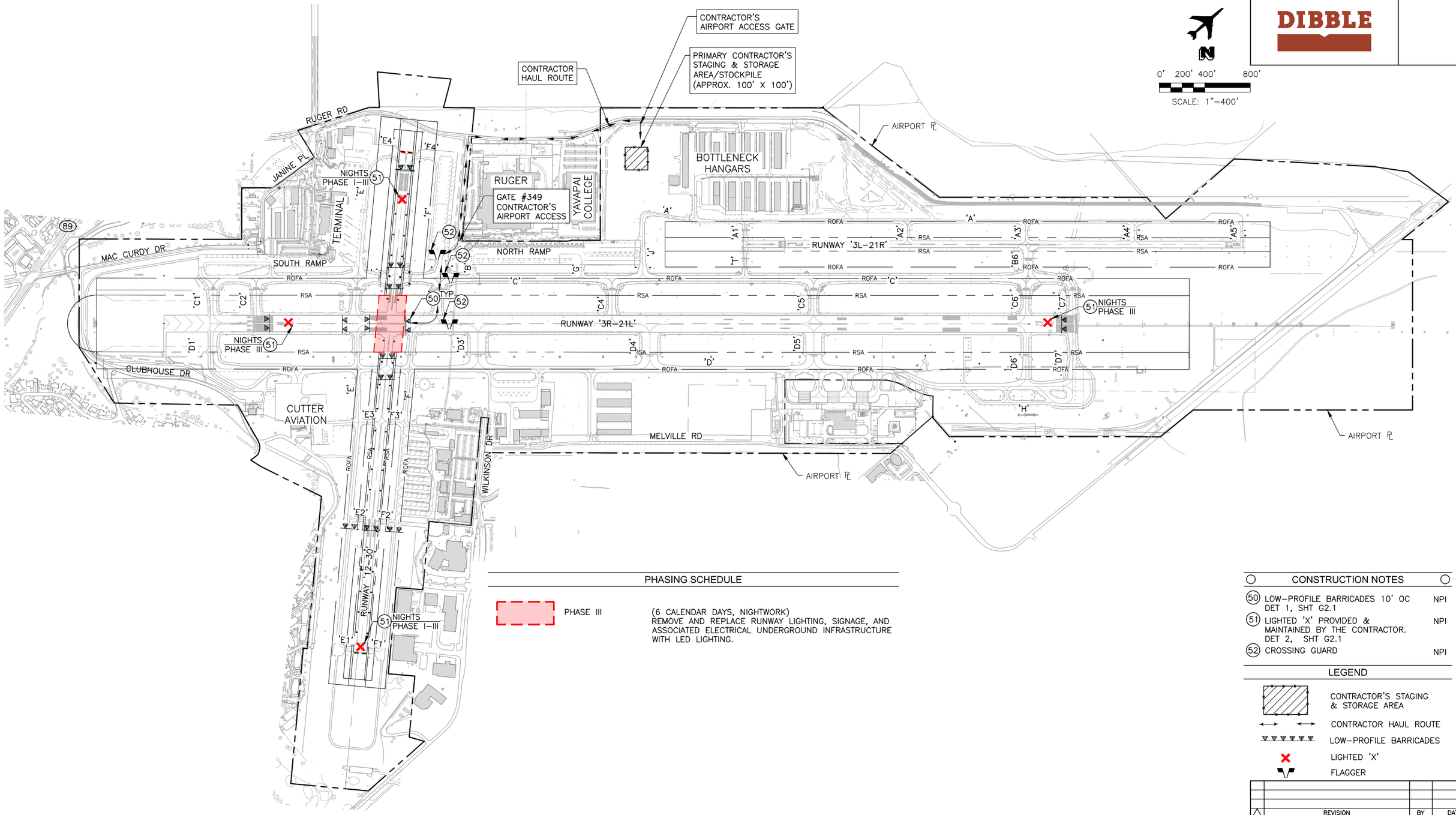
SCALE: 1"=400'



PHASING SCHEDULE

	PHASE III	(6 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING.

CONSTRUCTION NOTES

50	LOW–PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI
52	CROSSING GUARD	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW–PROFILE BARRICADES
- LIGHTED 'X'
- FLAGGER

△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE III

DRN: DSO	DES: VS	CK: DHD
DATE: 10/25	DATE: 10/25	DATE: 10/25

SCALE: 1"=400'

APPENDIX A

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ARIZONA811
Call 811 or click Arizona811.com

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Appendix B Inspection Checklist

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		
Failure to provide for proper electrical lockout and tagout procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase		

CITY OF PRESCOTT

PRESCOTT REGIONAL AIRPORT
ERNEST A. LOVE FIELD

PRESCOTT, ARIZONA

RW 12-30 ELECTRICAL IMPROVEMENTS

PRC PROJECT NO. 25602
FAA GRANT NO. 3-04-0030-059-2025

AS BUILT DATE

DIBBLE

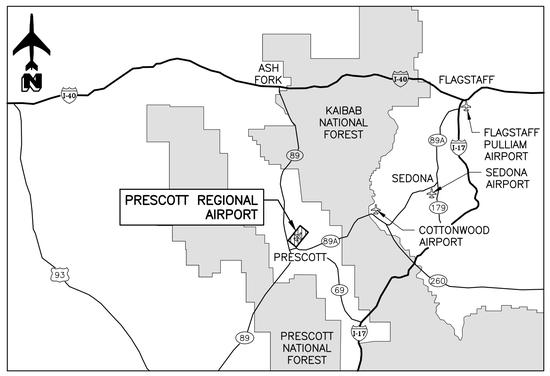
Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

MAYOR
PHIL GOODE

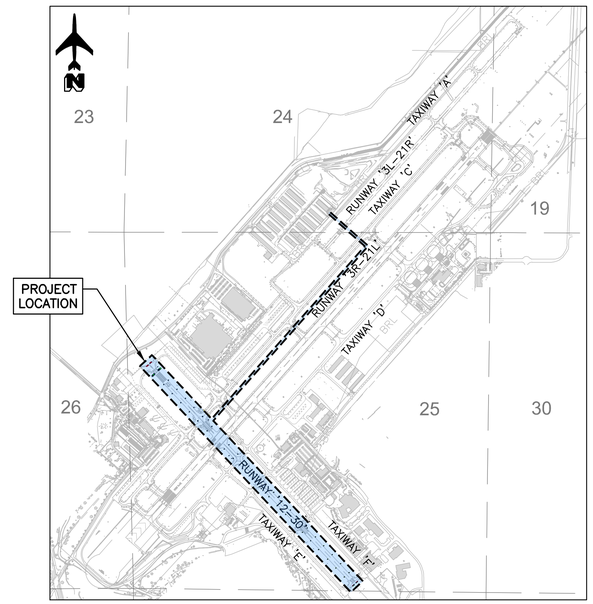
CITY COUNCIL
CONNIE CANTELME
BRANDON MONTOYA
ERIC MOORE
CATHEY RUSING
LOIS FRUHWIRTH
TED GAMBOGI

CITY MANAGER
DALLIN KIMBLE

AIRPORT MANAGEMENT
RICHARD CRIDER (AIRPORT DIRECTOR)
PETE TOWNSEND (AIRPORT OPERATIONS)
JOHN KUEBRICH (CAPITAL PROJECTS MANAGER)
CHRISTINA PAPA (AIRPORT DEPUTY DIRECTOR)



VICINITY MAP
NTS



LOCATION MAP
T15N R2W, SEC25 NTS

COORDINATION LIST

ORGANIZATION	CONTACT	PHONE
DESIGN		
ENGINEER (CIVIL)	DUANE DANA	480-757-7876
SURVEYOR	JASON GRAHAM	602-957-1155

ORGANIZATION	FACILITY	CONTACT	PHONE	DATE SENT	RESPONSE
UTILITIES					
ARIZONA PUBLIC SERVICE	POWER	BECKY RUDD-LACY	928-443-6657	08/12/2024	NO RESPONSE
CABLE ONE	CATV	BILL VAN GAASBEEK	928-713-2918	08/12/2024	NO RESPONSE
CENTURYLINK/LUMEN	TELEPHONE (DESIGN REVIEW)	ARMEN MCNERLIN	928-777-1114 X4665	08/12/2024	09/17/2024
UNISOURCE ENERGY SERVICES	GAS	KAILY MEDINA	928-607-7527	08/12/2024	NO RESPONSE

PROJECT BENCHMARK

POINT NUMBER 16
FOUND AIRPORT PAC 'PRC B' BENCHMARK
DESCRIBED AS:
STEEL ROD WITH PUNCHMARK IN HANDHOLE.
GRID NORTHING = 1328014.96
GRID EASTING = 547816.39
PUBLISHED ELEVATION = 5004.93

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PROJECT HAS BEEN COMPLETED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND REFERENCED STANDARDS, EXCEPT AS SHOWN HEREON; THAT THESE RECORD DRAWING PLANS REFLECT THE POSITION OF CONSTRUCTED IMPROVEMENTS BASED ON FIELD MEASUREMENTS; AND THAT THE MATERIALS USED IN CONSTRUCTION ARE AS SHOWN BASED ON FIELD OBSERVATION AND TEST RESULTS.

THIS CERTIFICATION DOES NOT WARRANT MATERIALS, WORKMANSHIP, METHODS OF CONSTRUCTION, OR OTHER ITEMS AFFECTING THE WARRANTY OF THIS PROJECT, TO THE CITY OF PRESCOTT. USERS OF THIS INFORMATION ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ACTUAL CONDITIONS.

REGISTERED CIVIL ENGINEER _____ DATE _____

REGISTRATION NUMBER _____

CONSTRUCTION INSPECTION APPROVAL

CONTRACTOR _____ DATE _____

PERMIT NUMBER _____ DATE _____

APPROVED: _____ DATE _____
CITY OF PRESCOTT INSPECTOR

APPROVALS

APPROVED: _____ DATE _____
CITY ENGINEER

APPROVED: _____ DATE _____
UTILITIES MANAGER

APPROVED: _____ DATE _____
PROGRAM DEVELOPMENT MANAGER

△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

COVER

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25	G1.1	1 OF 43
SCALE: NTS				

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

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PRC PROJECT NO. 2024-066-15, PRC RW 12-30 ELECTRICAL IMPROVEMENTS, 100% SUBMITTAL, 3/21/2025

AS BUILT DATE

DIBBLE

Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

LEGEND

- PROJECT BENCHMARK
- SECONDARY PROJECT BENCHMARK
- NEW ELECTRICAL
- EXISTING ELECTRICAL
- EXISTING CATCH BASIN
- EXISTING PULL BOX/VAULT
- EXISTING AC PVMT
- EXISTING PCCP PVMT
- NEW TAXIWAY EDGE LIGHT
- CENTER LINE
- NEW FLUSH-MOUNT EDGE LIGHT
- NEW RUNWAY EDGE LIGHT
- TAXIWAY EDGE REFLECTIVE MARKER
- NEW HANDHOLE
- EXISTING UTILITY PEDESTAL
- EXISTING FENCE
- AIRPORT PROPERTY BOUNDARY
- EXISTING WINDCONE
- EXISTING ELEVATED TAXIWAY EDGE LIGHT
- EXISTING ELEVATED RUNWAY EDGE LIGHT
- EXISTING RUNWAY END/THRESHOLD LIGHT
- EXISTING HANDHOLE
- EXISTING AIRSIDE GUIDANCE SIGN
- EXISTING RUNWAY END IDENTIFIER LIGHT (REIL)
- EXISTING PRECISION APPROACH PATH INDICATOR (PAPI)

ABBREVIATIONS

ABC	AGGREGATE BASE COURSE
ADG	AIRPLANE DESIGN GROUP
AC	ASPHALT CONCRETE
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM
BCF	BRASS CAP FLUSH
BM	BENCHMARK
C/L	CENTERLINE
CONT ITEM	CONTINGENT ITEM
CONST	CONSTRUCTION
CP	CONTROL POINT
CMP	CORRUGATED METAL PIPE
DIP	DUCTILE IRON PIPE
EOP	EDGE OF PAVEMENT
EX, EXST	EXISTING
FAA	FEDERAL AVIATION ADMINISTRATION
FG	FINISHED GRADE
FL	FLOWLINE
G	GROUND
GR	GRATE
HW	HEAD WALL
IE, INV	INVERT ELEVATION
LCA	LOCALIZER CRITICAL AREA
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MOD	MODIFIED
NPI	NON-PAY ITEM
OC	ON CENTER
OFA	OBJECT FREE AREA
OFZ	OBJECT FREE ZONE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PC	POINT OF CURVATURE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
RGRCP	RUBBER GASKETED REINFORCED CONCRETE PIPE
ROFA	RUNWAY OBJECT FREE AREA
RSA	RUNWAY SAFETY AREA
RW	RUNWAY
STD DET	STANDARD DETAIL
SD	STORM DRAIN
SRHDPE	SPIRAL RIBBED HIGH DENSITY POLYETHYLENE
SS	SANITARY SEWER
SRMP	SPIRAL RIB METAL PIPE
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBM	TEMPORARY BENCHMARK
TLOFA	TAXILANE OBJECT FREE AREA
TOFA	TAXIWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TW	TAXIWAY
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
USFS	U.S. FOREST SERVICE
YAG	YAVAPAI ASSOCIATION OF GOVERNMENT

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) & CITY OF PRESCOTT (COP) CONSTRUCTION STANDARDS & SPECIFICATIONS. LATEST REVISIONS, UNLESS SPECIFICALLY APPROVED BY THE CITY AND MODIFIED ON THE PLANS, IN CONJUNCTION WITH THE LATEST REVISIONS OF THE MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS (MAG STANDARDS), UNLESS SPECIFICALLY MODIFIED ON THE PLANS, ALL IN CONJUNCTION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULARS (AC) AS IDENTIFIED AND SPECIFIED WITHIN THE PLANS AND CONTRACT DOCUMENTS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF MAG AND CITY OF PRESCOTT STANDARDS AND SPECIFICATIONS AS WELL AS ALL OTHER FEDERAL STANDARDS AND SPECIFICATIONS NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS.
3. ALL PLANS SIGNED BY THE CITY ENGINEER ARE NULL AND VOID ONE YEAR FROM DATE OF SIGNATURE IF CONSTRUCTION HAS NOT STARTED. RESUBMITTAL AND REVIEW SHALL BE REQUIRED, AFTER ONE YEAR.
4. ALL QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE, ARE NOT VERIFIED BY THE PUBLIC WORKS DIRECTOR, AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT SHALL BE BASED ON BID SCHEDULE ITEMS FOR ACTUAL QUANTITIES PROVIDED AND INSTALLED. THE CONTRACTOR SHALL NOT BE RELIEVED OF HIS RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING WORK QUANTITIES PRIOR TO BIDDING.
5. CITY OF PRESCOTT PUBLIC WORKS DEPARTMENT PERMIT(S) WILL BE REQUIRED FOR ALL OFF-SITE CONSTRUCTION AND CONSTRUCTION WITHIN PUBLIC RIGHT OF WAY OR EASEMENTS.
6. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, AT HIS OWN EXPENSE, SUCH PERMITS AS ARE REQUIRED FROM THE APPROPRIATE AGENCIES.
7. THE PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 72 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION (928)777-1140.
8. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE PUBLIC WORKS DIRECTOR AND/OR ALL WORK MATERIALS NOT IN CONFORMATION WITH THE PLANS AND SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ALL UNDERGROUND OBSTRUCTIONS AND UTILITY LINES IN THE WORK AREA. THE ENGINEER AND THE CITY OF PRESCOTT WILL NOT GUARANTEE ANY LOCATIONS OR ELEVATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR MAKING A COMPLETE AND ACCURATE ON-SITE DETERMINATION OF THE LOCATIONS OF ALL UTILITIES, STRUCTURES, AND FIELD CONDITIONS WHICH MAY AFFECT THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO STRUCTURES AND UTILITIES ENCOUNTERED DURING CONSTRUCTION AND SHALL FIELD EXPOSE EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING IN THEIR VICINITY.
10. THE CONTRACTOR IS REQUIRED TO CONTACT ARIZONA 811 (1-800-782-5348) A MINIMUM OF TWO WORKING DAYS (48 HOURS) PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION AND/OR SUPPORT OF ALL UTILITIES, POWER POLES, ETC., THAT MAY BE NECESSARY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL, TRAFFIC CONTROL PLANS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL DETERMINE AND SUBMIT FOR APPROVAL THE EXACT SIGNING/TRAFFIC CONTROL DEVICES NECESSARY AND ALL TRAFFIC CONTROL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS THEREOF. NO STREET IS TO BE CLOSED, RESTRICTED, OR CONSTRUCTED UPON UNTIL A TRAFFIC CONTROL PLAN IS PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE PUBLIC WORKS DIRECTOR ONE WEEK IN ADVANCE FOR REVIEW AND APPROVAL.
13. APPROPRIATE EMERGENCY AGENCIES SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CLOSING OF STREETS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SURVEYING AND LAYOUT WITH CONTROL PROVIDED BY THE DESIGN ENGINEER OR HIS DESIGNEE.
15. THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL MEASURES SUFFICIENT TO PRODUCE MATERIALS AND WORKMANSHIP OF ACCEPTABLE QUALITY. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT A QUALITY CONTROL PLAN. THE CONTRACTOR AT HIS OWN EXPENSE SHALL PROVIDE AN INDEPENDENT GEOTECHNICAL FIRM TO PERFORM QUALITY CONTROL TESTING SUCH AS SOILS AND CONCRETE TESTING, AND FULL TIME ASPHALTIC CONCRETE LAYDOWN COMPACTION TESTING AND ADEQUATE PLANT CONTROL FOR EACH PAVING DAY. THE CITY, BY SEPARATE CONTRACT, WILL BE RESPONSIBLE FOR QUALITY ASSURANCE TESTING AS IT MAY DEEM NECESSARY.
16. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS OF TESTING AND INSPECTION, INCLUDING THE PRESENCE OF CITY INSPECTORS, REQUIRED AT NIGHT OR ON WEEKENDS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RE-WORK AND/OR REMOVAL AND REPLACEMENT OF ALL MATERIALS REPRESENTED BY FAILING TESTS OR SUBSTANDARD WORKMANSHIP.
18. THE CONTRACTOR SHALL IMPLEMENT BEST-HOUSE-KEEPING MEASURES, AND EROSION AND SEDIMENT CONTROL MEASURES, TO PREVENT THE TRANSPORT OF CONSTRUCTION MATERIALS INTO DRAINAGE INLETS, STORM DRAIN MANHOLES, UTILITY STRUCTURES, OR ONTO ADJACENT STREETS AND PROPERTIES.
19. APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL THE WRITTEN FINAL ACCEPTANCE OF A COMPLETE AND WORKABLE UNIT.
20. THE CITY OF PRESCOTT MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN ITS JUDGEMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSTABLE, OR THERE IS A DANGER TO THE PUBLIC HEALTH AND SAFETY.
21. ALL OBSTRUCTIONS IN THE RIGHT-OF-WAY SHALL BE REMOVED BEFORE ANY CONSTRUCTION IS PERMITTED.
22. REMOVAL OF STRUCTURES AND OBSTRUCTIONS AS NECESSARY TO COMPLETE THE WORK, OTHER THAN SPECIFICALLY SCHEDULED IN THE BID, IS INCIDENTAL

GENERAL NOTES (CONT)

TO THE CONTRACT. NO SEPARATE MEASUREMENT OF OR PAYMENT FOR UNSCHEDULED REMOVAL ITEMS WILL BE MADE.

23. CLEARING AND GRUBBING IS CONSIDERED INCIDENTAL TO THE WORK UNLESS SCHEDULED IN THE BID. NO SEPARATE MEASUREMENT OF OR PAYMENT FOR CLEARING, GRUBBING, AND MISC REMOVALS WILL BE MADE. ALL EXCAVATION, EMBANKMENTS, AND FILLS SHALL FIRST BE CLEARED OF STUMPS, TRASH, WEEDS, RUBBISH, AND LOOSE BOULDERS WHICH SHALL BE REMOVED AND DISPOSED OF. THE CONTRACTOR MUST SATISFY HIMSELF REGARDING THE CHARACTER AND AMOUNT OF LOAM, CLAY, SAND, QUICKSAND, HARDPAN, GRAVEL, ROCK, WATER, AND ALL OTHER MATERIAL TO BE ENCOUNTERED AND WORK TO BE PERFORMED.
24. THE CONTRACTOR SHALL GUARD AGAINST DAMAGE DURING CONSTRUCTION TO EXISTING PROPERTIES AND IMPROVEMENTS. ANY ITEMS DAMAGED BY THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND OR BETTER AT CONTRACTOR'S EXPENSE.
25. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOBSITE FOR MAINTAINING DUST CONTROL, AND SHALL CONTROL DUST AS DIRECTED BY THE APPROPRIATE AGENCIES, AS WELL AS ANY FOREIGN OBJECT DEBRIS (FOD) WITHIN THE AOA.
26. STREET AND TRAFFIC SIGNS WILL BE RELOCATED BY THE CONTRACTOR, IF NECESSARY, AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.
27. BACKFILL COMPACTION SHALL BE TYPE I (MAG, SECTION 601) UNLESS OTHERWISE NOTED WITHIN THE PLANS OR SPECIFICATIONS.
28. AGGREGATE BASE COURSE SHALL NOT BE PLACED ON SUBGRADE UNTIL SUBGRADE REQUIREMENTS HAVE BEEN ACHIEVED AND ACCEPTED BY THE RESIDENT ENGINEER.
29. NO PAVING CONSTRUCTION SHALL BE STARTED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE ROADWAY PRISM ARE VERIFIED FOR DETAIL CONFORMANCE, COMPLETED AND TESTED (TO INCLUDE BUT NOT LIMITED TO) SEWER TESTING, LOW AIR TESTING OF MAIN LINE AND SERVICES, TRACE WIRE TESTING, DEFLECTION TESTING AND VERIFICATION OF MANHOLES CONFORMING TO COP DETAIL 420P. WATER TESTING CHLORINATION/DISINFECTING OF MAIN LINE SERVICES, PRESSURE TESTING, TRACE WIRE TESTING AND VERIFICATION OF VALVE BOXES CONFORMING TO THE COP DETAIL 391P.
30. ALL AC PAVEMENT SECTIONS ARE SHOWN IN THE PLANS. MIX DESIGNS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO START OF PRODUCTION.
31. ALL UTILITY FRAMES, COVERS, VALVE BOXES, MANHOLES, ETC. SHALL BE ADJUSTED TO FINISH ASPHALT GRADE BEFORE PLACEMENT OF SURFACE COURSE BY THE CONTRACTOR PER COP STANDARD DETAILS.
32. ALL DISTURBED FENCES SHALL BE REPLACED IN KIND. CONTRACTOR SHALL EXTEND FENCE REPLACEMENT TO THE CLOSEST UPRIGHT SUPPORT NECESSARY FOR STABILITY.
33. ACCEPTANCE OF THE COMPLETED PAVING STRUCTURE WILL NOT BE GIVEN UNTIL REPRODUCIBLE "AS-BUILT" PLANS HAVE BEEN SUBMITTED BY THE PROJECT ENGINEER OR CONTRACTOR, AND APPROVED BY THE CITY.
34. ALL CONCRETE TO BE AT LEAST 3000 PSI CLASS "A" PORTLAND CEMENT CONCRETE, UNLESS OTHERWISE SPECIFIED ON THE PLANS, SPECIFICATIONS, OR IN STANDARD DETAILS.
35. EDGES OF CONCRETE STRUCTURES TO HAVE A ¾" CHAMFER, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
36. CONCRETE SURFACES TO HAVE A BROOM FINISH UNLESS OTHERWISE NOTED ON THE PLANS.
37. ALL EXPANSION JOINTS TO BE SEALED WITH 1/2" EXPANSION JOINT, PRE-FORMED JOINT FILLER AND SEALER, IN ACCORDANCE WITH MAG SECTION 729, UNLESS OTHERWISE SPECIFIED IN THE PLANS OR SPECIFICATIONS.
38. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL OFFSITE CURBS, PAVEMENT AND SIDEWALKS HAVE BEEN SWEPT CLEAN OF ALL DIRT AND DEBRIS, AS WELL AS ALL PAVEMENT WITHIN THE AIR OPERATIONS AREA (AOA). THE CONTRACTOR IS DIRECTED TO PRC'S CONSTRUCTION SAFETY PLAN FOR FURTHER DIRECTION.
39. CONTRACTOR/DEVELOPER SHALL WARRANT ALL WORK FOR A MINIMUM OF A TWO YEAR PERIOD.
40. THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL TAKE PRECAUTIONS TO PROTECT THE WORK AND MATERIALS ASSOCIATED WITH THESE PLANS. ANY DAMAGE TO THESE ITEMS BEFORE THE PROJECT IS TURNED OVER TO THE OWNER SHALL BE REPAIRED IN KIND BY THE CONTRACTOR AND AT HIS SOLE EXPENSE. SEE GENERAL PROVISIONS.
41. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION SURVEY AND STAKING.

Contact Arizona 811 at least two full working days before you begin excavation
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Call 811 or click Arizona811.com

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

LEGEND, ABBREVIATIONS & GENERAL NOTES

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: NTS			G1.2	2 OF 43

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AS BUILT DATE

DIBBLE

Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 Arizona U.S.A.

PRESCOTT REGIONAL AIRPORT
RUNWAY '12-30' ELECTRICAL IMPROVEMENTS
ESTIMATED QUANTITIES

LINE No.	ITEM No.	DESCRIPTION	APPROX. QTY.	UNIT	AS-BUILT QTY.
		CIVIL			
1	C-105-6.1	Mobilization	1	LS	
2	GTP-50.01.1	Location of Underground Utilities	1	LS	
3	GTP-60.04.1	Airfield Safety and Security	1	LS	
		ELECTRICAL			
4	L-100-5.1	Remove and Temporarily Reinstall Runway Edge, End / Threshold Light and Isolation Transformer, Base Can to Remain	58	EA	
5	L-100-5.2	Remove Existing Runway Edge, End / Threshold Light and Isolation Transformer, Remove Base Can	2	EA	
6	L-100-5.3	Remove and Temporarily Reinstall In-pavement Runway Edge Light and Isolation Transformer, Base Can to Remain	2	EA	
7	L-100-5.4	Remove Existing Conductor, Conduit to Remain (15480 LF)	1	LS	
8	L-100-5.5	Remove, Temporarily Mount and Power Airfield Guidance Sign and Isolation Transformer, Demo Sign Base	7	EA	
9	L-100-5.6	Remove and Salvage Airfield Guidance Sign and Isolation Transformer, Sign Base to Remain	15	EA	
10	L-100-5.7	Excavate and Remove Existing Junction Can / Pull Box	1	EA	
11	L-100-5.8	Temporary Airfield Lighting Circuit Jumpers	1	LS	
12	L-100-5.9	Disconnect and Remove Existing CCR for Reinstallation or Return to Owner	6	EA	
13	L-100-5.10	Install and Reconnect Existing Relocated CCR, Reconnect Existing Feeder, Control / Monitoring Unit to Existing ALCMS and Test	3	EA	
14	L-100-5.11	Provide, Install and Connect New 10kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	2	EA	
15	L-100-5.12	Provide, Install and Connect New 7.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	1	EA	
16	L-100-5.13	Provide, Install and Connect New 2.5kW L-829 CCR with New Integrated Control / Monitoring Unit and Test	1	EA	
17	L-100-5.14	Provide and Install New Eaton, Type FD 20Amp, 2-Pole, 480V Breaker in Existing Panel	1	EA	
18	L-100-5.15	Provide and Install New Eaton, Type FD 30Amp, 2-Pole, 480V Breaker in Existing Panel	2	EA	
19	L-100-5.16	Provide and Install New Eaton, Type FD 40Amp, 2-Pole, 480V Breaker in Existing Panel	3	EA	
20	L-100-5.17	Provide Coordination and Tech Support for Manufacturer Testing and Commissioning of Relocated Existing and New CCRs	1	LS	
21	L-108-5.1	L-824, Type C, 1/C #8 AWG, 5kV Cable	11,050	LF	
22	L-108-5.2	L-824, Type C, 2/C #8 AWG, 5kV Cable	6,905	LF	
23	L-110-5.1	Single-way, (1) - 2" Conduit, Direct Earth Buried with Counterpoise	565	LF	
24	L-115-5.1	New L-867B Junction Can / Light Base with Blank Cover and Gasket	2	EA	
25	L-115-5.2	New 3" L-867B Base Can Extension on Existing Light Base with Concrete Surround for Raising Low Edge Light Bases	4	EA	
26	L-125-5.1	New L-852D(L) LED Medium Intensity Runway Edge Light (W/W) on Existing L-868 Light Base	2	EA	

PRESCOTT REGIONAL AIRPORT
RUNWAY '12-30' ELECTRICAL IMPROVEMENTS
ESTIMATED QUANTITIES

LINE No.	ITEM No.	DESCRIPTION	APPROX. QTY.	UNIT	AS-BUILT QTY.
27	L-125-5.2	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer, on New Concrete Sign Base	1	EA	
28	L-125-5.3	New L-858 Size 2, 1-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	3	EA	
29	L-125-5.4	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	3	EA	
30	L-125-5.5	New L-858 Size 1, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA	
31	L-125-5.6	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	2	EA	
32	L-125-5.7	New L-858 Size 2, 2-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA	
33	L-125-5.8	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	2	EA	
34	L-125-5.9	New L-858 Size 2, 3-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor	4	EA	
35	L-125-5.10	New L-858 Size 1, 4-Module Airfield Guidance Sign and Isolation Transformer on New Concrete Sign Base	1	EA	
36	L-125-5.11	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Concrete Sign Base with New Sign Ground Rod and Conductor	2	EA	
37	L-125-5.12	New L-858 Size 2, 4-Module Airfield Guidance Sign and Isolation Transformer on Existing Extended Concrete Sign Base with New Sign Ground Rod and Conductor	1	EA	
38	L-125-5.13	36" Concrete Sign Base Extension, Installed On Existing Sign Base (if Required)	2	EA	
39	L-125-5.14	Install and Connect New Sign Ground w/ Rod at New Sign on Existing Base (If Required)	5	EA	
40	L-125-5.15	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on New L-867 Base Can	1	EA	
41	L-125-5.16	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/W) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	17	EA	
42	L-125-5.17	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on New L-867 Base Can	1	EA	
43	L-125-5.18	New Elevated L-861(L) LED Runway Edge Light (Omni-Directional W/Y) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	21	EA	
44	L-125-5.19	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional R/R) and Isolation Transformer on New L-867 Base Can	2	EA	
45	L-125-5.20	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA	
46	L-125-5.21	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	2	EA	
47	L-125-5.22	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA	
48	L-125-5.23	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) and Isolation Transformer on Existing L-867 Base Can w/ New Bolts and Gasket	6	EA	
49	L-125-5.24	New L-861(L) LED Runway Edge Light (Omni-Directional W/W) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	2	EA	
50	L-125-5.25	New Elevated L-861(L) LED Runway Edge Light (Bi-Directional W/Y) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	2	EA	
51	L-125-5.26	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/R) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA	
52	L-125-5.27	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional W/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA	
53	L-125-5.28	New Elevated L-861E(L) LED Runway End / Threshold Light (Bi-Directional R/G) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA	
54	L-125-5.29	New Elevated L-861E(L) LED Runway End / Threshold Light (Uni-Directional G/Obscure) w/ Stems, Frangible Couplings and Isolation Transformers (Spares)	1	EA	

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2	G1.2	LEGEND, ABBREVIATIONS & GENERAL NOTES
3	G1.3	SHEET INDEX & QUANTITIES
4	G1.4	SURVEY CONTROL PLAN
5	G1.5	AIRPORT & PROJECT SITE PLAN
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6	G2.1	CONSTRUCTION PHASING PLAN OVERALL
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22	E3.1	AIRFIELD ELECTRICAL PLAN
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26	E3.5	AIRFIELD ELECTRICAL PLAN
27	E3.6	AIRFIELD ELECTRICAL PLAN
28	E3.7	AIRFIELD ELECTRICAL PLAN
29	E3.8	AIRFIELD ELECTRICAL PLAN
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32	E4.1	AIRFIELD GUIDANCE SIGNAGE SCHEDULE
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41	E6.1	EQUIPMENT DATA TABLES
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△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

SHEET INDEX & QUANTITIES

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: NTS			G1.3	3 OF 43

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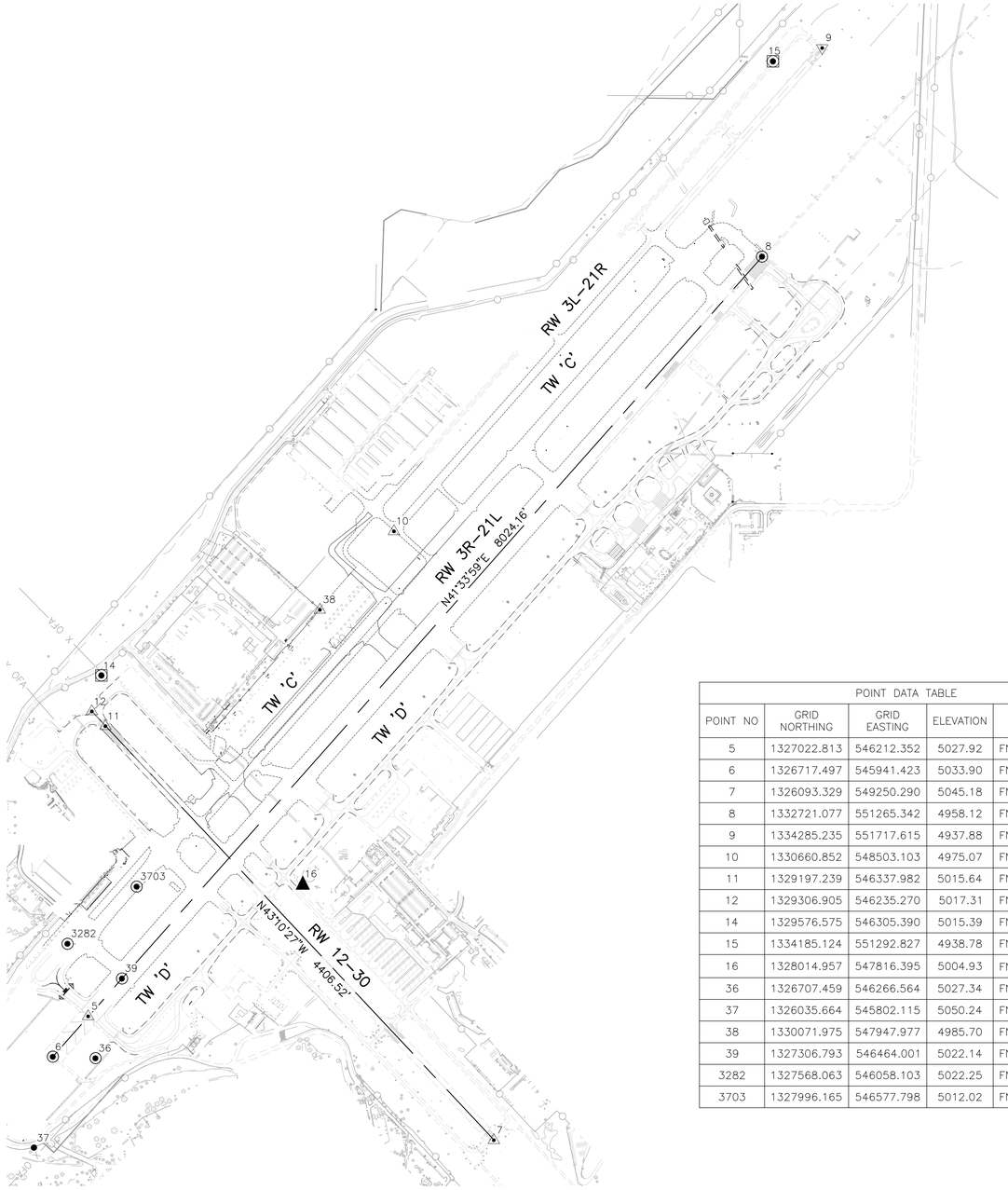


SURVEYOR'S NOTES

1. COORDINATES WERE VERIFIED IN THE FIELD USING REAL TIME KINEMATIC GPS OBSERVATIONS RELATIVE TO PUBLISHED CONTROL POINTS.
2. SURVEYED DURING THE MONTH OF MARCH 2019.
3. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROLS IN THE FIELD PRIOR TO CONSTRUCTION.
4. PROJECT META DATA
   UNITS: COORDINATES, DISTANCES AND ELEVATIONS ARE SHOWN IN INTERNATIONAL FEET (3.2808 IFT = 1 METER)
   INTERNATIONAL FOOT WAS USED BY REQUEST FROM PRESCOTT AIRPORT TO MATCH PREVIOUS TERMINAL PROJECT.

   HORIZONTAL DATUM (BASIS OF BEARINGS):
   NAD83 (2011 EPOCH) ARIZONA CENTRAL ZONE

   VERTICAL DATUM:
   NAVD '88

   PROJECT BENCHMARK:
   POINT NUMBER 16
   FOUND AIRPORT PAC 'PRC B' BENCHMARK DESCRIBED AS:
   STEEL ROD WITH PUNCHMARK IN HANDHOLE.
   GRID NORTHING = 1328014.96
   GRID EASTING = 547816.39
   PUBLISHED ELEVATION = 5004.93
5. THE COORDINATES PRESENTED ARE SHOWN TO THREE DECIMAL PLACES FOR CALCULATION PURPOSES AND ARE NOT REPRESENTATIVE OF THE PRECISION OF THE SURVEY MEASUREMENTS
6. THIS IS NOT A PROPERTY BOUNDARY SURVEY.

0' 250' 500' 1000'
SCALE: 1"=500'

POINT DATA TABLE

POINT NO	GRID NORTHING	GRID EASTING	ELEVATION	DESCRIPTION
5	1327022.813	546212.352	5027.92	FND-NAIL
6	1326717.497	545941.423	5033.90	FND-BCF
7	1326093.329	549250.290	5045.18	FND-NAIL
8	1332721.077	551265.342	4958.12	FND-BCF
9	1334285.235	551717.615	4937.88	FND-WASHER
10	1330660.852	548503.103	4975.07	FND-NAIL
11	1329197.239	546337.982	5015.64	FND-NAIL
12	1329306.905	546235.270	5017.31	FND-NAIL
14	1329576.575	546305.390	5015.39	FND-ACHH
15	1334185.124	551292.827	4938.78	FND-ACHH
16	1328014.957	547816.395	5004.93	FND-IBHH "PRC B"
36	1326707.459	546266.564	5027.34	FND-BCF COP
37	1326035.664	545802.115	5050.24	FND-RB
38	1330071.975	547947.977	4985.70	FND-NAIL T13941
39	1327306.793	546464.001	5022.14	FND-BCF
3282	1327568.063	546058.103	5022.25	FND-BCF PRC21L
3703	1327996.165	546577.798	5012.02	FND-BCF PRC21L

LEGEND

▲	BENCHMARK
— — —	RUNWAY CENTERLINE
FND-ACHH	FOUND ALUMINUM CAP IN HANDHOLE
FND-BCF	FOUND BRASS CAP FLUSH
FND-NAIL	FOUND MAG NAIL
FND-IBHH	FOUND IRON BAR IN HANDHOLE
FND-WASHER	FOUND NAIL WITH WASHER IN PAVEMENT
FND-RB	FOUND REBAR

AS BUILT DATE

DIBBLE

Registered Land Surveyor
CERTIFICATE NO.
47537
JASON P.
GRAHAM
Date Signed 01/23/24
ARIZONA, U.S.A.

REVISION	BY	DATE

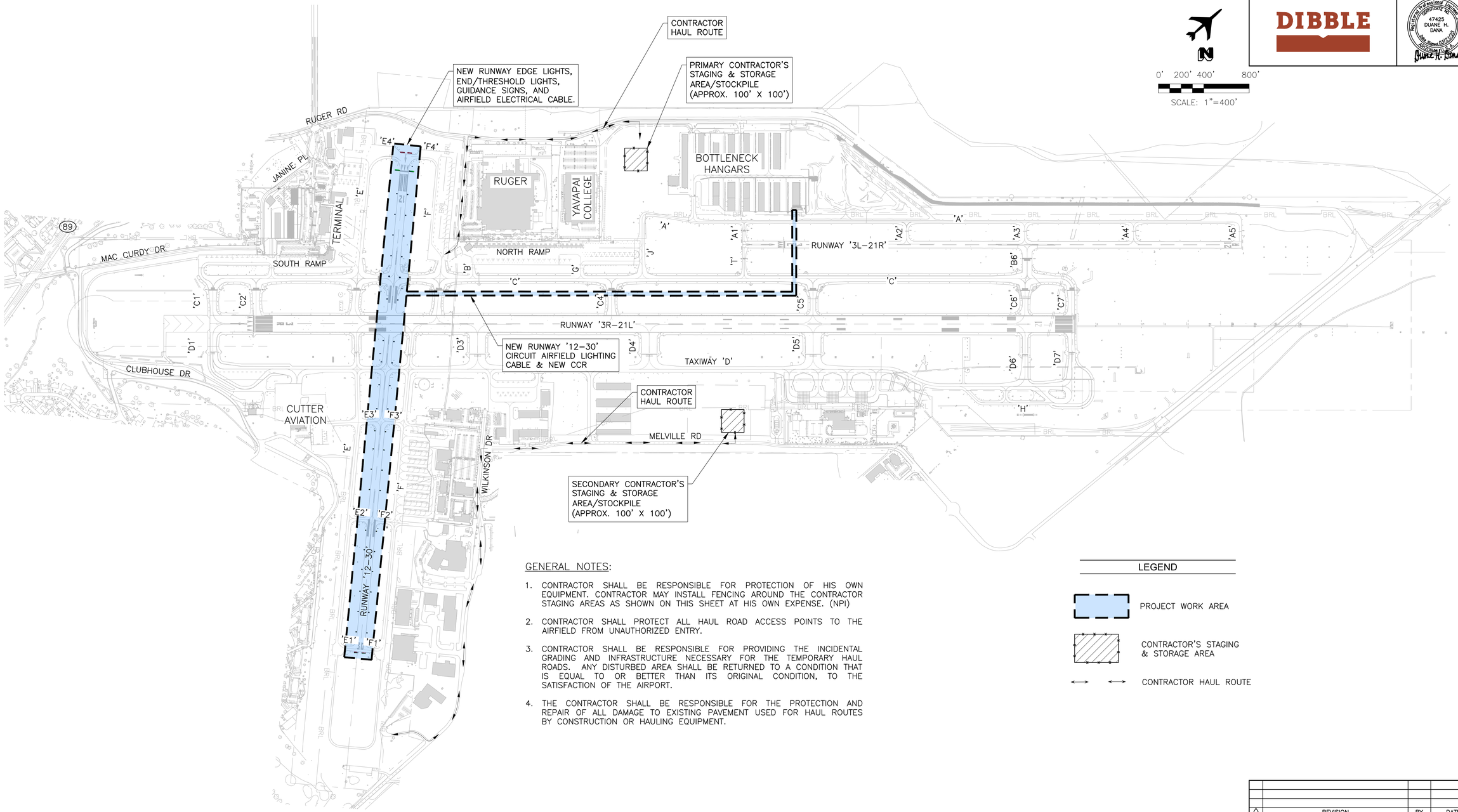
CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

SURVEY CONTROL PLAN

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 08/09	DATE: 08/09	DATE: 08/09		
SCALE: 1"=500'			G1.4	4 OF 43



AS BUILT DATE

DIBBLE

Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF HIS OWN EQUIPMENT. CONTRACTOR MAY INSTALL FENCING AROUND THE CONTRACTOR STAGING AREAS AS SHOWN ON THIS SHEET AT HIS OWN EXPENSE. (NPI)
2. CONTRACTOR SHALL PROTECT ALL HAUL ROAD ACCESS POINTS TO THE AIRFIELD FROM UNAUTHORIZED ENTRY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE INCIDENTAL GRADING AND INFRASTRUCTURE NECESSARY FOR THE TEMPORARY HAUL ROADS. ANY DISTURBED AREA SHALL BE RETURNED TO A CONDITION THAT IS EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION, TO THE SATISFACTION OF THE AIRPORT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL DAMAGE TO EXISTING PAVEMENT USED FOR HAUL ROUTES BY CONSTRUCTION OR HAULING EQUIPMENT.

LEGEND

- PROJECT WORK AREA
- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

AIRPORT & PROJECT SITE PLAN

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DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: 1"=400'			G1.5	5 OF 43

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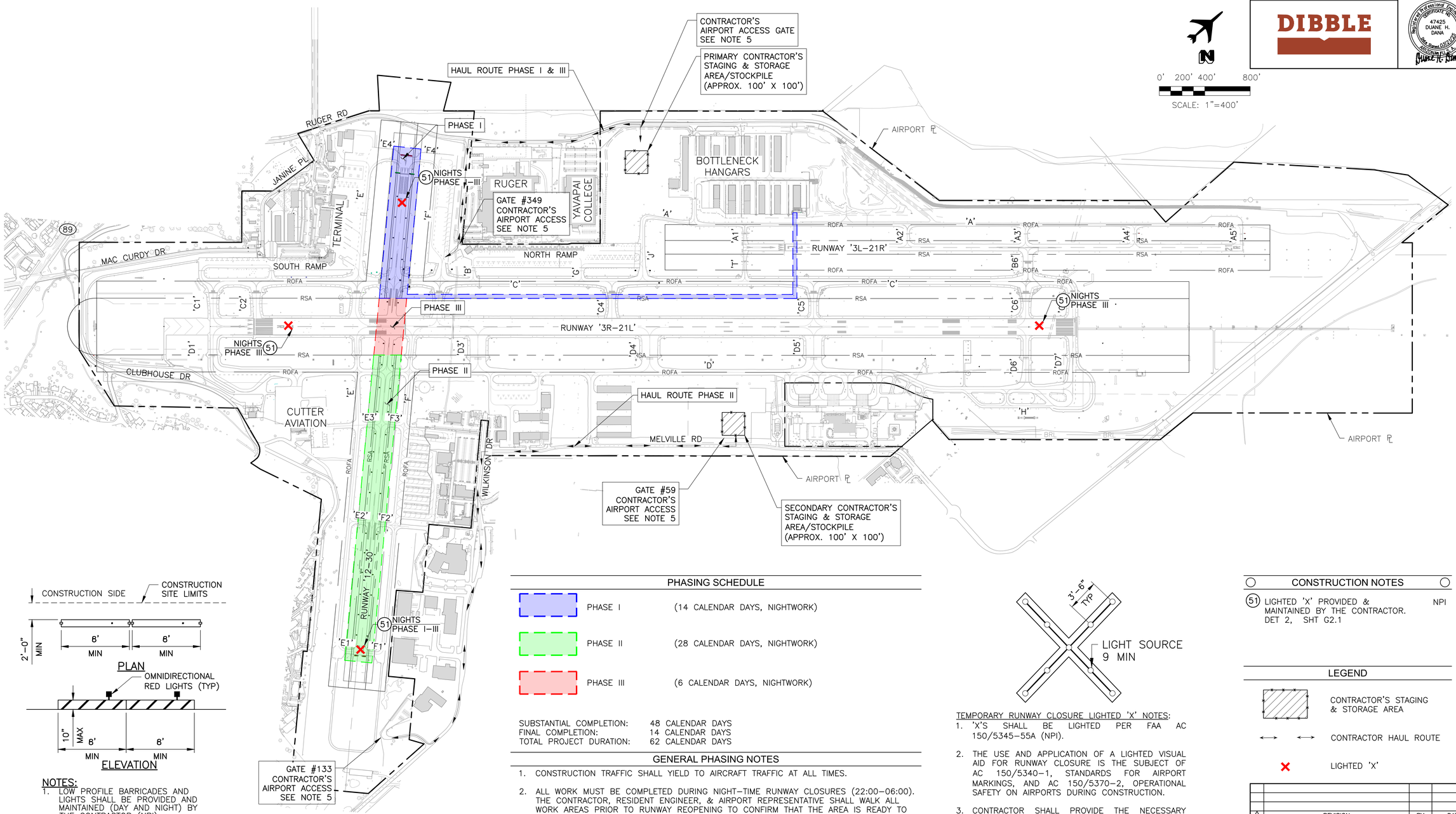
DIBBLE

Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.



NOTES:

1. LOW PROFILE BARRICADES AND LIGHTS SHALL BE PROVIDED AND MAINTAINED (DAY AND NIGHT) BY THE CONTRACTOR (NPI).
2. THE OWNER MAY DIRECT THE CONTRACTOR TO RELOCATE ANY BARRICADES AT THEIR DISCRETION AT NO ADDITIONAL COST TO OWNER.

1 LOW PROFILE BARRICADES
NO SCALE

PHASING SCHEDULE

	PHASE I	(14 CALENDAR DAYS, NIGHTWORK)
	PHASE II	(28 CALENDAR DAYS, NIGHTWORK)
	PHASE III	(6 CALENDAR DAYS, NIGHTWORK)

SUBSTANTIAL COMPLETION:	48 CALENDAR DAYS
FINAL COMPLETION:	14 CALENDAR DAYS
TOTAL PROJECT DURATION:	62 CALENDAR DAYS

GENERAL PHASING NOTES

1. CONSTRUCTION TRAFFIC SHALL YIELD TO AIRCRAFT TRAFFIC AT ALL TIMES.
2. ALL WORK MUST BE COMPLETED DURING NIGHT–TIME RUNWAY CLOSURES (22:00–06:00). THE CONTRACTOR, RESIDENT ENGINEER, & AIRPORT REPRESENTATIVE SHALL WALK ALL WORK AREAS PRIOR TO RUNWAY REOPENING TO CONFIRM THAT THE AREA IS READY TO BE OPENED TO AIRCRAFT TRAFFIC.
3. CONTRACTOR SHALL PROVIDED & MAINTAIN LIGHTED X'S ON THE RUNWAY TO BE CLOSED EACH NIGHT & REMOVE FOR DAYTIME OPERATIONS.
4. BARRICADE PLACEMENT & PAVEMENT MARKING OBLITERATION MAY BE ADJUSTED AT THE DISCRETION OF THE CITY AND/OR AIRPORT STAFF TO ACCOMMODATE SPECIFIC AIRCRAFT MOVEMENT NEEDS.
5. ACCESS GATES MUST EITHER REMAIN CLOSED & LOCKED OR HAVE A CONTRACTOR–PROVIDED GATE GUARD WHEN OPEN (NPI).

TEMPORARY RUNWAY CLOSURE LIGHTED 'X' NOTES:

1. 'X'S SHALL BE LIGHTED PER FAA AC 150/5345–55A (NPI).
2. THE USE AND APPLICATION OF A LIGHTED VISUAL AID FOR RUNWAY CLOSURE IS THE SUBJECT OF AC 150/5340–1, STANDARDS FOR AIRPORT MARKINGS, AND AC 150/5370–2, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE THE NECESSARY MEANS TO SECURE THE 'X'S IN A MANNER THAT ENSURES AIRPORT SAFETY, (ANCHORING, SAND BAGS, ETC.) (NPI).

2 TEMPORARY RUNWAY CLOSURE LIGHTED 'X' DETAIL
NTS

CONSTRUCTION NOTES

51 LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1 — NPI

LEGEND

CONTRACTOR'S STAGING & STORAGE AREA

CONTRACTOR HAUL ROUTE

LIGHTED 'X'

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN OVERALL

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: 1"=400'			G2.1	6 OF 43

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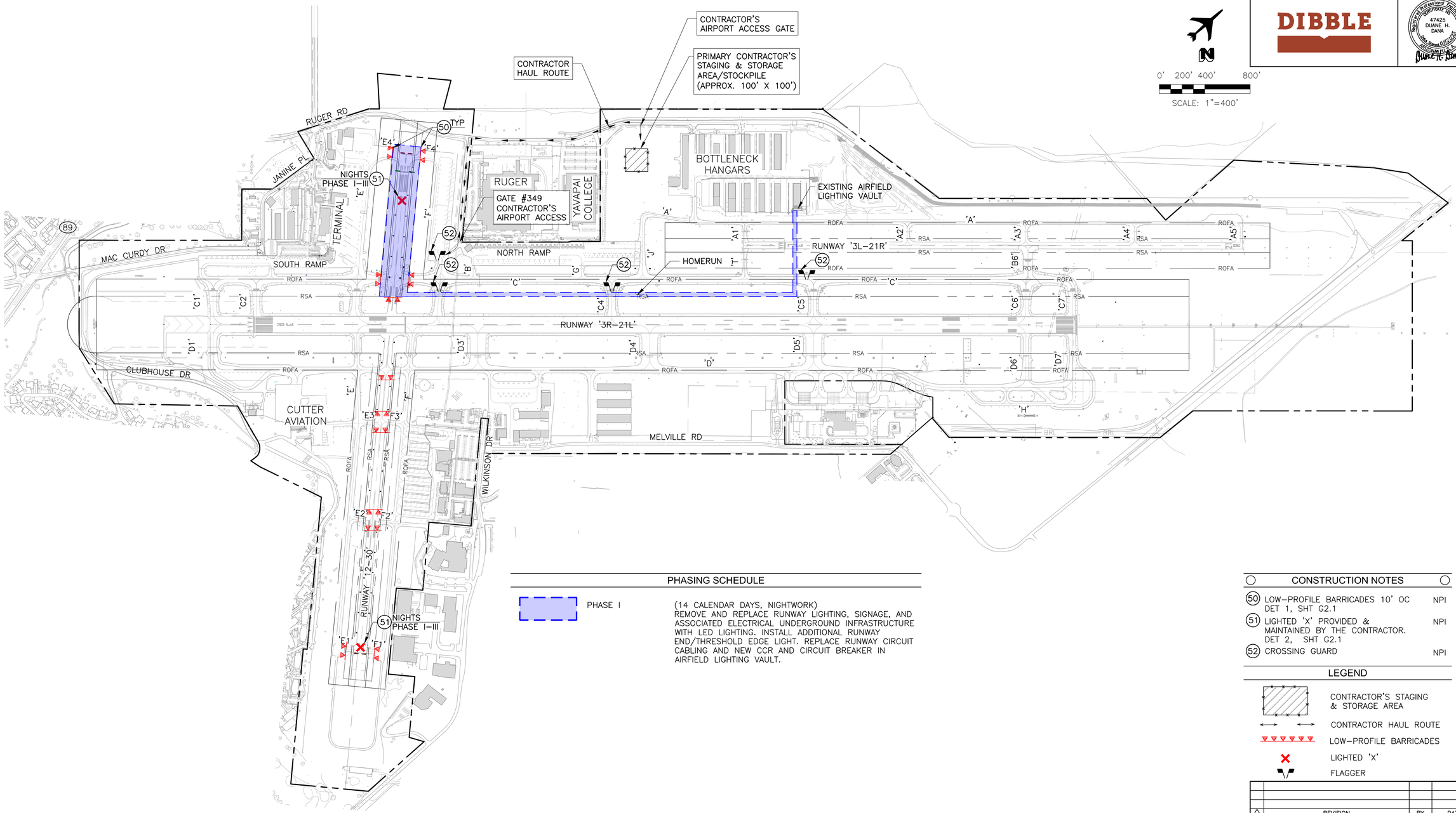

PHASING SCHEDULE

	PHASE I	(14 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING. INSTALL ADDITIONAL RUNWAY END/THRESHOLD EDGE LIGHT. REPLACE RUNWAY CIRCUIT CABLING AND NEW CCR AND CIRCUIT BREAKER IN AIRFIELD LIGHTING VAULT.

CONSTRUCTION NOTES

50	LOW-PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI
52	CROSSING GUARD	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW-PROFILE BARRICADES
- LIGHTED 'X'
- FLAGGER

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE I

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: 1"=400'			G2.2	7 OF 43

AS BUILT DATE

DIBBLE

Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

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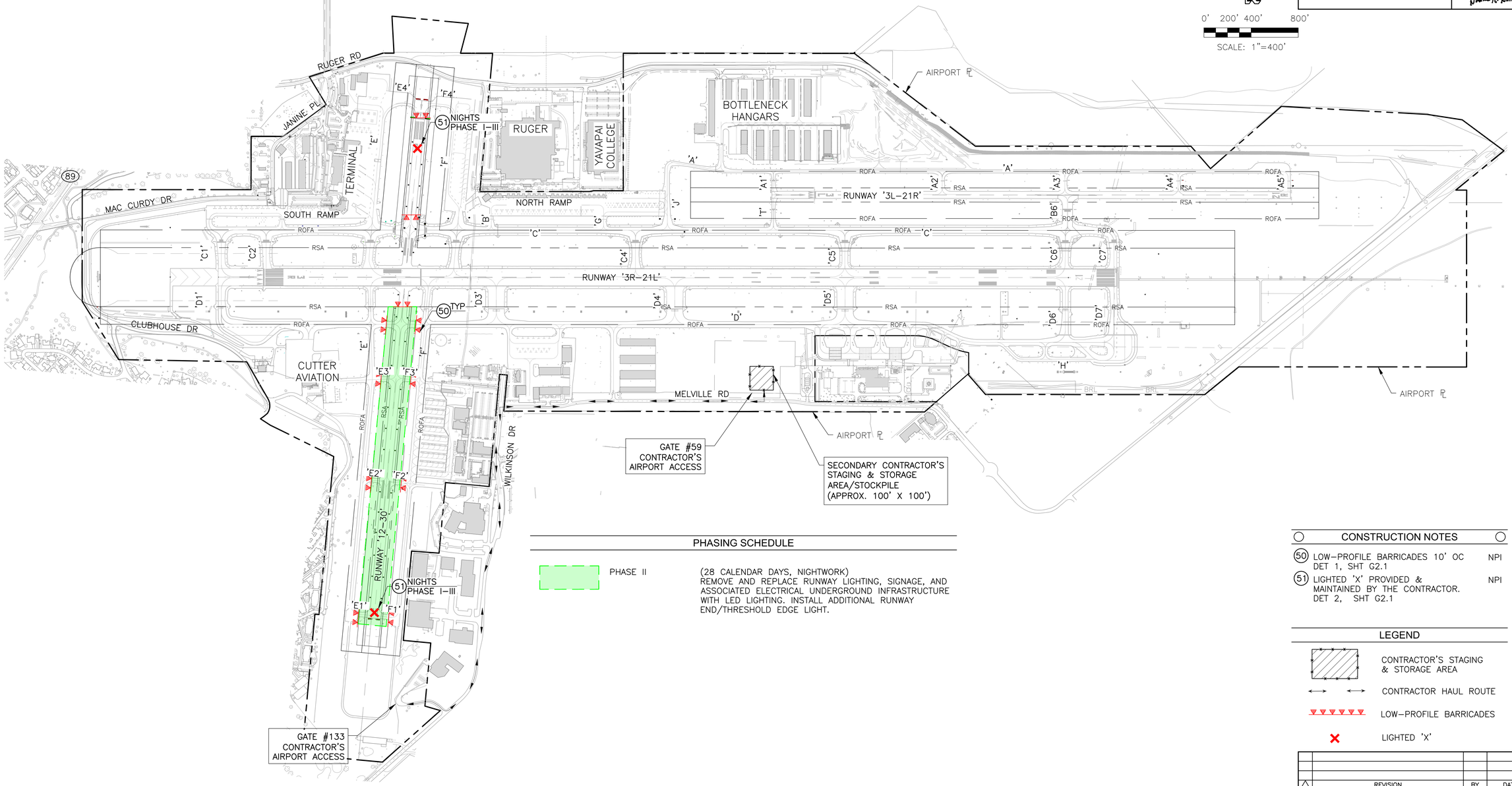
Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

0' 200' 400' 800'

SCALE: 1"=400'



PHASING SCHEDULE

	PHASE II	(28 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING. INSTALL ADDITIONAL RUNWAY END/THRESHOLD EDGE LIGHT.

CONSTRUCTION NOTES

50	LOW–PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW–PROFILE BARRICADES
- LIGHTED 'X'

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE II

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: 1"=400'			G2.3	8 OF 43

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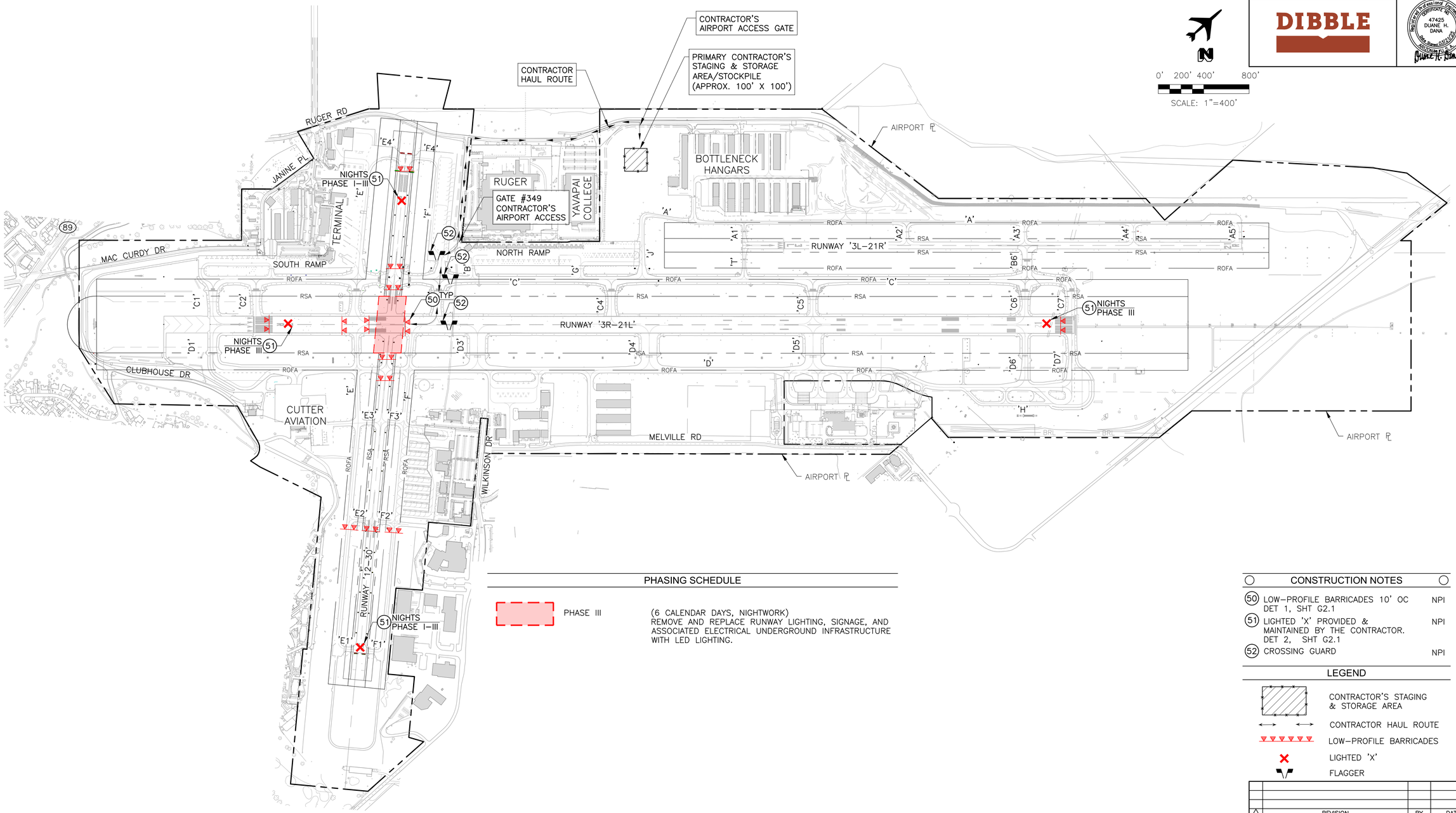

PHASING SCHEDULE

	PHASE III	(6 CALENDAR DAYS, NIGHTWORK) REMOVE AND REPLACE RUNWAY LIGHTING, SIGNAGE, AND ASSOCIATED ELECTRICAL UNDERGROUND INFRASTRUCTURE WITH LED LIGHTING.

CONSTRUCTION NOTES

50	LOW–PROFILE BARRICADES 10' OC DET 1, SHT G2.1	NPI
51	LIGHTED 'X' PROVIDED & MAINTAINED BY THE CONTRACTOR. DET 2, SHT G2.1	NPI
52	CROSSING GUARD	NPI

LEGEND

- CONTRACTOR'S STAGING & STORAGE AREA
- CONTRACTOR HAUL ROUTE
- LOW–PROFILE BARRICADES
- LIGHTED 'X'
- FLAGGER

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

RW 12-30 ELECTRICAL IMPROVEMENTS

CONSTRUCTION PHASING PLAN
PHASE III

DRN: DSO	DES: VS	CK: DHD	DRAWING	SHEET
DATE: 3/25	DATE: 3/25	DATE: 3/25		
SCALE: 1"=400'			G2.4	9 OF 43

AS BUILT DATE

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Registered Professional Engineer (Civil) CERTIFICATE NO. 47425 DUANE H. DANA Date Signed 03/21/25 ARIZONA U.S.A.

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DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

ELECTRICAL ABBREVIATIONS:

1/C	SINGLE CONDUCTOR
2/C	TWO CONDUCTORS
APS	ARIZONA PUBLIC SERVICE
ATCT	AIR TRAFFIC CONTROL TOWER
BCC	BARE COPPER CONDUCTOR (GROUND)
CCR	CONSTANT CURRENT REGULATOR
CE	CONCRETE ENCASED
CKT	CIRCUIT
COMM	COMMUNICATIONS
DCME	DIGITAL CONTROL AND MONITORING EQUIPMENT
DIA	DIAMETER
FAA	FEDERAL AVIATION ADMINISTRATION
FO	FIBER OPTIC CABLE
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
MIRL	MEDIUM INTENSITY RUNWAY LIGHT
NPI	NON–PAY ITEM
PAPI	PRECISION APPROACH PATH INDICATOR
PR	PAIR
PRC	PRESCOTT/ERNEST A. LOVE FIELD
PVC	POLY–VINYL CHLORIDE
RDR	RUNWAY DISTANCE REMAINING
REIL	RUNWAY END IDENTIFIER LIGHT
RGL	RUNWAY GUARD LIGHT
SE	SLURRY ENCASED
SGN	SIGN
TYP	TYPICAL

ELECTRICAL LEGEND:

(UNLESS OTHERWISE NOTED ON PLANS)

	PVC W/#8–5KV L–824 TYPE "C" CABLE PER INDICATED LIGHTING CIRCUIT. (QUANTITY AND SIZE AS INDICATED ON PLAN SHEETS)
	NEW ELECTRICAL CONDUIT AND CONDUCTOR
	EXISTING ELECTRICAL CONDUIT AND CONDUCTOR
	EXISTING FIBER OPTIC CABLE IN DUCTBANK
	SPLICE POINT OF EXISTING AND NEW CONDUIT AND CONDUCTOR
HH	EXISTING HANDHOLE
	EXISTING ELEVATED RUNWAY GUARD LIGHT
OR	EXISTING ELEVATED EDGE LIGHT
OR	EXISTING AIRFIELD GUIDANCE SIGN
	EXISTING WINDCONE
	EXISTING REIL
	EXISTING PAPI LIGHT HOUSING ASSEMBLY
	NEW AIRFIELD GUIDANCE SIGN
G W	NEW RUNWAY LED L–861E(L) THRESHOLD/END LIGHT (GREEN/WHITE) AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE CAN
R	NEW L–861E(L) LED RUNWAY THRESHOLD/END LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE CAN OR NEW L–867 BASE CAN (SEE AIRFIELD ELECTRICAL PLANS)
G	NEW L–861E(L) LED RUNWAY THRESHOLD LIGHT (UNIDIRECTIONAL–GREEN) AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE CAN
	NEW L–852D LED IN–PAVEMENT RUNWAY EDGE LIGHT ON EXISTING L–868 BASE CAN
	NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE CAN OR NEW L–867 BASE CAN (SEE AIRFIELD ELECTRICAL PLANS)

SELECTED FAA ADVISORY CIRCULARS FOR AIRPORT PROJECTS:

(MOST RECENT VERSION TO BE FOLLOWED)

150/5340–18	STANDARDS FOR AIRPORT SIGN SYSTEMS
150/5340–30	DESIGN & INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS
150/5345–7	SPECIFICATION FOR L–824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS
150/5345–26	SPECIFICATION FOR L–823 PLUG AND RECEPTACLE, CABLE CONNECTORS
150/5345–42	SPECIFICATION FOR AIRPORT LIGHT BASES, TRANSFORMER HOUSINGS, JUNCTION BOXES, AND ACCESSORIES
150/5345–44	SPECIFICATION FOR RUNWAY AND TAXIWAY SIGNS
150/5345–46	SPECIFICATION FOR RUNWAY AND TAXIWAY LIGHT FIXTURES
150/5345–47	SPECIFICATION FOR SERIES TO SERIES ISOLATION TRANSFORMERS FOR AIRPORT LIGHTING SYSTEMS
150/5345–53	AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM
150/5370–2	OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION
150/5370–10	STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS
ADDENDUM	AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM (PUBLISHED MONTHLY AND LISTING APPROVED SUPPLIERS)

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E5.1	CONDUIT DUCTBANK DETAILS
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E5.5	NEW CAST–IN–PLACE AIRFIELD GUIDANCE SIGN BASE DETAIL
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E5.7	IN–PAVEMENT EDGE LIGHTING & SIGN BASE EXTENSION DETAILS
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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

ELECTRICAL LEGEND

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E1.1	10 OF 43

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CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

ELECTRICAL GENERAL NOTES

1. GROUNDS RODS AND COUNTERPOISE WIRE ARE CONSIDERED INCIDENTAL TO FIXTURE AND CONDUIT INSTALLATION.
2. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL DEMOLITION AND CONSTRUCTION WITH CIVIL CONTRACTOR TO REDUCE CONFLICTS THAT AFFECT CONSTRUCTION PHASING AND SCHEDULING.
3. CONTRACTOR SHALL FIELD VERIFY ALL FIXTURE STATION AND OFFSETS AND CONFIRM ALL LOCATIONS ARE WITHIN SPECIFICATION TOLERANCES.

ELECTRICAL DEMOLITION GENERAL NOTES:

1. WITHIN AREAS OF DEMOLITION, AND AS OTHERWISE SHOWN, CAREFULLY REMOVE IDENTIFIED LIGHT FIXTURES, BASES, ISOLATION TRANSFORMERS, HAND HOLES AND OTHER INDICATED ITEMS.
2. CABLE REMOVAL
   A. DIRECT BURIAL: REMOVE FROM WITHIN MANHOLES AND HANDHOLES AND REMOVE IN AREAS WHERE EXCAVATION REQUIRES DISTURBING.
   B. IN CONDUIT: REMOVE COMPLETELY BETWEEN NEAREST BASES, HANDHOLES OR MANHOLES.
   C. RUNWAYS: REMOVE AND REPLACE FOR RECONNECTION INCREMENTALLY DURING EACH SHIFT TO MAINTAIN CIRCUIT OPERATION AS REQUIRED BY AIRPORT.
3. AT INDICATED DEVICES TO BE REMOVED OR IN DEMOLITION AREAS INDICATED, REMOVE ALL CONDUCTORS BACK TO NEAREST FIXTURE BASE OR HANDHOLE OUTSIDE DEMOLITION AREA.
4. FIXTURES, CABLES, CONDUITS, DUCTS, ETC. WHICH ARE NOT SPECIFICALLY INDICATED TO BE REMOVED (OR WHICH ARE SHOWN TO REMAIN WITHIN AREAS OF GENERAL DEMOLITION) SHALL REMAIN IN-PLACE AND FUNCTIONAL.
5. CONTRACTOR SHALL VERIFY EQUIPMENT AND CABLE DESIGNATIONS AND STATUS PRIOR TO REMOVAL OR DISCONNECTING.
6. ALL REMOVED LIGHT FIXTURES, BASES, ISOLATION TRANSFORMERS, AND SIGNS SHALL BE SALVAGED AND DELIVERED TO PRESCOTT REGIONAL AIRPORT OPERATIONS AND MAINTENANCE. ALL OTHER REMOVED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL ORDINANCES.
7. DRAWINGS MAY NOT DETAIL ALL EXISTING FACILITIES IN AREAS OF DEMOLITION. CONTRACTOR SHALL REVIEW THE SITE AND RECORD DRAWINGS TO VERIFY THE DEMOLITION EFFORT INVOLVED.
8. CONTRACTOR SHALL BE REQUIRED TO HAVE A PRIVATE "ON-SITE" UTILITY LOCATING COMPANY AND POTHOLE EXISTING UTILITY LINES AS NEEDED.

ELECTRICAL CONSTRUCTION PHASING NOTES

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH AIRPORT MAINTENANCE, AIRPORT OPERATIONS, AND THE ENGINEER AS NECESSARY.
2. CONTRACTOR SHALL GIVE 72 HOURS NOTICE PRIOR TO WORKING ON OR AROUND ANY DUCTBANKS, HANDHOLES, ETC.
3. CONTRACTOR SHALL MAINTAIN OR HAVE SUFFICIENT MATERIAL/ EQUIPMENT REQUIRED TO PROVIDE TEMPORARY LIGHTING AND CIRCUIT EXTENSIONS. THIS INCLUDES, BUT IS NOT LIMITED TO FIXTURES, TRANSFORMERS, BASES, CONDUIT, L-824 CABLE & L-823 SPLICE KITS. THESE ITEMS WILL NOT BE AVAILABLE FROM THE PRC MAINTENANCE SHOP.
4. THE CONTRACTOR SHALL MAINTAIN QUALIFIED PERSONNEL WITH THE APPROPRIATE EQUIPMENT, FOR THE INSTALLATION AND SPLICING OF AIRFIELD LIGHTING. SUCH PERSONNEL SHALL BE CAPABLE OF 60 MINUTE RESPONSE TIME IF THEY ARE NOT ALREADY PRESENT ON THE AIRFIELD.
5. TURN OFF AND COVER EXISTING SIGNAGE THAT MAY POTENTIALLY MISDIRECT AIRCRAFT MOVEMENT INTO CLOSED AREAS BARRICADED FOR CONSTRUCTION. SIGNAGE REQUIRING PARTIAL COVERAGE WITH TAXIWAY LOCATION PANELS REMAINING VISIBLE SHALL REMAIN ON WITH ONLY DIRECTIONAL PORTIONS COVERED WITH SECTIONS OF DARK COLORED TARP OR DOUBLE-LAYERED BURLAP THAT DOES NOT PERMIT VISIBILITY OF COVERED PORTION OF ARRAY DAY OR NIGHT. COVERS SHALL BE SECURELY HELD IN PLACE BY RATCHETING LASHING STRAPS, NO TAPE OR ADHESIVES WILL BE PERMITTED. SEE PHASING PLANS FOR PLACEMENT OF SIGN COVERS.
6. COVER EXISTING ELEVATED EDGE LIGHT FIXTURES IN CLOSED AREA BARRICADED FOR CONSTRUCTION WITH 4" PVC PIPE. COVER SHALL EXTEND 2" MIN. ABOVE TOP OF FIXTURE.
7. PROVIDE ANY TEMPORARY AIRFIELD CIRCUIT JUMPERS REQUIRED TO MAINTAIN OPERATION OF ALL CIRCUITS AFFECTED BY CONSTRUCTION PRIOR TO START OF DEMOLITION. TEMPORARY CIRCUIT JUMPERS SHALL BE SLEEVED IN 2" CONDUIT, SANDBAGGED OR SECURED TO LOW-LEVEL BARRICADES. TEMPORARY CIRCUIT JUMPERS MAY BE ROUTED THROUGH NEW TAXIWAY CROSSINGS OR EXISTING SPARE CONDUITS AS REQUIRED AND SHALL BE COMPLETELY REMOVED WHEN NO LONGER REQUIRED FOR OPERATION. TEMPORARY JUMPER PLACEMENT SHALL NOT AFFECT AIRCRAFT MOVEMENT OR AIRPORT OPERATIONS.
8. UNCOVER SIGNS AND EDGE LIGHT FIXTURES, REMOVE TEMPORARY JUMPERS, AND VERIFY OPERATION AT THE END OF PROJECT.

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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

ELECTRICAL NOTES

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E1.2	11 OF 43

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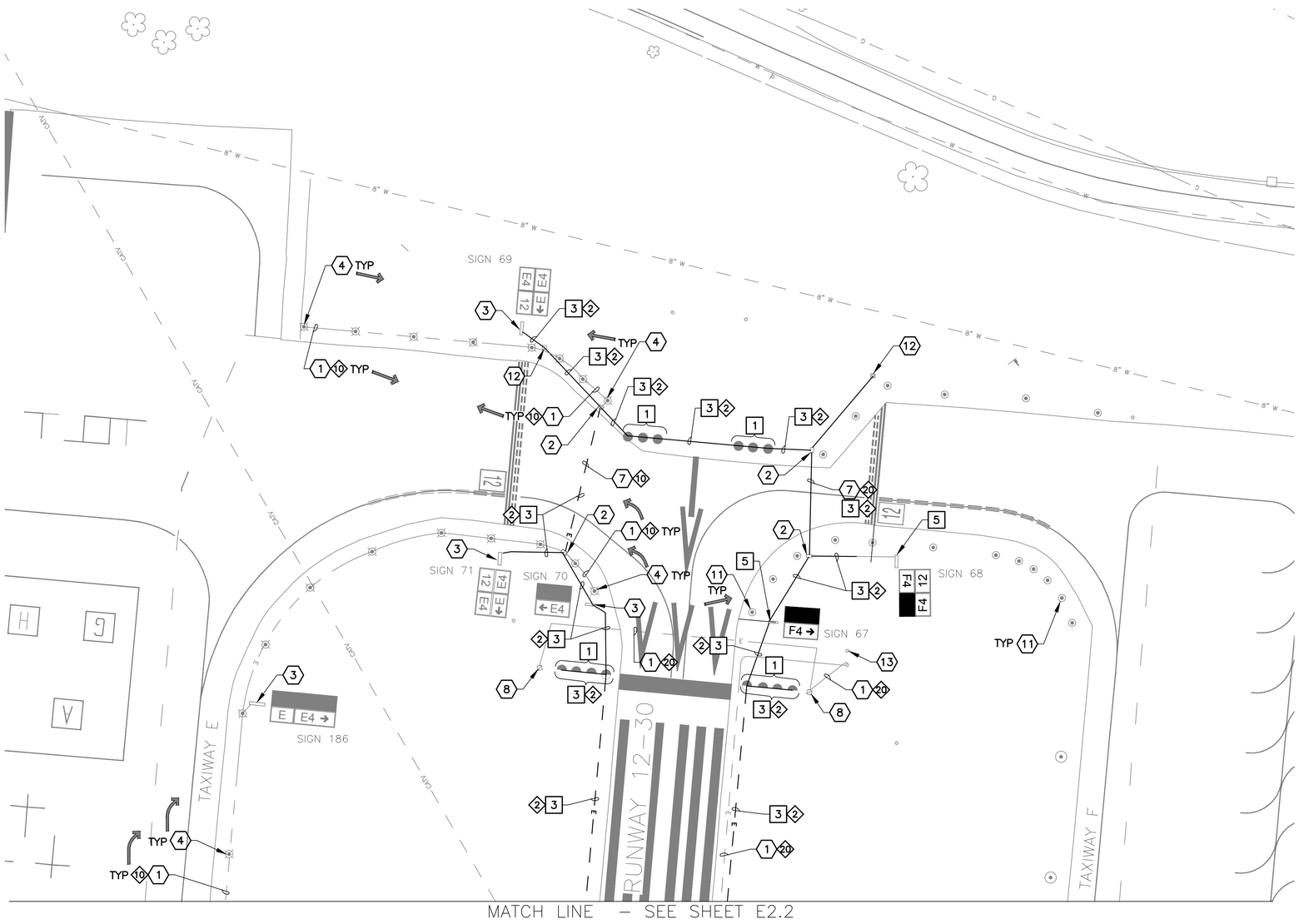

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CR engineers
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Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (14 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,050 LF)
5. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. REMOVE CONCRETE SIGN BASE. (2 TOTAL)

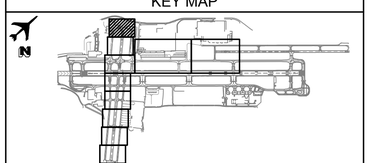
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.
8. EXISTING REIL TO REMAIN – PROTECT IN PLACE.
11. EXISTING TAXIWAY REFLECTOR TO REMAIN – PROTECT IN PLACE.
12. EXISTING ABANDONED FOUNDATION.
13. EXISTING POWER EQUIPMENT TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

- 2 12–30
- 10 TW E
- 20 REIL 12

KEY MAP



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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL
DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.1	12 OF 43

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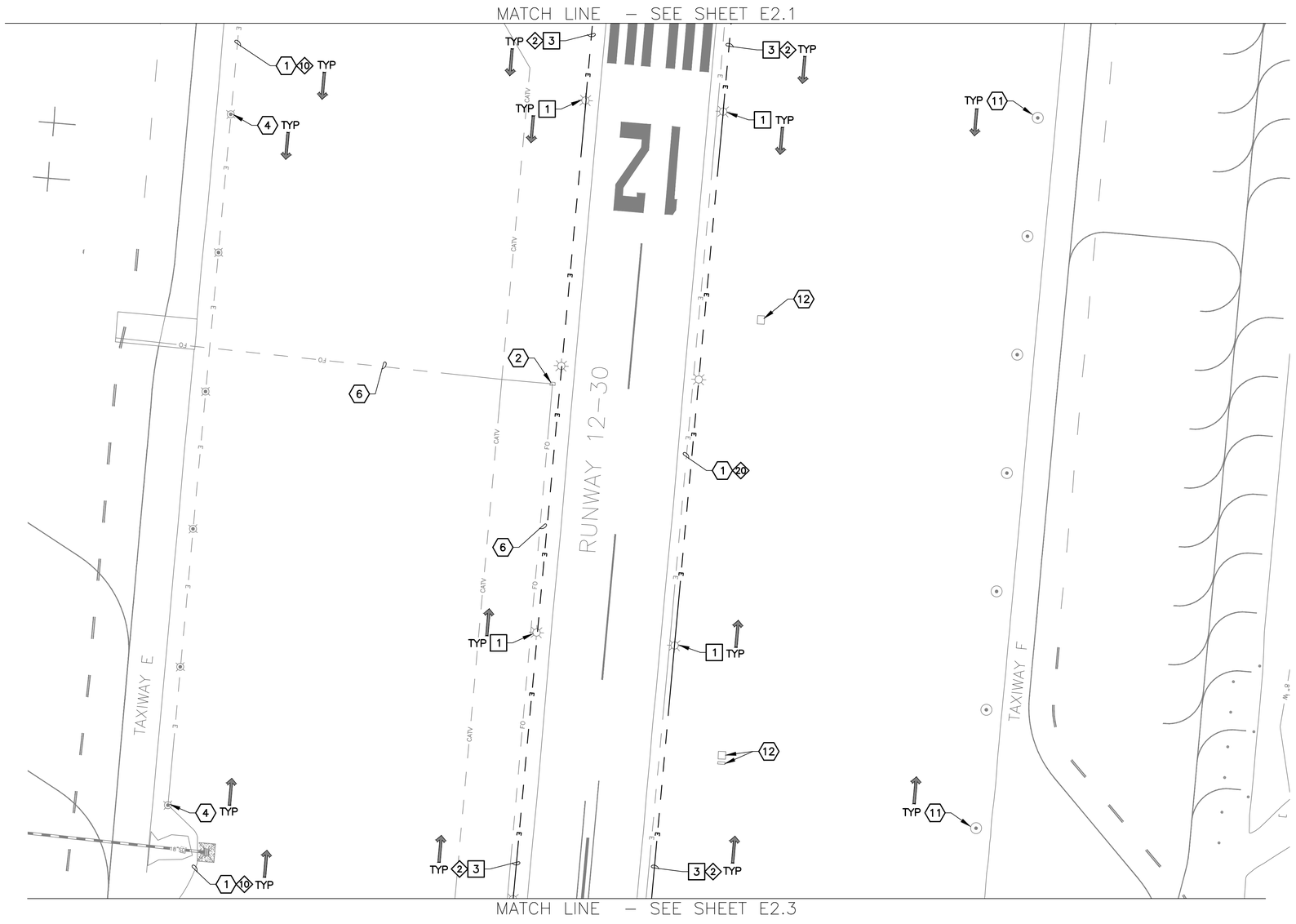

0' 20' 40' 80'

SCALE: 1"=40'

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Registered Professional Engineer (Electrical)
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CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

REMOVAL NOTE

1 REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (6 TOTAL)

3 REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,205 LF)

REFERENCE NOTE

1 EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.

2 EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.

4 EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.

6 EXISTING CONDUIT TO REMAIN – PROTECT IN PLACE.

11 EXISTING TAXIWAY REFLECTOR TO REMAIN – PROTECT IN PLACE.

12 EXISTING ABANDONED FOUNDATION.

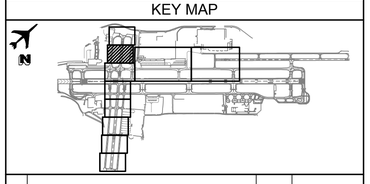
CIRCUIT IDENTIFICATION

2 12–30

10 TW E

20 REIL 12

KEY MAP



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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL
DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
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SCALE: AS SHOWN			E2.2	13 OF 43

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NOTE

ON THIS SHEET, LIGHTS, SIGNAGE, PAPI, RGLs, HANDHOLES, CONDUIT/CONDUCTOR, ETC... NOT ASSOCIATED WITH RUNWAY 12–30 CIRCUIT ARE MINIMALLY NOTED.

0' 20' 40' 80'

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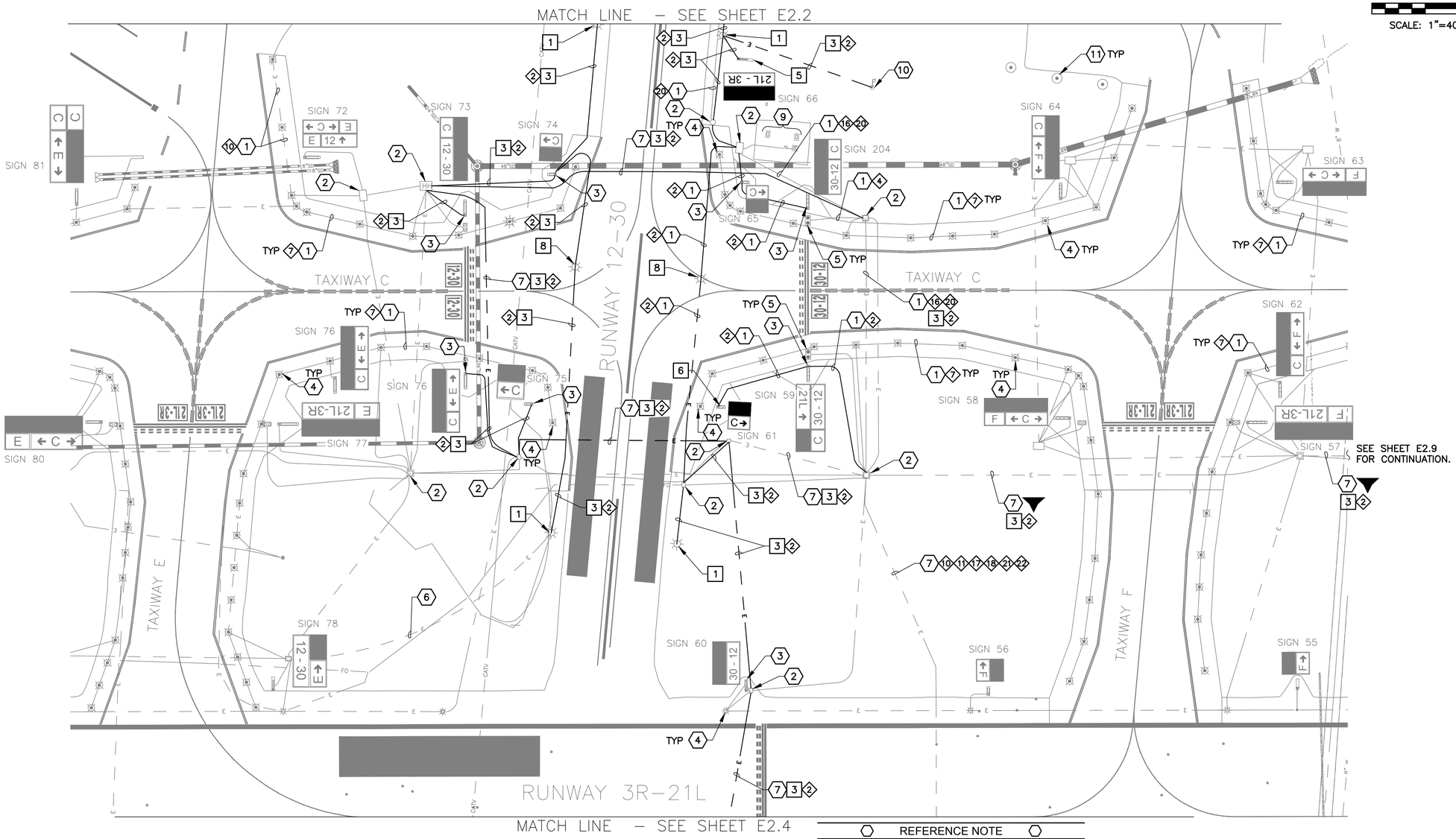

▼= 4 10 11 14 16 17 18 20 21 22

REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
5. EXISTING RGL TO REMAIN – PROTECT IN PLACE.
6. EXISTING CONDUIT TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.
9. EXISTING PAPI TO REMAIN – PROTECT IN PLACE.
10. EXISTING WINDCONE TO REMAIN – PROTECT IN PLACE.
11. EXISTING TAXIWAY REFLECTOR TO REMAIN – PROTECT IN PLACE.

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Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

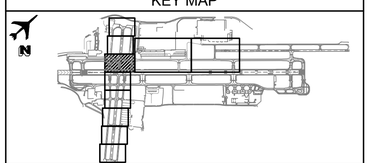
REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (4 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (2,500 LF)
5. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. REMOVE CONCRETE SIGN BASE. (1 TOTAL)
6. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. CONCRETE SIGN BASE TO REMAIN. (1 TOTAL)
8. REMOVE IN–PAVEMENT LIGHT AND ISOLATION TRANSFORMER, EXISTING BASE CAN TO REMAIN. (2 TOTAL)

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
4. RGL (3R–21L)
6. TW A
7. TW C
10. TW E
11. TW F
14. PAPI 3R
16. PAPI 12
17. PAPI 30
18. REIL 3R
20. REIL 12
21. REIL 30
22. WINDCONE

KEY MAP



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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
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SCALE: AS SHOWN			E2.3	14 OF 43

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NOTE

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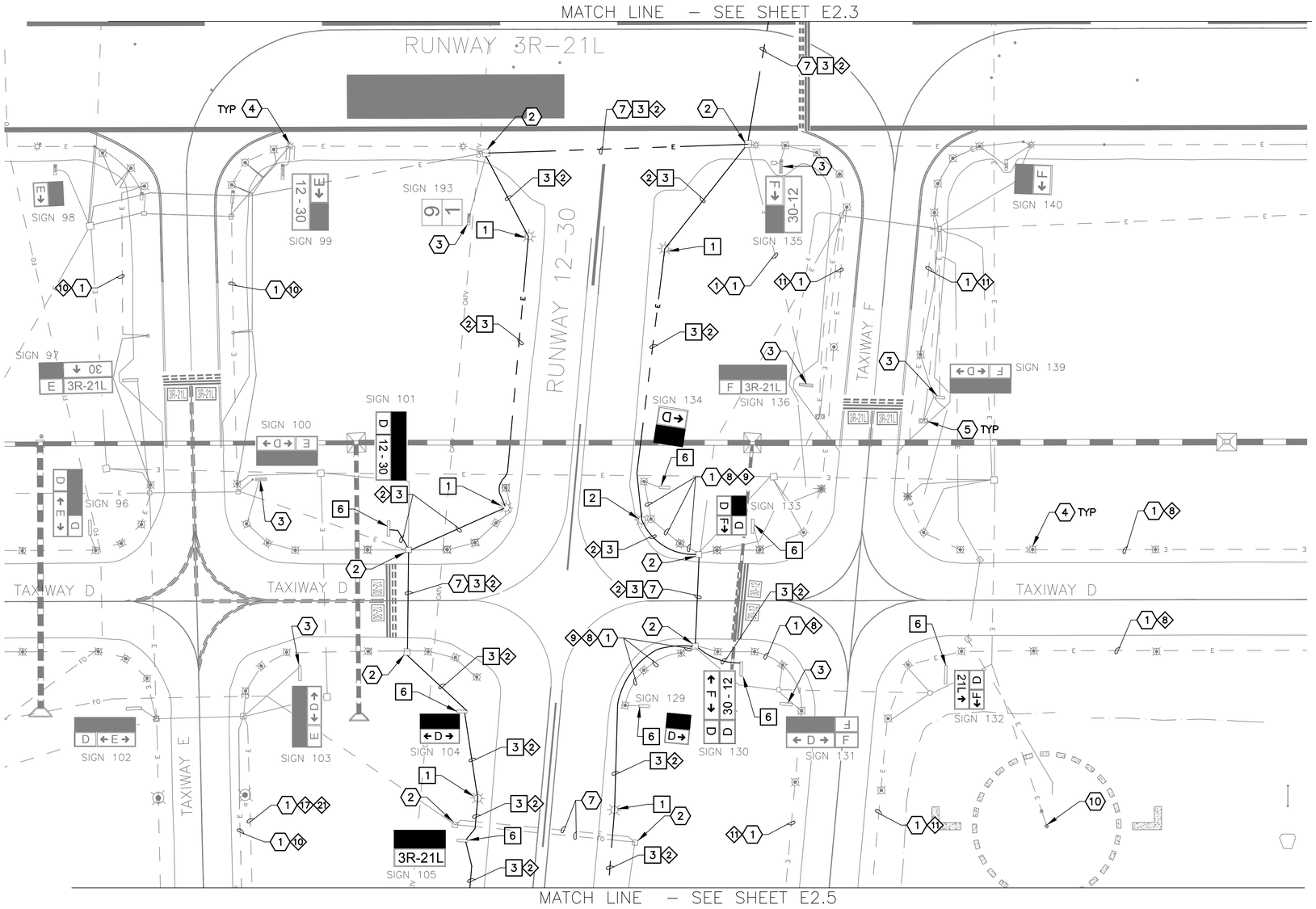

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Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

REMOVAL NOTE

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2. REMOVE RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, REMOVE BASE CAN. (1 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,520 LF)
6. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. CONCRETE SIGN BASE TO REMAIN. (8 TOTAL)

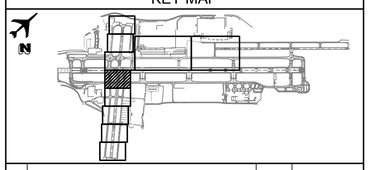
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
5. EXISTING RGL TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.
10. EXISTING WINDCONE TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

- 2 12–30
- 8 TW D (TW DELTA LIGHTING)
- 9 TDS (TW DELTA SIGNS)
- 10 TW E
- 11 TW F
- 17 PAPI 30
- 21 REIL 30

KEY MAP



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PRESCOTT REGIONAL AIRPORT

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PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
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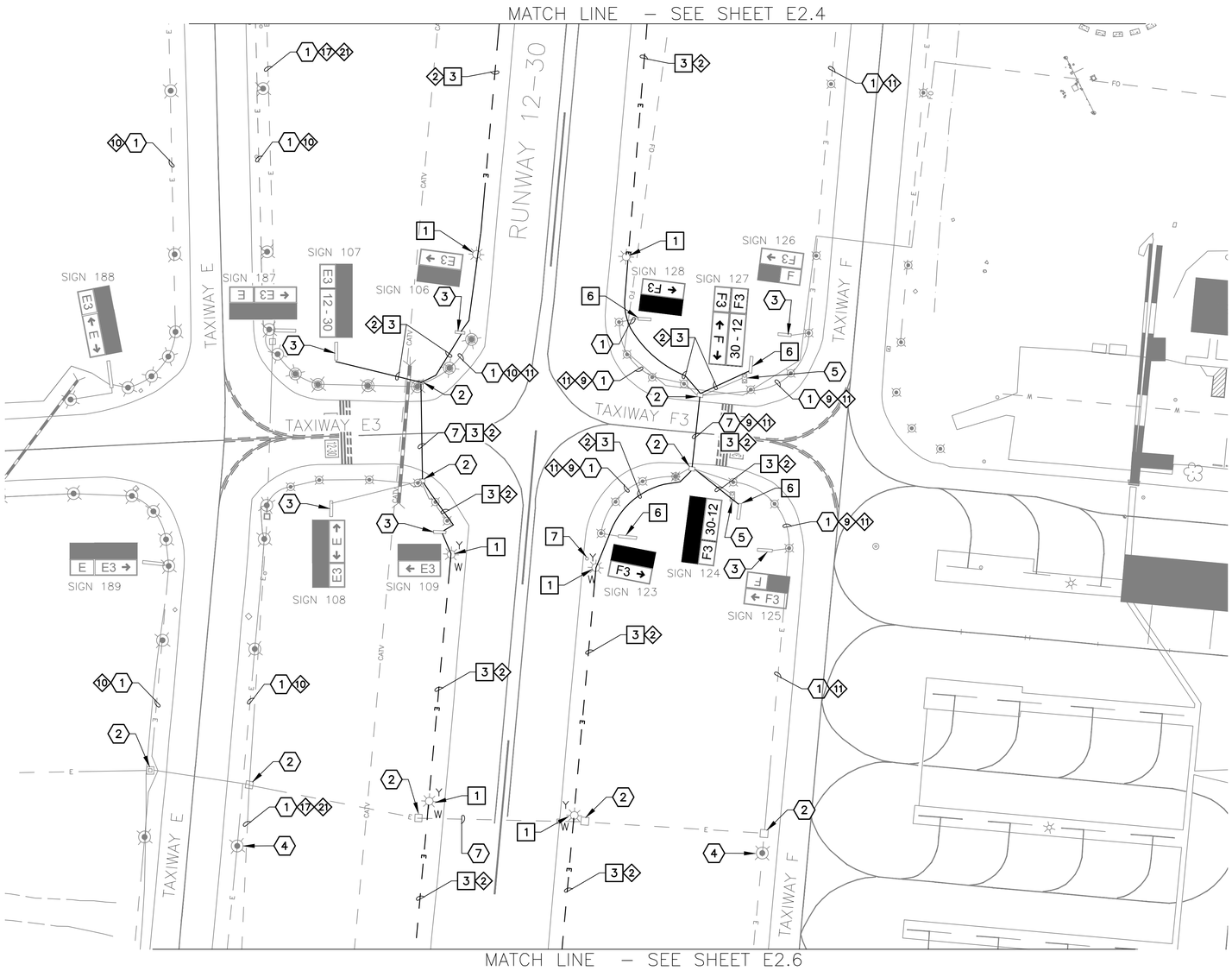

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REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (6 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,425 LF)
6. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. CONCRETE SIGN BASE TO REMAIN. (4 TOTAL)
7. EXCAVATE AND REMOVE EXISTING PULL BOX. (1 TOTAL)

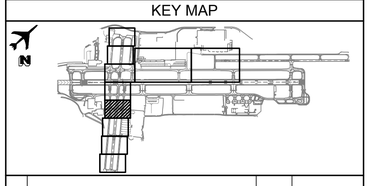
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
5. EXISTING RGL TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

- 2 12–30
- 9 TDS (TW DELTA SIGNS)
- 10 TW E
- 11 TW F
- 17 PAPI 30
- 21 REIL 30

KEY MAP



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PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

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DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.5	16 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

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AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

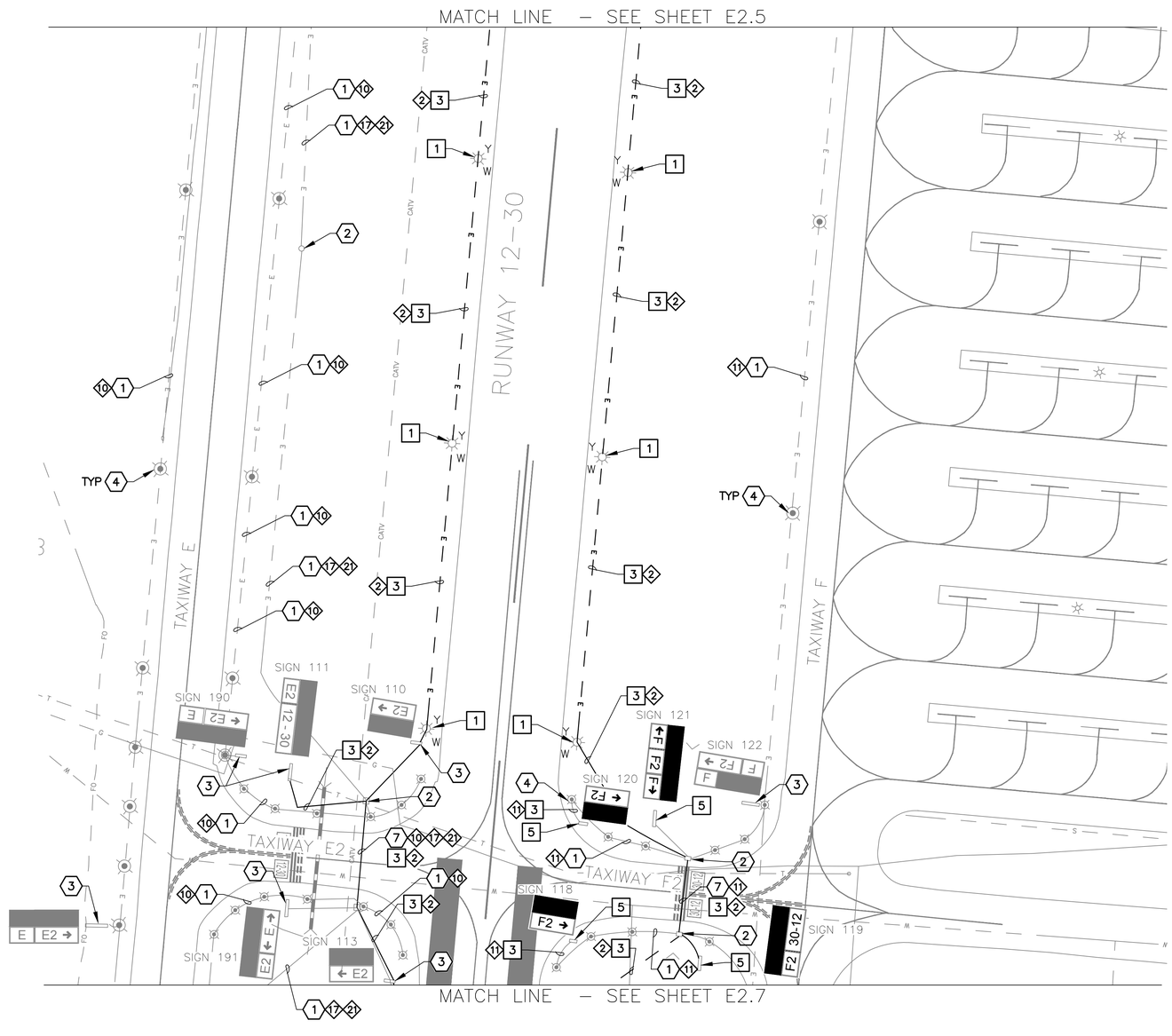
Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

NOTE

ON THIS SHEET, LIGHTS, SIGNAGE, PAPI, RGLs, HANDHOLES, CONDUIT/CONDUCTOR, ETC... NOT ASSOCIATED WITH RUNWAY 12–30 CIRCUIT ARE MINIMALLY NOTED.

0' 20' 40' 80'

SCALE: 1"=40'



REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (6 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,410 LF)
5. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. REMOVE CONCRETE SIGN BASE. (4 TOTAL)

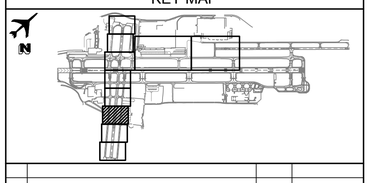
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

- 2 12–30
- 10 TW E
- 11 TW F
- 17 PAPI 30
- 21 REIL 30

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.6	17 OF 43

Call at least two full working days before you begin excavation.
ARIZONA 811
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In Maricopa County: (602) 263-1100

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NOTE

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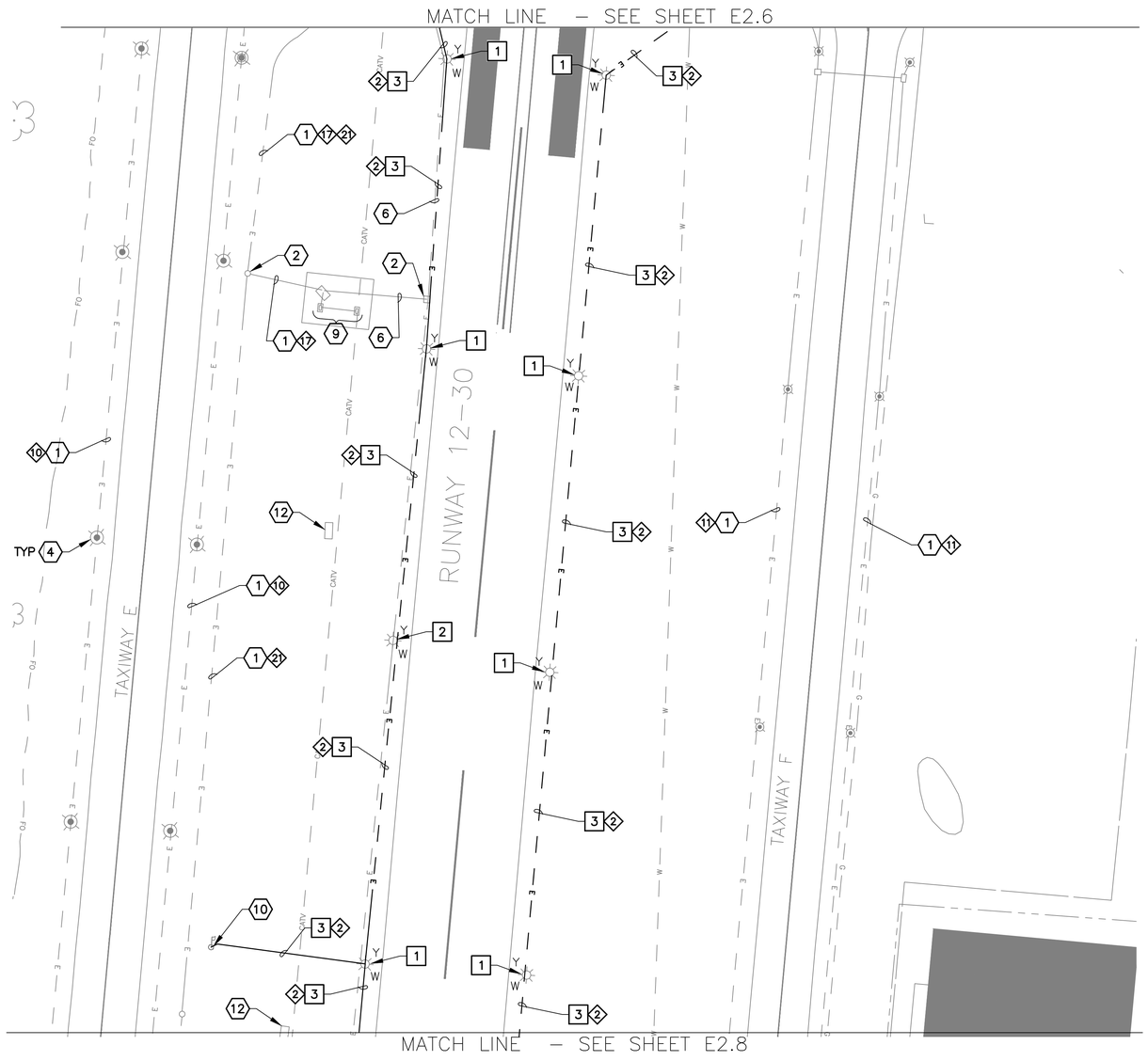
0' 20' 40' 80'

SCALE: 1"=40'



AS BUILT DATE

DIBBLE

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Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (7 TOTAL)
2. REMOVE RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, REMOVE BASE CAN. (1 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,320 LF)

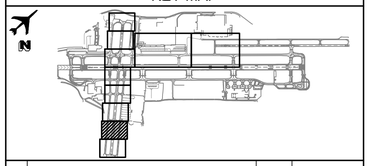
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
6. EXISTING CONDUIT TO REMAIN – PROTECT IN PLACE.
9. EXISTING PAPI TO REMAIN – PROTECT IN PLACE.
10. EXISTING WINDCONE TO REMAIN – PROTECT IN PLACE.
12. EXISTING ABANDONED FOUNDATION.

CIRCUIT IDENTIFICATION

- 2 12–30
- 10 TW E
- 11 TW F
- 17 PAPI 30
- 21 REIL 30

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.7	18 OF 43

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NOTE

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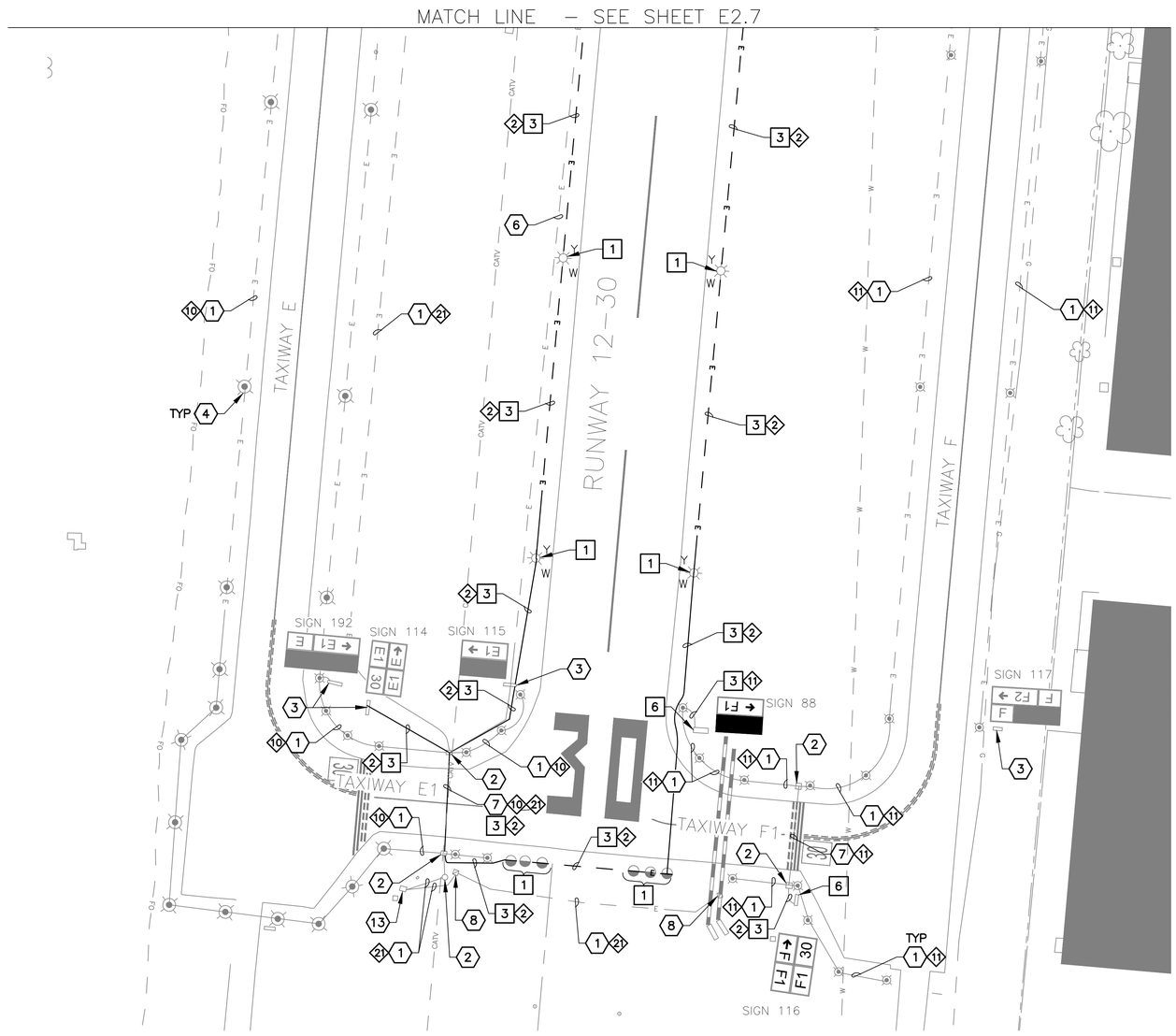
0' 20' 40' 80'

SCALE: 1"=40'



REMOVAL NOTE

1. REMOVE AND TEMPORARILY REINSTALL RUNWAY EDGE/THRESHOLD LIGHT AND ISOLATION TRANSFORMER, BASE CAN TO REMAIN. (10 TOTAL)
3. REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,270 LF)
6. REMOVE AND SALVAGE EXISTING AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER. CONCRETE SIGN BASE TO REMAIN. (2 TOTAL)

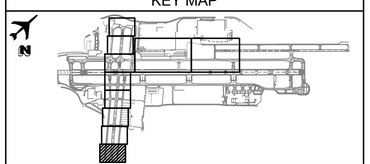
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
6. EXISTING CONDUIT TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.
8. EXISTING REIL TO REMAIN – PROTECT IN PLACE.
13. EXISTING POWER EQUIPMENT TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

- 2 12–30
- 10 TW E
- 11 TW F
- 21 REIL 30

KEY MAP



REVISION	BY	DATE

AS BUILT DATE

DIBBLE

CR engineers
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Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.8	19 OF 43

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NOTE

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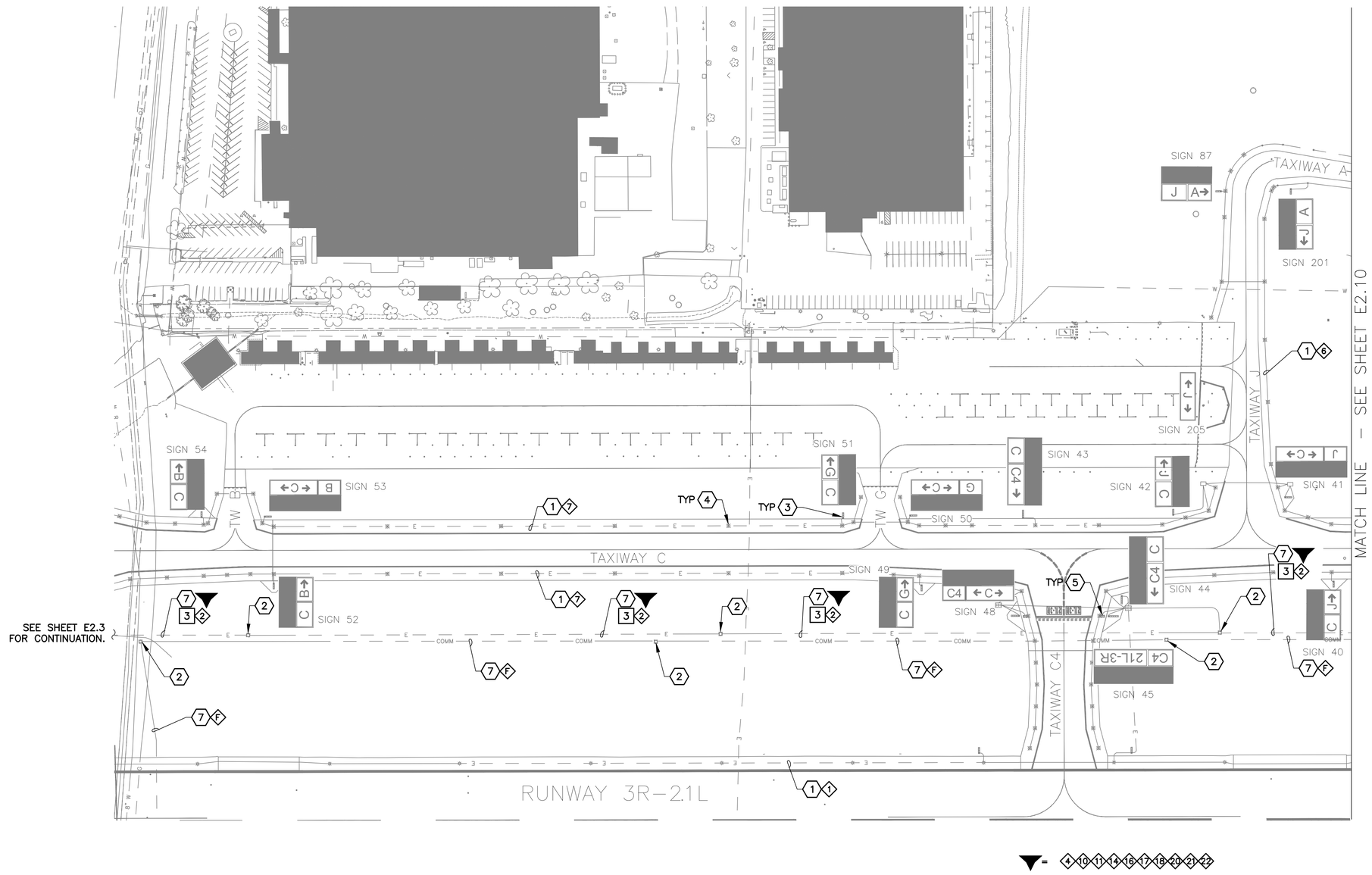
0' 40' 80' 160'
SCALE: 1"=80'



▼= 4 10 11 14 16 17 18 20 21 22

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REMOVAL NOTE

3 REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,850 LF)

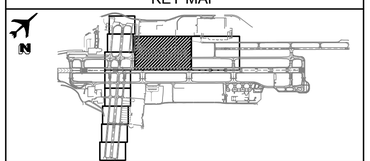
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
5. EXISTING RGL TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
4. RGL (3R–21L)
6. TW A
7. TW C
10. TW E
11. TW F
14. PAPI 3R
16. PAPI 12
17. PAPI 30
18. REIL 3R
20. REIL 12
21. REIL 30
22. WINDCONE
F. ALCMS FIBER

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL
DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.9	20 OF 43

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NOTE

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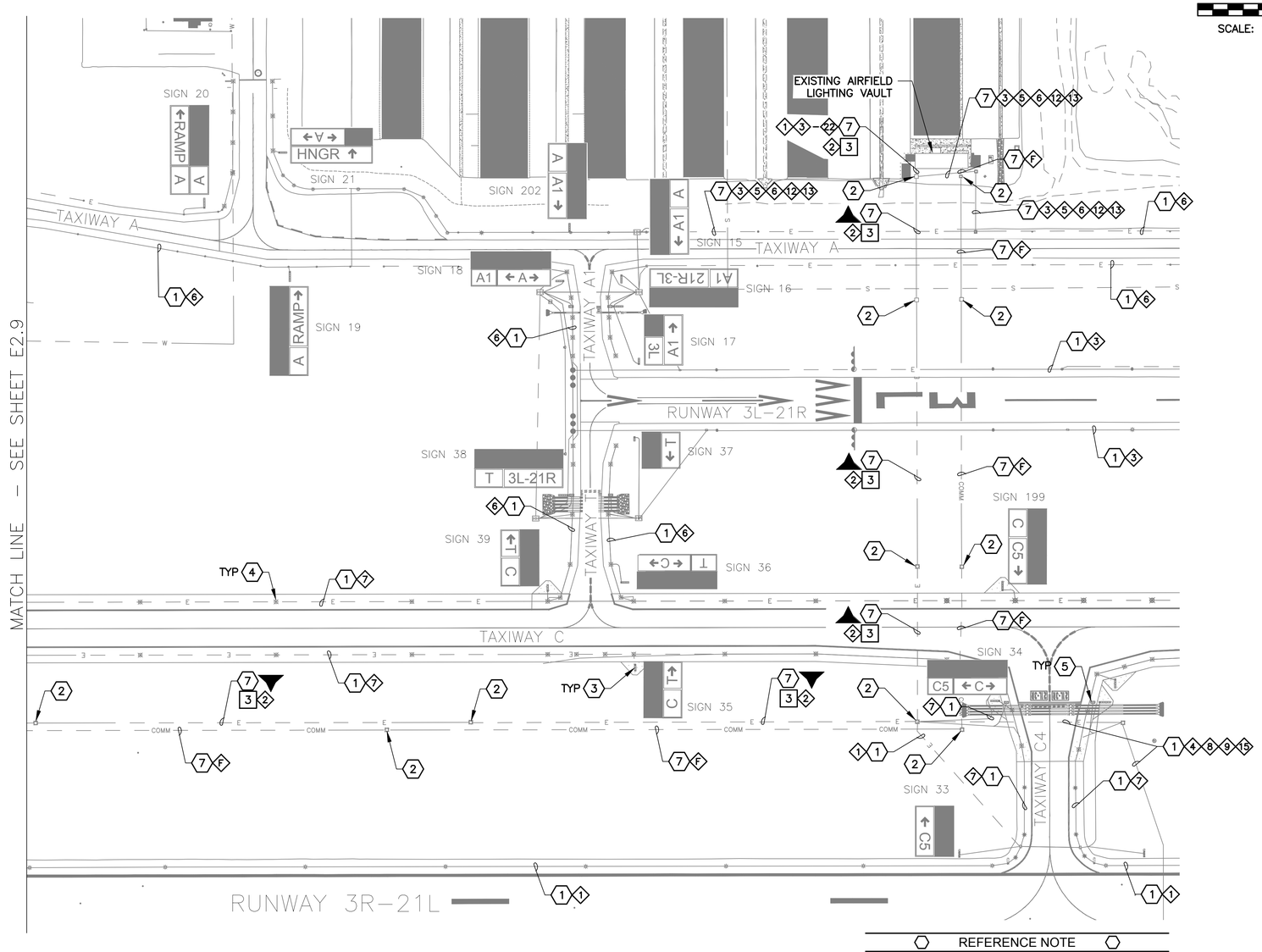
0' 40' 80' 160'

SCALE: 1"=80'



▲ = 1 4 7 8 9 10 11 14 15 16 17 18 19 20 21 22

▼ = 4 10 11 14 16 17 18 20 21 22

REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR TO REMAIN – PROTECT IN PLACE.
2. EXISTING HANDHOLE/JUNCTION CAN TO REMAIN – PROTECT IN PLACE.
3. EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN – PROTECT IN PLACE.
4. EXISTING ELEVATED LIGHT FIXTURE TO REMAIN – PROTECT IN PLACE.
7. EXISTING DUCTBANK TO REMAIN – PROTECT IN PLACE.

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AS BUILT DATE

DIBBLE

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Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

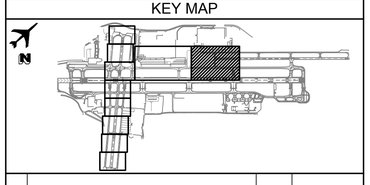
REMOVAL NOTE

3 REMOVE EXISTING CONDUCTOR, CONDUIT TO REMAIN. (1,930 LF)

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
3. 3L–21R
4. RGL (3R–21L)
5. RGL (A1)
6. TW A
7. TW C
8. TW D (TDL–DELTA LIGHTING)
9. TDS (TW DELTA SIGNS)
10. TW E
11. TW F
12. PAPI 3L
13. PAPI 21R
14. PAPI 3R
15. PAPI 21L
16. PAPI 12
17. PAPI 30
18. REIL 3R
19. REIL 21L
20. REIL 12
21. REIL 30
22. WINDCONE

KEY MAP



	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL DEMOLITION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E2.10	21 OF 43

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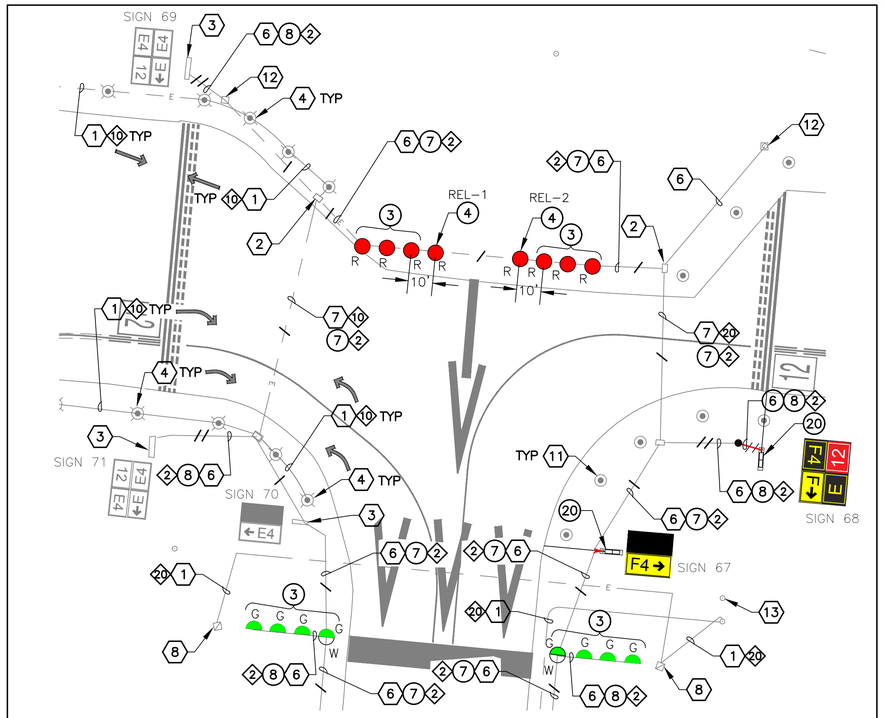
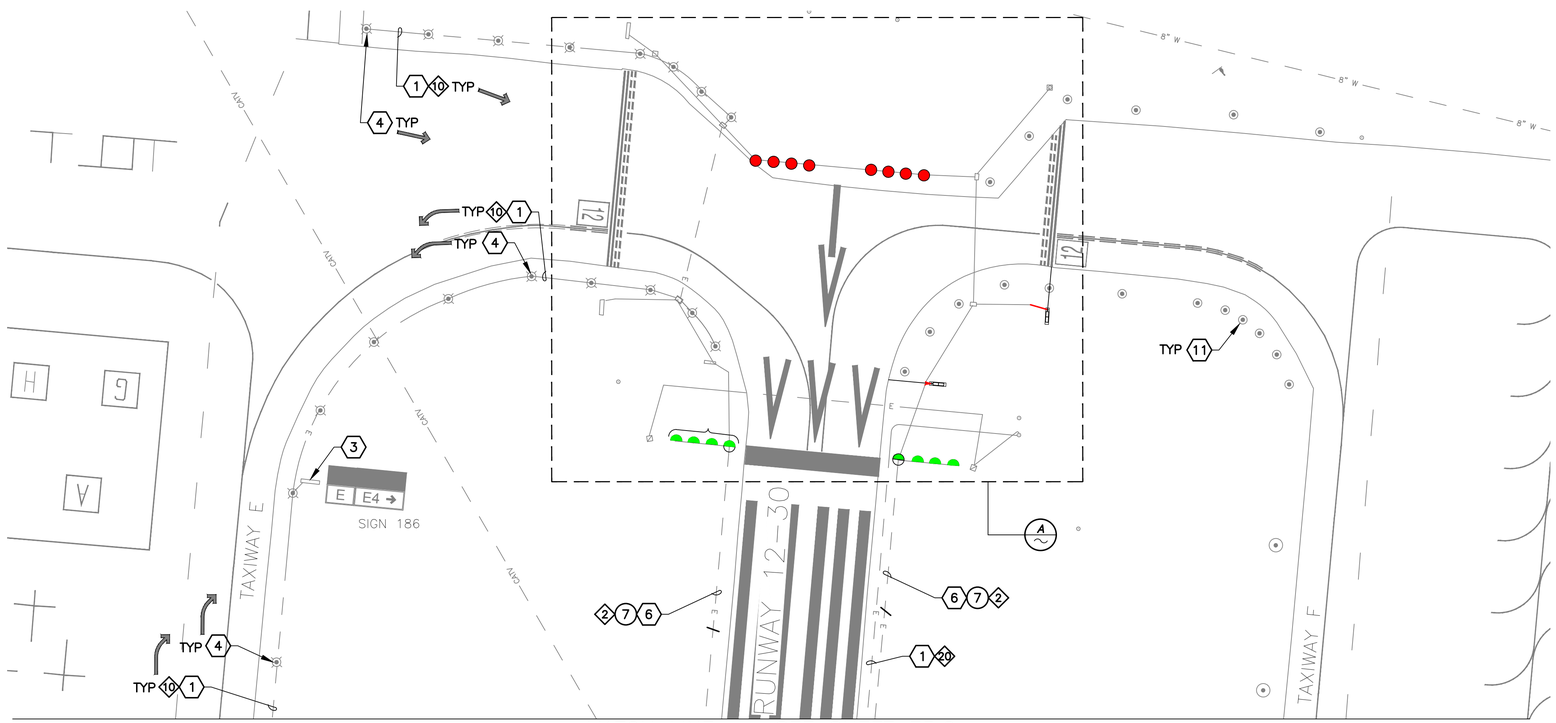


A ENLARGED AIRFIELD ELECTRICAL PLAN
NTS



MATCH LINE – SEE SHEET E3.2

0' 20' 40' 80'
SCALE: 1"=40'

AS BUILT DATE

DIBBLE

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Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CONSTRUCTION NOTE

3. NEW L-861E(L) LED RUNWAY END/THRESHOLD EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L-867 BASE
   (6 TOTAL (RED))
   (2 TOTAL (WHITE/GREEN))
   (6 TOTAL (OBSCURE/GREEN))
4. NEW L-861E(L) LED RUNWAY END/THRESHOLD EDGE LIGHT AND ISOLATION TRANSFORMER ON NEW L-867 BASE
   (2 TOTAL (RED))
6. 1-2"C DEB (25 LF)
7. NEW 1/C, #8 5KV L-824, TYPE "C" AIRFIELD LIGHTING CABLE (1,055 LF)
8. NEW 2/C, #8 5KV L-824, TYPE "C" AIRFIELD LIGHTING CABLE (340 LF)
20. NEW L-858(L) LED SIZE 2, 2-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (2 TOTAL)

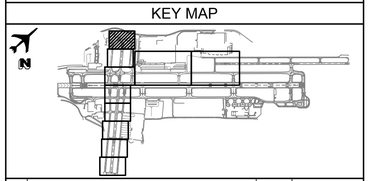
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
6. EXISTING CONDUIT
7. EXISTING DUCTBANK
8. EXISTING REIL
11. EXISTING TAXIWAY REFLECTOR
12. EXISTING ABANDONED FOUNDATION.
13. EXISTING POWER EQUIPMENT

CIRCUIT IDENTIFICATION

2. 12-30
10. TW E
20. REIL 12

KEY MAP



	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25	E3.1	22 OF 43
SCALE: AS SHOWN				

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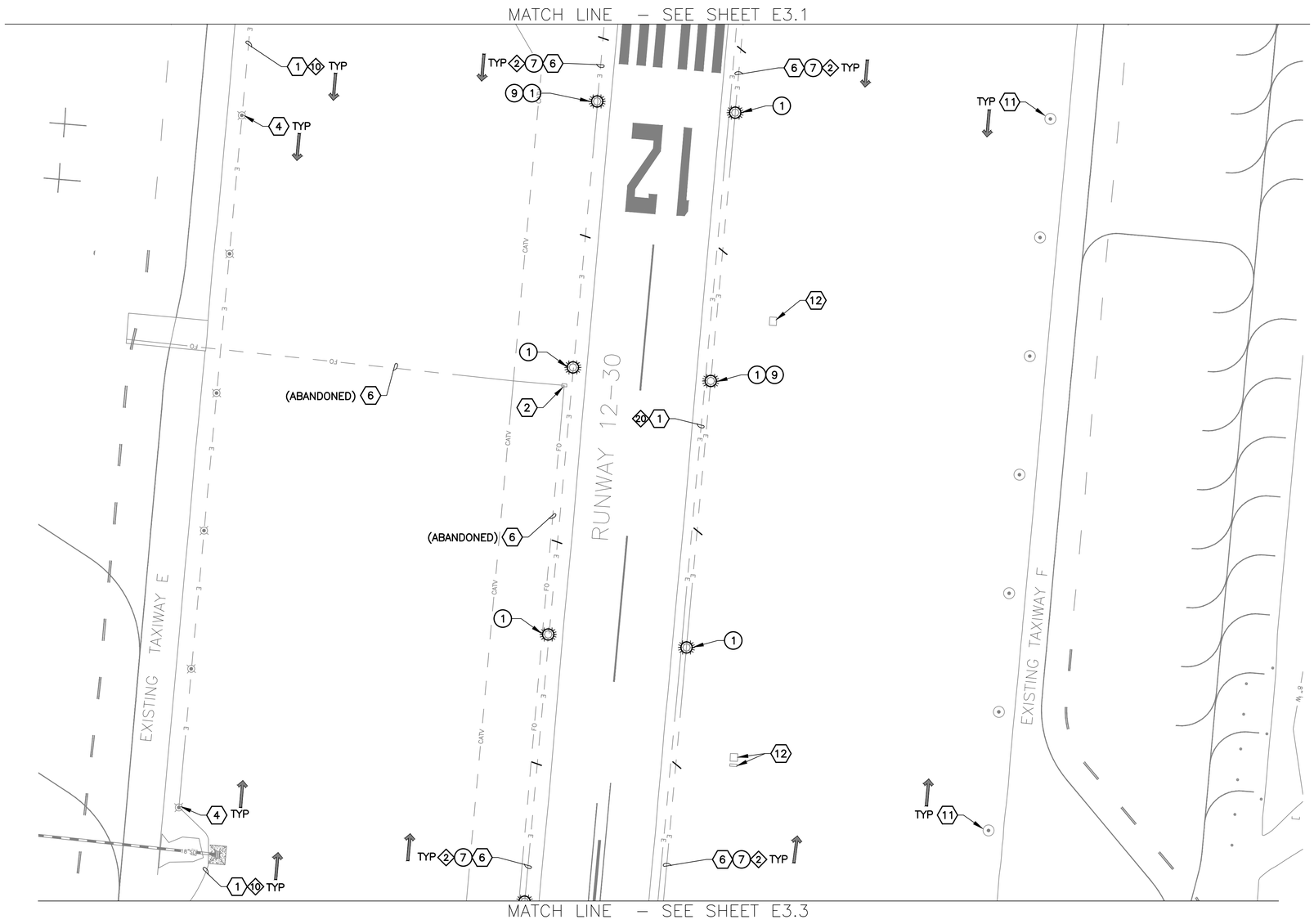

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CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (6 TOTAL (WHITE/WHITE))
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,265 LF)
9. INSTALL NEW 3" EXTENSION RING ON EXISTING LIGHT BASE WITH CONCRETE SURROUND (2 TOTAL)

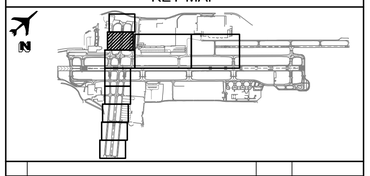
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
4. EXISTING ELEVATED LIGHT FIXTURE
6. EXISTING CONDUIT
11. EXISTING TAXIWAY REFLECTOR
12. EXISTING ABANDONED FOUNDATION.

CIRCUIT IDENTIFICATION

2. 12–30
10. TW E
20. REIL 12

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.2	23 OF 43

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NOTE

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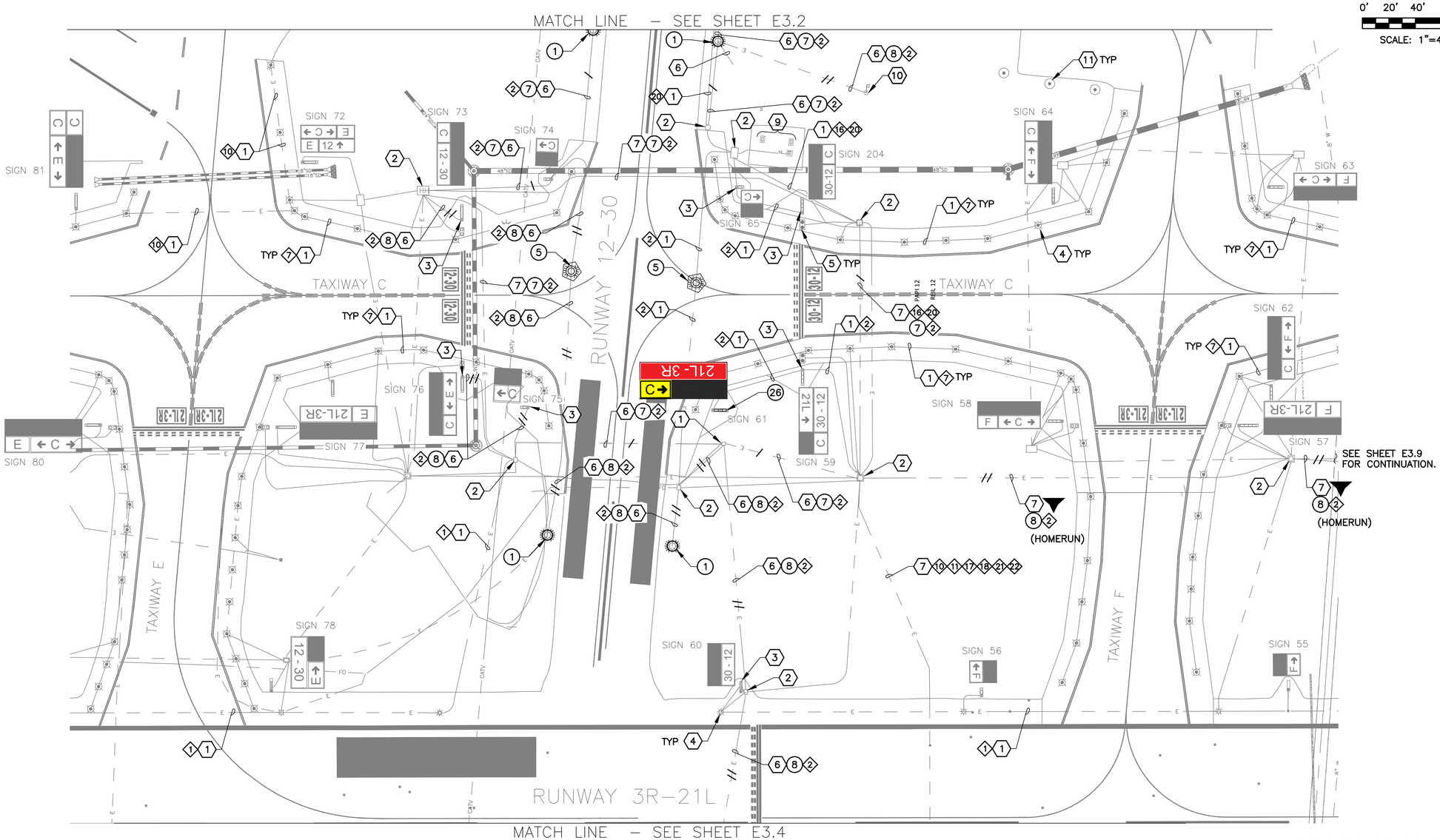
SCALE: 1"=40'



REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
5. EXISTING RGL
6. EXISTING CONDUIT
7. EXISTING DUCTBANK
9. EXISTING PAPI
10. EXISTING WINDCONE
11. EXISTING TAXIWAY REFLECTOR

▼= 4 10 11 14 16 17 18 20 21 22

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1192

AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

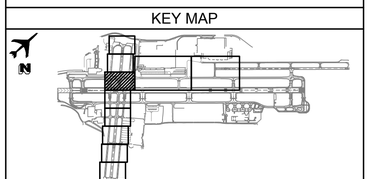
CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (4 TOTAL WHITE/WHITE))
5. NEW L–852D LED IN–PAVEMENT RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–868 BASE. (2 TOTAL WHITE/WHITE))
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,445 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,185 LF)
26. NEW L–858(L) LED SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING EXTENDED SIGN BASE (1 TOTAL)

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
4. RGL (3R–21L)
6. TW A
7. TW C
10. TW E
11. TW F
14. PAPI 3R
16. PAPI 12
17. PAPI 30
18. REIL 3R
20. REIL 12
21. REIL 30
22. WINDCONE

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

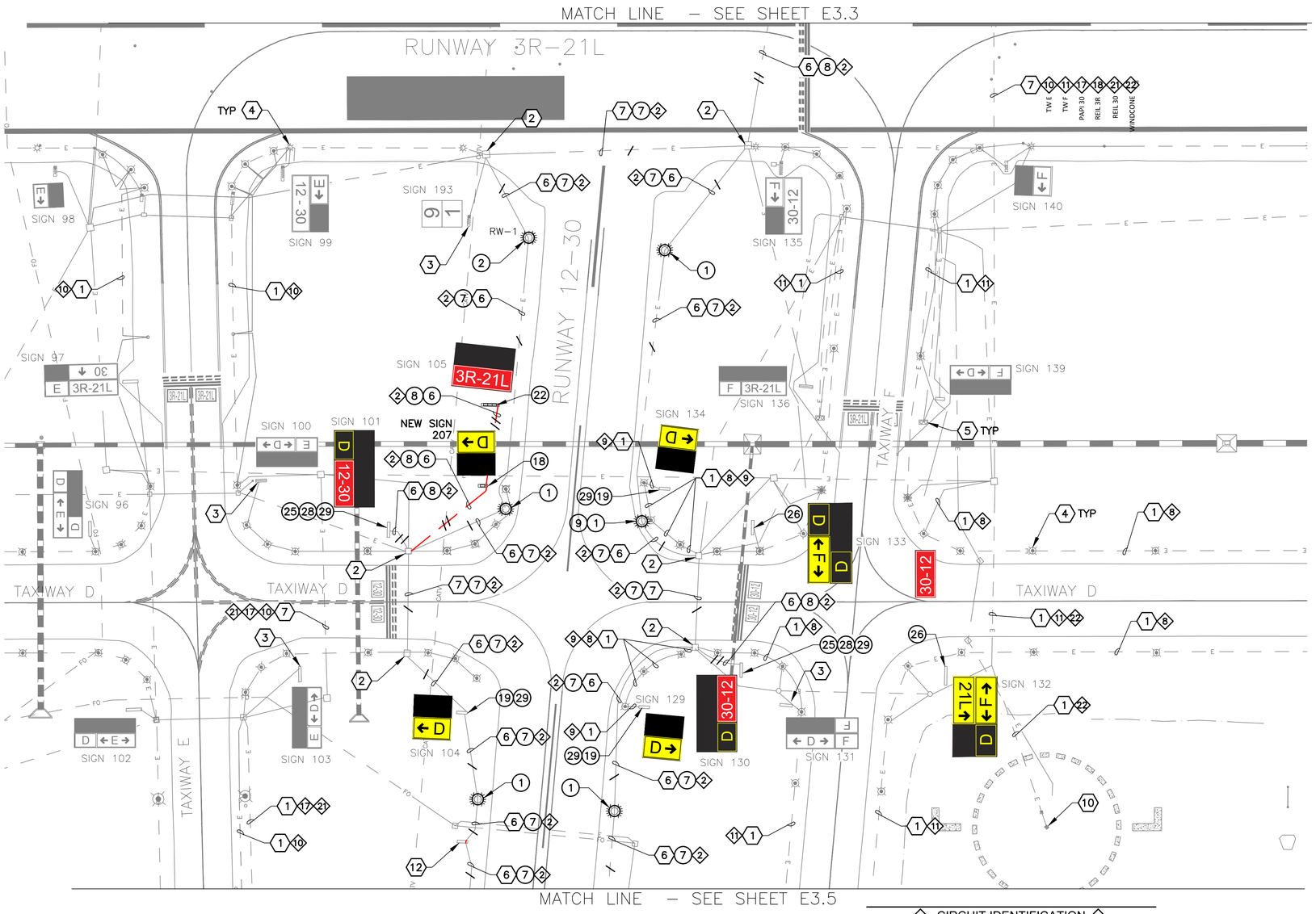
AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.3	24 OF 43

Q:\PROJECTS\24000\24005 PRC RWY 12-30 ELECTRICAL IMPROVEMENTS\CAD\CAD SHEETS\24005 E3.1-TBD.DWG Mar. 19, 2025 2:02 PM

NOTE

ON THIS SHEET, LIGHTS, SIGNAGE, PAPI, RGLs, HANDHOLES, CONDUIT/CONDUCTOR, ETC... NOT ASSOCIATED WITH RUNWAY 12–30 CIRCUIT ARE MINIMALLY NOTED.



0' 20' 40' 80'

SCALE: 1"=40'

AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (5 TOTAL (WHITE/WHITE))
2. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON NEW L–867 BASE (1 TOTAL (WHITE/WHITE))
6. 1–2"C DEB (125 LF)
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,635 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (355 LF)
9. INSTALL NEW 3" EXTENSION RING ON EXISTING LIGHT BASE WITH CONCRETE SURROUND (1 TOTAL)
18. NEW L–858(L) LED SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)
19. NEW L–858(L) LED SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (3 TOTAL)
22. NEW L–858(L) LED SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)
25. NEW L–858(L) LED SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (2 TOTAL)
26. NEW L–858(L) LED SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING EXTENDED SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (2 TOTAL)
28. NEW 3' CONCRETE SIGN BASE EXTENSION (2 TOTAL)
29. INSTALL NEW SIGN GROUND ROD AND #6 BCC CONNECTED TO NEW SIGN AT EXISTING SIGN BASE (5 TOTAL)

REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE

CIRCUIT IDENTIFICATION

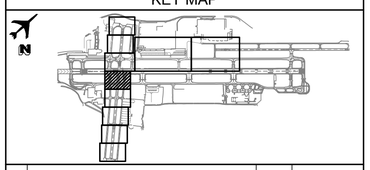
2. 12–30
6. TW D (TW DELTA LIGHTING)
9. TDS (TW DELTA SIGNS)
10. TW E
11. TW F
17. PAPI 30
18. REIL 3R
21. REIL 30
22. WINDCONE

REFERENCE NOTES CONTINUED.....

5. EXISTING RGL
6. EXISTING CONDUIT
7. EXISTING DUCTBANK
10. EXISTING WINDCONE
12. EXISTING ABANDONED FOUNDATION

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.4	25 OF 43

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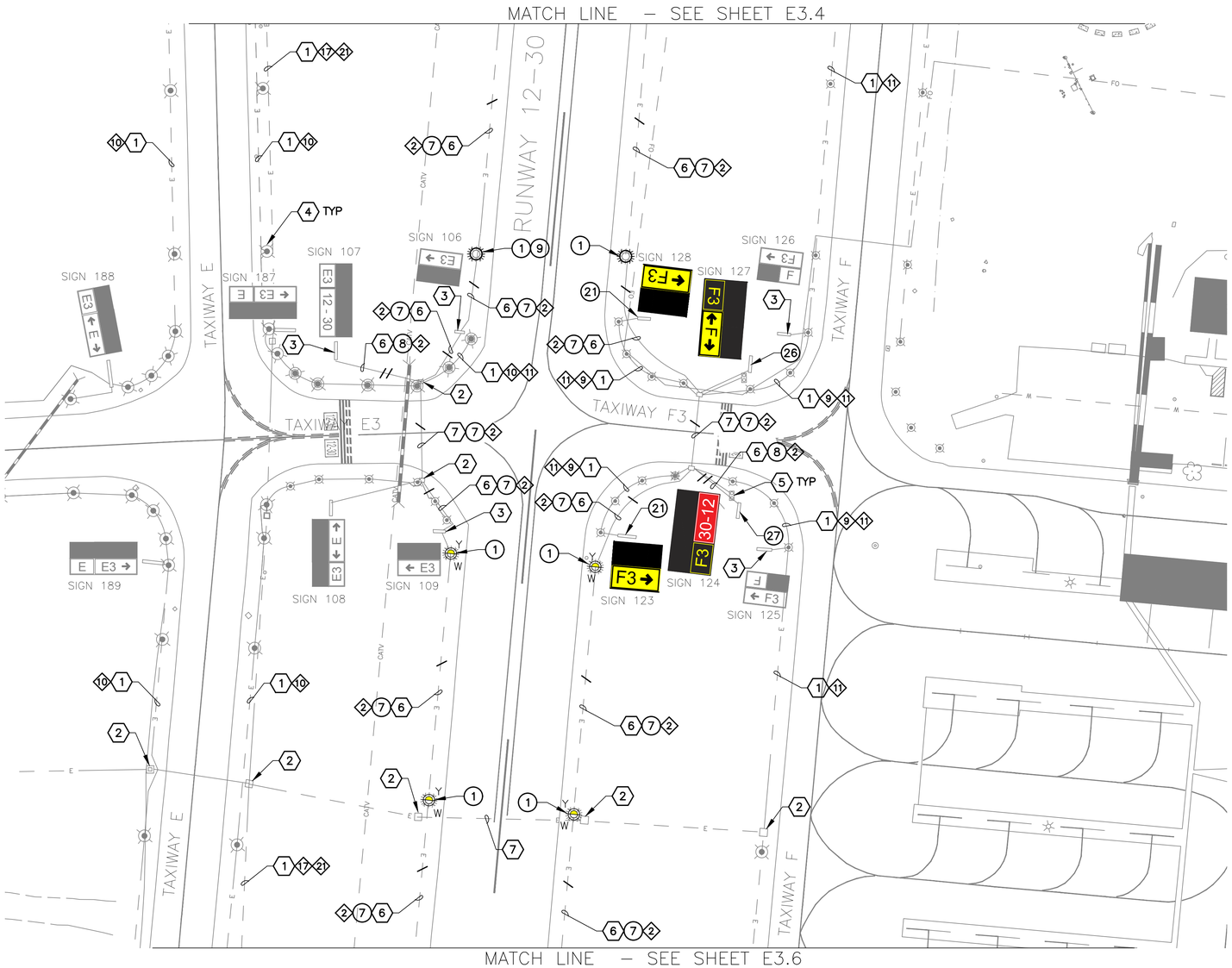
NOTE

ON THIS SHEET, LIGHTS, SIGNAGE, PAPI, RGLs, HANDHOLES, CONDUIT/CONDUCTOR, ETC... NOT ASSOCIATED WITH RUNWAY 12–30 CIRCUIT ARE MINIMALLY NOTED.

0' 20' 40' 80'

SCALE: 1"=40'



◇ CIRCUIT IDENTIFICATION ◇

- 2 12–30
- 9 TDS (TW DELTA SIGNS)
- 10 TW E
- 11 TW F
- 17 PAPI 30
- 21 REIL 30

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AS BUILT DATE

DIBBLE

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Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

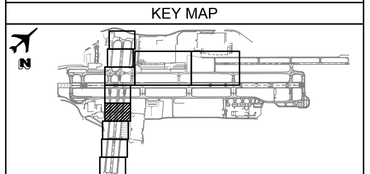
○ CONSTRUCTION NOTE ○

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (2 TOTAL (WHITE/WHITE) (4 TOTAL (WHITE/YELLOW)
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,490 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (140 LF)
9. INSTALL NEW 3" EXTENSION RING ON EXISTING LIGHT BASE WITH CONCRETE SURROUND (1 TOTAL)
21. NEW L–858(L) LED SIZE 2, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (2 TOTAL)
26. NEW L–858(L) LED SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING EXTENDED SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (1 TOTAL)
27. NEW L–858(L) LED SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING EXTENDED SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (1 TOTAL)

⬡ REFERENCE NOTE ⬡

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
5. EXISTING RGL
6. EXISTING CONDUIT
7. EXISTING DUCTBANK

KEY MAP



△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.5	26 OF 43

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NOTE

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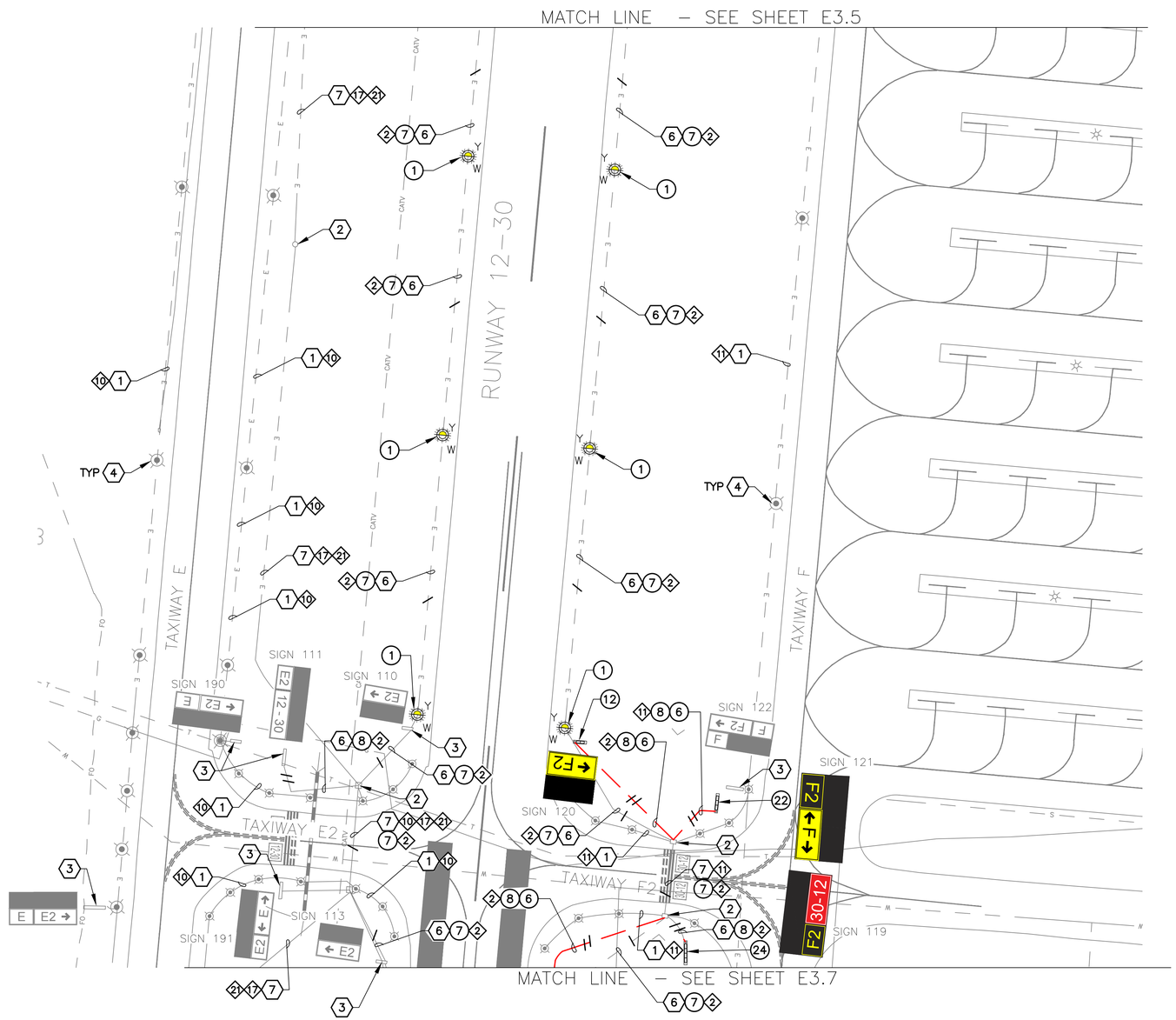
0' 20' 40' 80'

SCALE: 1"=40'



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Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (6 TOTAL (WHITE/YELLOW))
6. 1–2"C DEB (200 LF)
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,475 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (380 LF)
12. NEW L–858(L) LED SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)
22. NEW L–858(L) LED SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)
24. NEW L–858(L) LED SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)

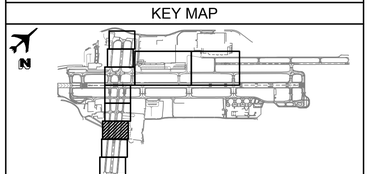
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
6. EXISTING CONDUIT
7. EXISTING DUCTBANK

CIRCUIT IDENTIFICATION

2. 12–30
10. TW E
11. TW F
17. PAPI 30
21. REIL 30

KEY MAP



△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.6	27 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

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NOTE

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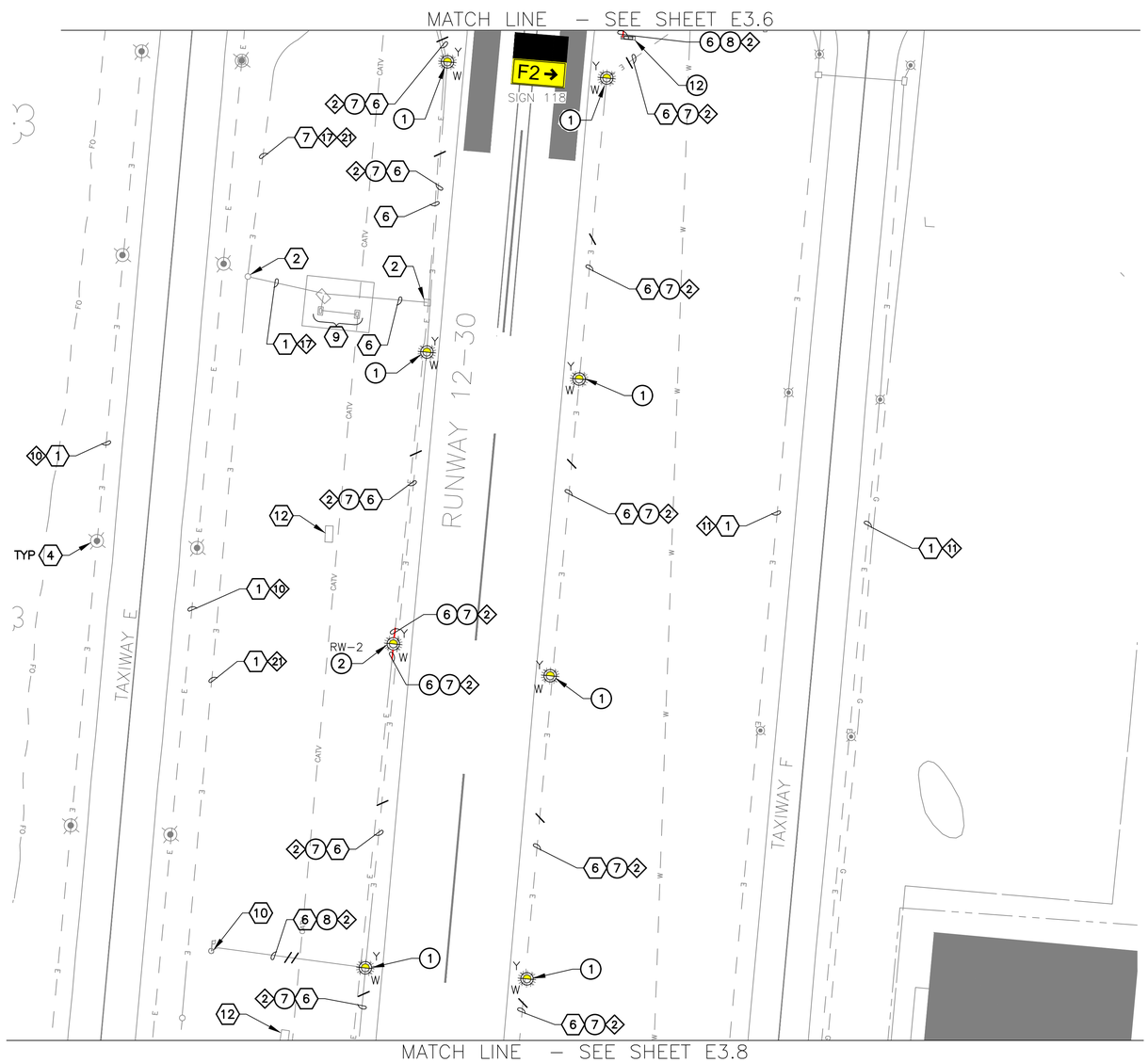
0' 20' 40' 80'

SCALE: 1"=40'



AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (7 TOTAL (WHITE/YELLOW))
2. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON NEW L–867 BASE (1 TOTAL (WHITE/YELLOW))
6. 1–2"C DEB (15 LF)
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,305 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (115 LF)
12. NEW L–858(L) LED SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)

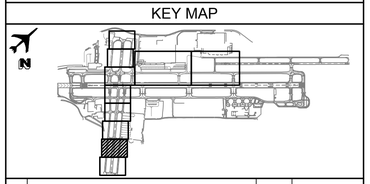
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
6. EXISTING CONDUIT
7. EXISTING DUCTBANK
9. EXISTING PAPI
10. EXISTING WINDCONE
12. EXISTING ABANDONED FOUNDATION

CIRCUIT IDENTIFICATION

2. 12–30
10. TW E
11. TW F
17. PAPI 30
21. REIL 30

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.7	28 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1199

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NOTE

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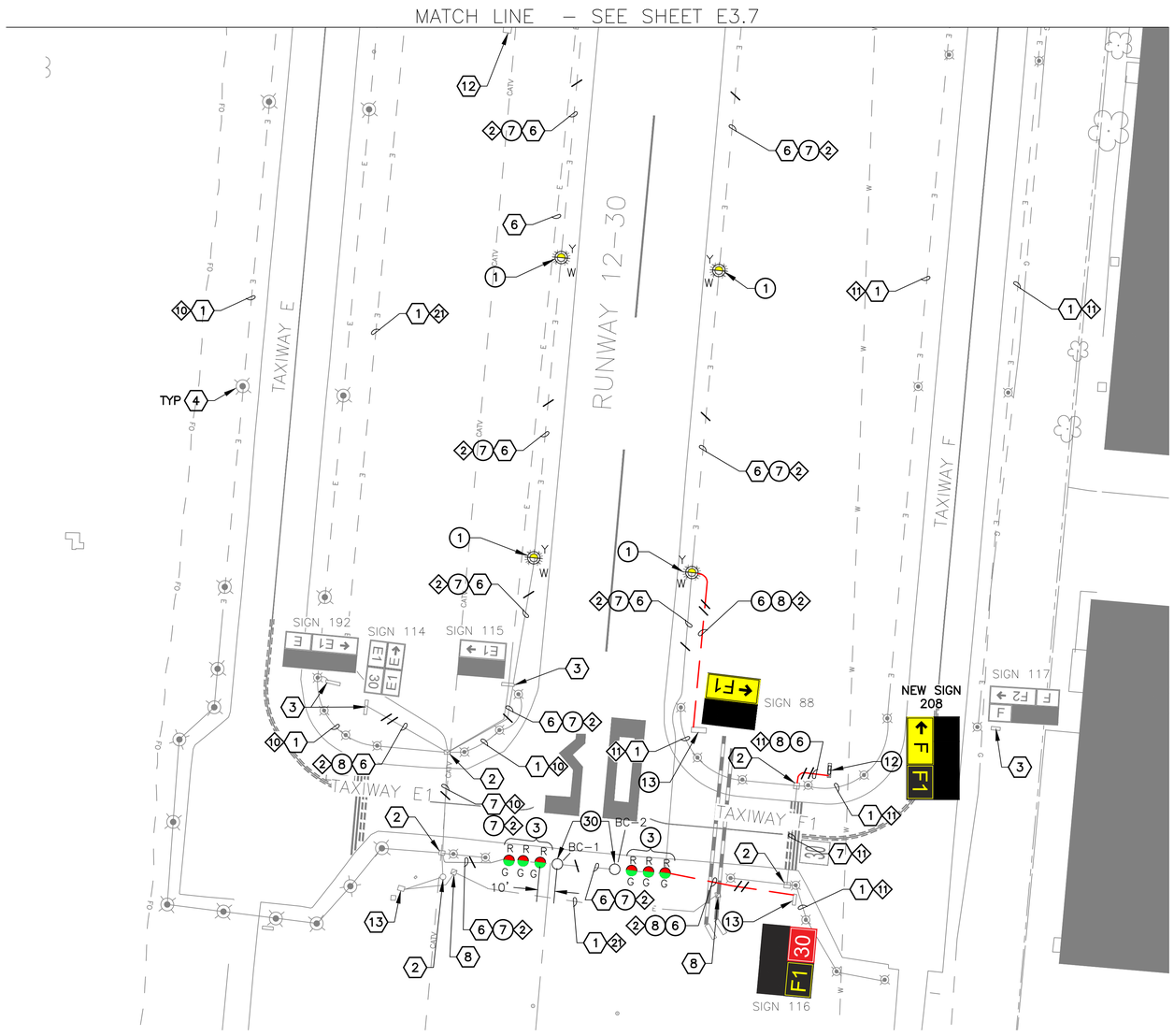


0' 20' 40' 80'

SCALE: 1"=40'

CIRCUIT IDENTIFICATION

- (2) 12–30
- (10) TW E
- (11) TW F
- (21) REIL 30

AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

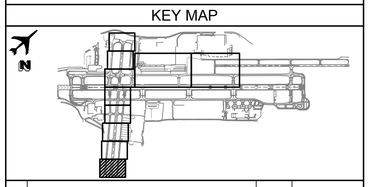
CONSTRUCTION NOTE

1. NEW L–861(L) LED RUNWAY EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (4 TOTAL (WHITE/YELLOW))
3. NEW L–861(L) LED RUNWAY END/THRESHOLD EDGE LIGHT AND ISOLATION TRANSFORMER ON EXISTING L–867 BASE (6 TOTAL (RED/GREEN))
6. 1–2"C DEB (200 LF)
7. NEW 1/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,380 LF)
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (240 LF)
12. NEW L–858(L) LED SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE (1 TOTAL)
13. NEW L–858(L) LED SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR (2 TOTAL)
30. NEW L–867 BASE CAN WITH BLANK COVER (2 TOTAL)

REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
6. EXISTING CONDUIT
7. EXISTING DUCTBANK
8. EXISTING REIL
12. EXISTING ABANDONED FOUNDATION
13. EXISTING POWER EQUIPMENT

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.8	29 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

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AS BUILT DATE

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CR engineers
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Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

NOTE

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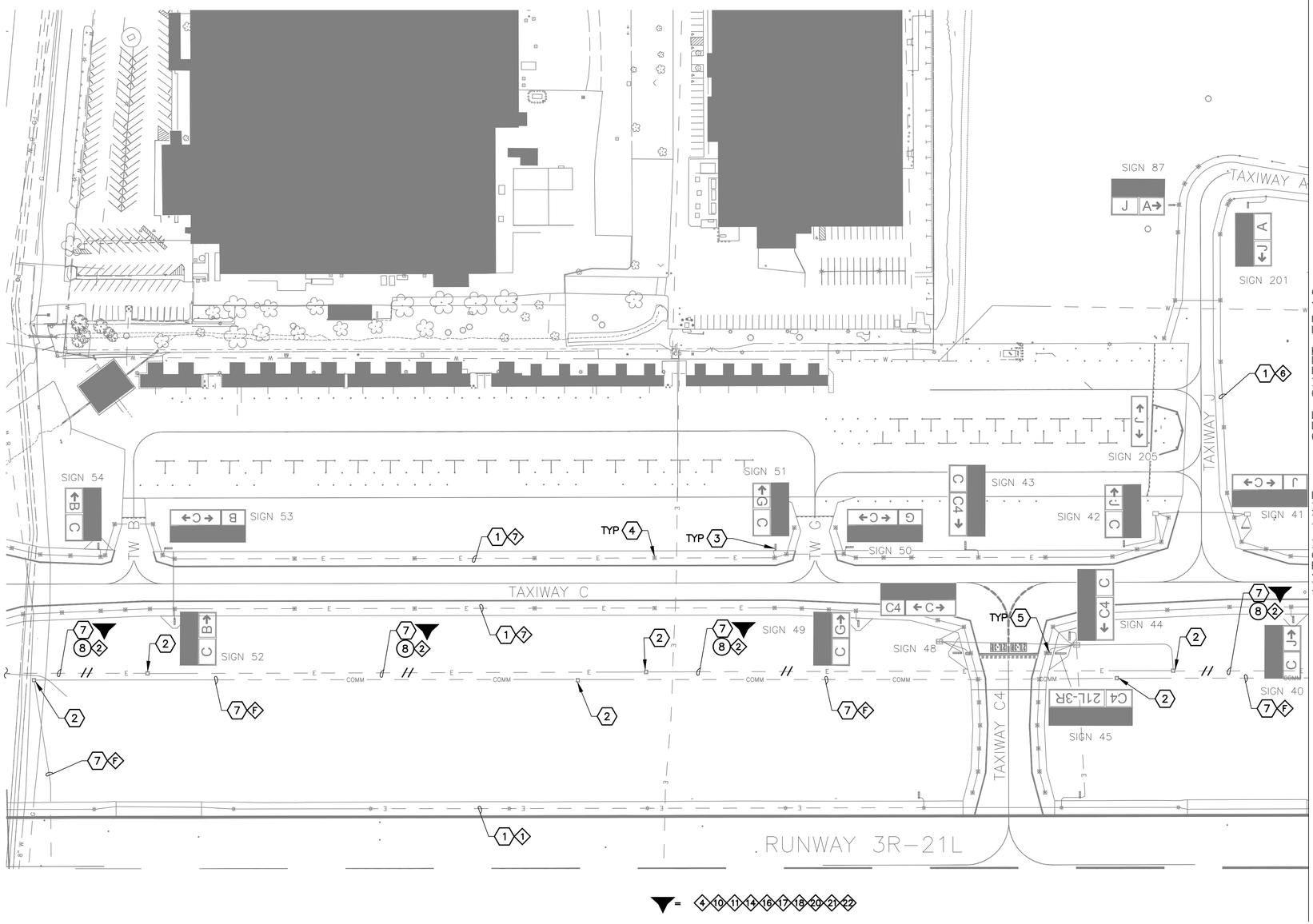
0' 40' 80' 160'
SCALE: 1"=80'



CONSTRUCTION NOTE

8 NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (1,940 LF)

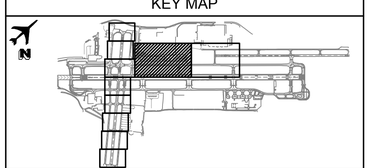
REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
5. EXISTING RGL
7. EXISTING DUCTBANK

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
4. RGL (3R–21L)
6. TW A
7. TW C
10. TW E
11. TW F
14. PAPI 3R
16. PAPI 12
17. PAPI 30
18. REIL 3R
20. REIL 12
21. REIL 30
22. WINDCONE
F. ALCMS FIBER

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.9	30 OF 43

Call at least two full working days before you begin excavation.
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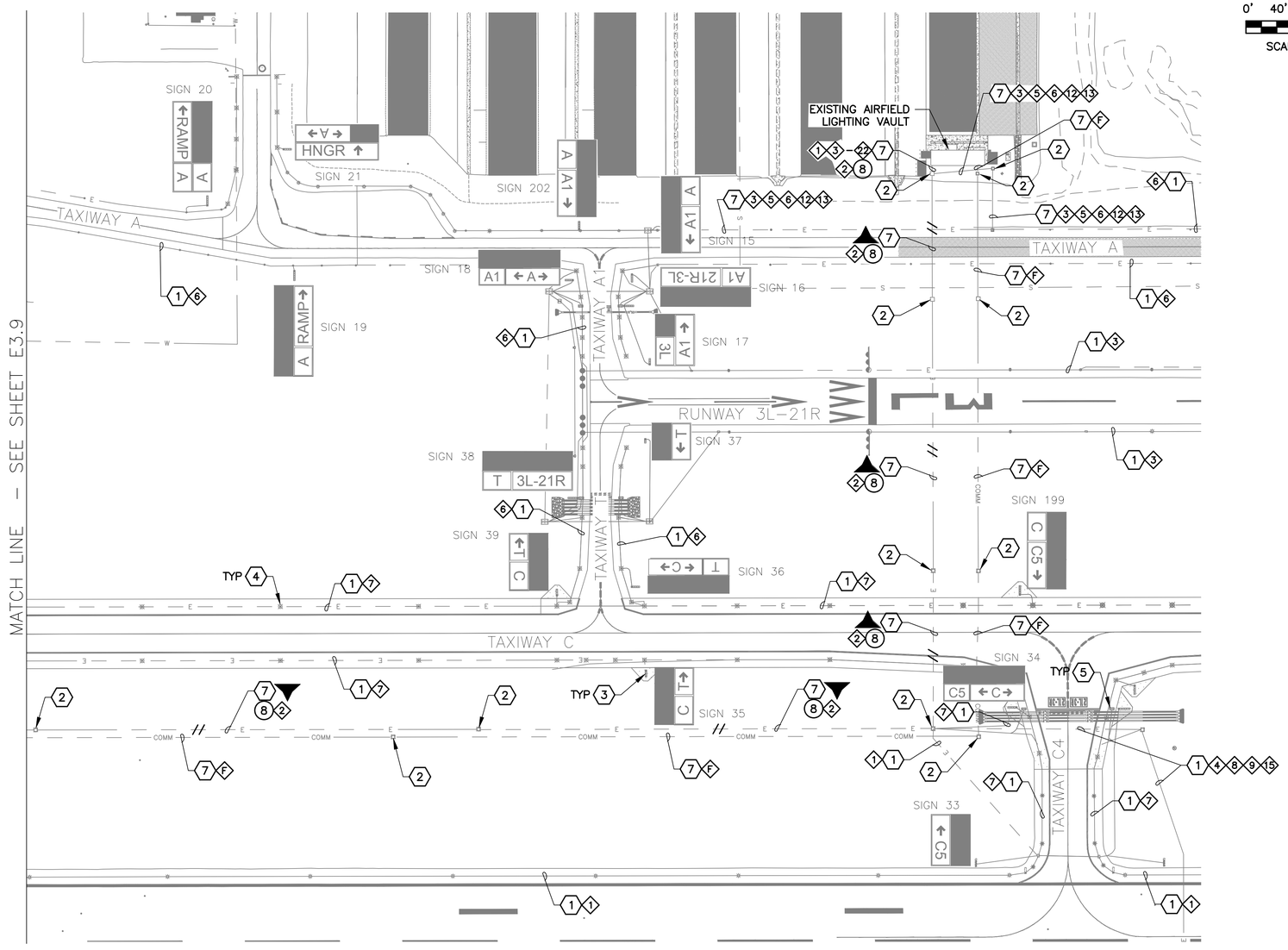
NOTE

ON THIS SHEET, LIGHTS, SIGNAGE, PAPI, RGLs, HANDHOLES, CONDUIT/CONDUCTOR, ETC... NOT ASSOCIATED WITH RUNWAY 12–30 CIRCUIT ARE MINIMALLY NOTED.



0' 40' 80' 160'

SCALE: 1"=80'

▲ = 1 4 7 8 9 10 11 14 15 16 17 18 19 20 21 22

▼ = 4 10 11 14 16 17 18 20 21 22

REFERENCE NOTE

1. EXISTING CONDUIT AND CONDUCTOR
2. EXISTING HANDHOLE/JUNCTION CAN
3. EXISTING AIRFIELD GUIDANCE SIGN
4. EXISTING ELEVATED LIGHT FIXTURE
5. EXISTING RGL
7. EXISTING DUCTBANK

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CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

CONSTRUCTION NOTE

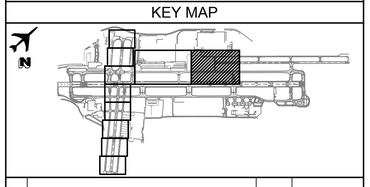
8. NEW 2/C, #8 5KV L–824, TYPE "C" AIRFIELD LIGHTING CABLE (2,210 LF)

CIRCUIT IDENTIFICATION

1. 3R–21L
2. 12–30
3. 3L–21R
4. RGL (3R–21L)
5. RGL (A1)
6. TW A
7. TW C
8. TW D (TDL–DELTA LIGHTING)
9. TDS (TW DELTA SIGNS)
10. TW E
11. TW F
12. PAPI 3L
13. PAPI 21R
14. PAPI 3R
15. PAPI 21L
16. PAPI 12
17. PAPI 30
18. REIL 3R
19. REIL 21L
20. REIL 12
21. REIL 30
22. WINDCONE

F. ALCMS FIBER

KEY MAP



REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD ELECTRICAL PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E3.10	31 OF 43

Q:\PROJECTS\24000\24005 PRC RWY 12–30 ELECTRICAL IMPROVEMENTS\CAD\CAD SHEETS\24005 E3.1–TBD.DWG Mar. 18, 2025 3:14 PM

PRESCOTT REGIONAL AIRPORT AIRFIELD GUIDANCE SIGN SCHEDULE

SIGN NUMBER	CIRCUIT	SIGN WITH FACE DESIGNATIONS	FACE A MESSAGE	FACE B MESSAGE	FACE A COLOR	FACE B COLOR	SIZE	STYLE	CLASS	SHEET NUMBER	SCOPE OF WORK
67	RW 12–30	A [redacted] B F4 →	BLANK	F4 | →	B	B/Y | B/Y	2	2	1	E3.1	NEW L–858(L), SIZE 2, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE.
68	RW 12–30	A 12 F4 B F4 F→	F4 | 12	F4 | F →	Y/B | W/R	Y/B | B/Y	2	2	1	E3.1	NEW L–858(L), SIZE 2, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE
61	RW 12–30	A [redacted] ← C B 21L- 3R	C → | BLANK | BLANK	21|L–|3R	B/Y | BLANK | BLANK	W/R| W/R| W/R	2	2	1	E3.3	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING EXTENDED SIGN BASE
101	RW 12–30	A [redacted] B D 12-30	BLANK	D | 12–30	B	Y/B | W/R| W/R| W/R	2	2	1	E3.4	NEW L–858(L), SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
NEW SIGN 207	RW 12–30	A [redacted] B D →	BLANK	D →	B	B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE
134	RW 12–30	A [redacted] B ← D	BLANK	←D	B	B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR.
133	TDS (TW DELTA SIGNS)	A [redacted] D B D ←F→	D | BLANK | BLANK	D | ← F →	Y/B | B | B	Y/B | B/Y| B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
104	RW 12–30	A [redacted] B ← D	BLANK	←D	B	B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR.
105	RW 12–30	A [redacted] B 3R-21L	BLANK	3R|–2|1L	B	W/R| W/R| W/R	2	2	1	E3.4	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE
129	RW 12–30	A [redacted] B D →	BLANK	D →	B	B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 1–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE
130	RW 12–30	A [redacted] B D 30-12	BLANK	D | 30–12	B	Y/B | W/R| W/R| W/R	2	2	1	E3.4	NEW L–858(L), SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
132	TDS (TW DELTA SIGNS)	A [redacted] 21L↓ B D ←F→	21|L↑| BLANK	D | ← F →	B/Y| B/Y | B	Y/B | B/Y| B/Y	2	2	1	E3.4	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
127	TDS (TW DELTA SIGNS)	A [redacted] B F3 ←F→	BLANK	F3 | ← F →	B	Y/B | B/Y| B/Y	2	2	1	E3.5	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
128	RW 12–30	A [redacted] B ← F3	BLANK	←F3	B	B/Y | B/Y	2	2	1	E3.5	NEW L–858(L), SIZE 2, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
123	RW 12–30	A [redacted] B F3 →	BLANK	F3 | →	B	B/Y | B/Y	2	2	1	E3.5	NEW L–858(L), SIZE 2, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
124	RW 12–30	A [redacted] B F3 30-12	BLANK	F3 | 30–12	B	Y/B | W/R| W/R| W/R	2	2	1	E3.5	NEW L–858(L), SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
120	RW 12–30	A [redacted] B ← F2	BLANK	←F3	B	B/Y | B/Y	1	2	1	E3.6	NEW L–858(L), SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE.
119	RW 12–30	A [redacted] B F2 30-12	BLANK	F3 | 30–12	B	Y/B | W/R| W/R| W/R	2	2	1	E3.6	NEW L–858(L), SIZE 2, 4–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE
121	TW F	A [redacted] B F2 ←F→	BLANK	F3 | ← F →	B	Y/B | B/Y| B/Y	2	2	1	E3.6	NEW L–858(L), SIZE 2, 3–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE.

NOTES

1. MODULE SIZES ARE GIVEN FOR ESTIMATION ONLY AND ARE SUBJECT TO CHANGE BY SIGN MANUFACTURER
2. CONTRACTOR SHALL PERFORM AND SUBMIT COMPLETE FIELD SURVEY/RECORD DRAWINGS FOR ALL EQUIPMENT PRIOR TO FINAL PAYMENT.
3. THE AIRPORT PREFERS STANDARD, LUMACURVE SIGNAGE OVER CABINET STYLE SIGNAGE.

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CR engineers
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Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD GUIDANCE SIGNAGE SCHEDULE

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E4.1	32 OF 43

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Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

PRESCOTT REGIONAL AIRPORT AIRFIELD GUIDANCE SIGN SCHEDULE

SIGN NUMBER	CIRCUIT	SIGN WITH FACE DESIGNATIONS	FACE A MESSAGE	FACE B MESSAGE	FACE A COLOR	FACE B COLOR	SIZE	STYLE	CLASS	SHEET NUMBER	SCOPE OF WORK
118	RW 12–30	A B F2 →	BLANK	F3 | →	B	B/Y | B/Y	1	2	1	E3.7	NEW L–858(L), SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE.
88	RW 12–30	A B ← F1	BLANK	← F1	B	B/Y | B/Y	1	2	1	E3.8	NEW L–858(L), SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
116	RW 12–30	A B F1 30	BLANK	F1 | 30	B	Y/B | W/R	1	2	1	E3.8	NEW L–858(L), SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON EXISTING SIGN BASE WITH NEW GROUND ROD AND CONDUCTOR
NEW SIGN 208	TW F	A B ← F F1	BLANK	← F | F1	B	B/Y | Y/B	1	2	1	E3.8	NEW L–858(L), SIZE 1, 2–MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW SIGN BASE.

NOTES

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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

AIRFIELD GUIDANCE SIGNAGE SCHEDULE

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E4.2	33 OF 43

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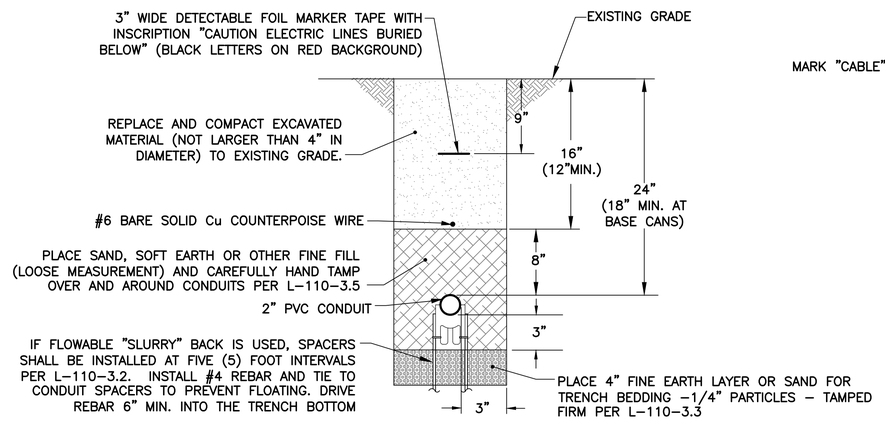
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

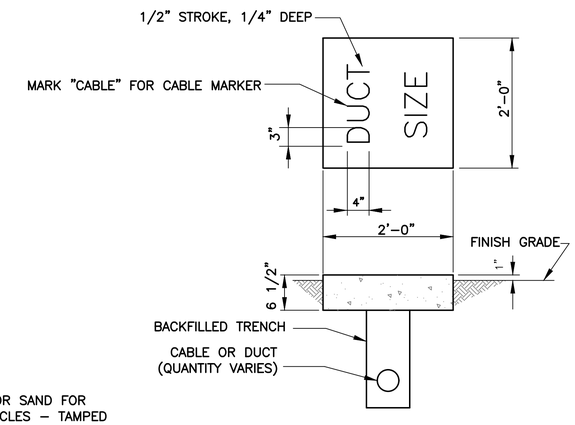
GENERAL NOTES FOR CONDUIT INSTALLATION

1. CONCRETE ENCASED DUCTBANKS SHALL BE USED WHEN CROSSING UNDER PAVEMENTS EXPECTED TO CARRY AIRCRAFT LOADS SUCH AS RUNWAYS, TAXIWAYS, TAXI–LANES, RAMPS, AND APRONS OR VEHICULAR TRAFFIC SUCH AS SERVICE ROADS. WHEN UNDER PAVED SHOULDERS AND OTHER PAVED AREAS, CONDUIT AND DUCTBANKS SHALL BE ENCASED USING FLOWABLE FILL FOR PROTECTION.
2. UNDER PAVEMENT, THE TOP OF THE DUCTBANKS SHALL NOT BE LESS THAN 18 INCHES BELOW THE SUBGRADE; IN OTHER LOCATION THE TOP OF THE DUCTBANK OR UNDERGROUND CONDUIT SHALL BE NOT LESS THAN 18 INCHES BELOW FINISHED GRADE.
3. DUCTBANKS SHALL BE INSTALLED SO THAT THE TOP OF THE CONCRETE ENVELOPE IN NOT LESS THAN 18 INCHES BELOW THE BOTTOM OF THE BASE OR STABILIZED BASE COURSE LAYERS WHERE INSTALLED UNDER RUNWAY, TAXIWAYS, APRONS, OR OTHER PAVED AREAS, AND NOT LESS THAN 18 INCHES BELOW FINISHED GRADE WHERE INSTALLED IN UNPAVED AREAS.
4. ALL DUCTBANKS SHALL BE PLACED ON A LAYER OF CONCRETE NOT LESS THAN 3 INCHES THICK PRIOR TO ITS INITIAL SET. THE CONTRACTOR SHALL SPACE THE CONDUITS NOT LESS THAN 3 INCHES APART (MEASURED FROM OUTSIDE WALL TO OUTSIDE WALL).
5. ALL SUCH MULTIPLE CONDUITS SHALL BE PLACED USING CONDUIT SPACERS, APPLICABLE TO THE TYPE OF CONDUIT. CONCRETE SHALL BE PLACED AROUND AND ON TOP OF THE CONDUITS NOT LESS THAN 3 INCHES THICK.
6. CONDUITS FORMING THE DUCTBANK SHALL BE INSTALLED USING CONDUIT SPACERS. #4 REINFORCING BARS SHALL BE DRIVEN VERTICALLY INTO THE SOIL A MINIMUM OF 6 INCHES TO ANCHOR THE ASSEMBLY INTO THE EARTH PRIOR TO PLACING THE CONCRETE ENCASEMENT. SPACERS SHALL BE INSTALLED AT 5 FEET INTERVALS.
7. ALL PAVEMENT SURFACES THAT ARE TO HAVE DUCTS INSTALLED THEREIN SHALL BE NEATLY SAW CUT TO FORM VERTICAL FACE. ALL EXCAVATION AND BACKFILL SHALL BE INCLUDED IN THE CONTRACT WITH PRICE FOR THE DUCT.
8. BARE SOLID #6 AWG COPPER COUNTERPOISE WIRE SHALL BE INSTALLED FOR LIGHTNING PROTECTION OF THE UNDERGROUND CABLES. THE COUNTERPOISE CONDUCTOR SHALL BE INSTALLED NO LESS THAN 8 INCHES MINIMUM OR 12 INCHES MAXIMUM ABOVE THE RACEWAY OR CABLE TO BE PROTECTED, EXCEPT AS PERMITTED BELOW:
   A. THE MINIMUM COUNTERPOISE CONDUCTOR HEIGHT ABOVE THE RACEWAY OR CABLE TO BE PROTECTED SHALL BE PERMITTED TO BE ADJUSTED SUBJECT TO COORDINATION WITH AIRFIELD LIGHTING AND PAVEMENT DESIGNS.
   B. THE COUNTERPOISE CONDUCTOR HEIGHT ABOVE THE PROTECTED RACEWAY(S) OR CABLE(S) SHALL BE CALCULATED TO ENSURE THAT THE RACEWAY OR CABLE IS WITHIN A 45–DEGREE AREA OF PROTECTION (45 DEGREES ON EACH SIDE OF VERTICAL CREATING A 90–DEGREE ANGLE.
9. INSTALL A PLASTIC, DETECTABLE, RED, 3 INCH WIDE TAPE LOCATED 8 INCHES (MINIMUM) BELOW GRADE ABOVE ALL UNDERGROUND CONDUIT OR DUCT LINES NOT INSTALLED UNDER PAVEMENT. UNDERGROUND ELECTRICAL WARNING (CAUTION) TAPE SHALL BE INSTALLED IN THE TRENCH ABOVE ALL UNDERGROUND DUCTBANKS AND CONDUIT IN UNPAVED AREAS. THE WARNING TAPE SHALL BE LOCATED 6 INCHES ABOVE THE DUCT/CONDUIT OR THE COUNTERPOISE WIRE IF PRESENT.
10. PROVIDE MULE TAPE IN ALL NEW (UNUSED) CONDUITS. PLUG ENDS IN HANDHOLES
11. P–610 CONCRETE ENCASE UNDER PAVEMENT PER SPECIFICATION L–110.
12. INSTALL A #6 BARE COPPER COUNTERPOISE ABOVE EACH DUCT ASSEMBLY FROM HANDHOLE TO HANDHOLE AND EXOTHERMICALLY WELD TO GROUND RODS AT EACH HANDHOLE.
13. ALL UNDERGROUND CONDUITS SHALL MAINTAIN A 12" (MIN.) SEPARATION FROM ALL OTHER (EXISTING OR NEW) UNDERGROUND FACILITIES UNLESS NOTED OTHERWISE ON DRAWINGS
14. CONDUIT IN DUCTBANK(S) ARE TO BE STACKED NO MORE THAN FOUR (4) CONDUITS. IF MORE CONDUITS ARE NEEDED, THE WIDTH OF THE TRENCH IS TO BE INCREASED
15. WHERE PAVEMENT IS EXISTING AND REPAIR/REPLACEMENT IS REQUIRED, REPLACE IN KIND. ANTICIPATE THREE (3) INCHES OF ASPHALT ON CLSM SLURRY ENCASED DUCT SECTION. THIS SHALL BE INCIDENTAL TO THE COST OF RETROFIT DUCTBANK INSTALLATION.
16. ADJUST DEPTH TO 18"–24" TOTAL FOR CONDUIT INSTALLATION BETWEEN OR INTO L–867/L–868 BASE CAN.



ALL DIMENSIONS ARE MINIMUM. DETAIL APPLICABLE FOR ALL CONDUIT BETWEEN L–867 BASE CANS.

500 TYP *DIRECT EARTH BURIED (DEB) CONDUIT DETAIL*



914 TYP *CABLE/DUCT MARKER*
NTS

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△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

CONDUIT DUCTBANK DETAILS

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.1	34 OF 43

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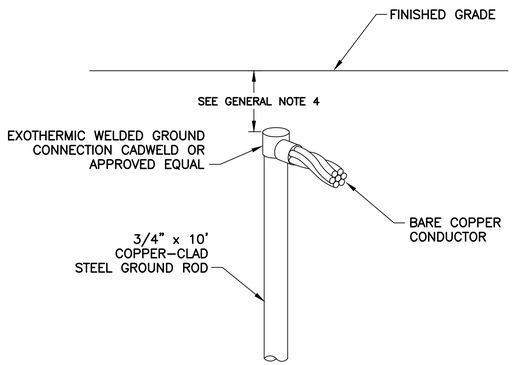
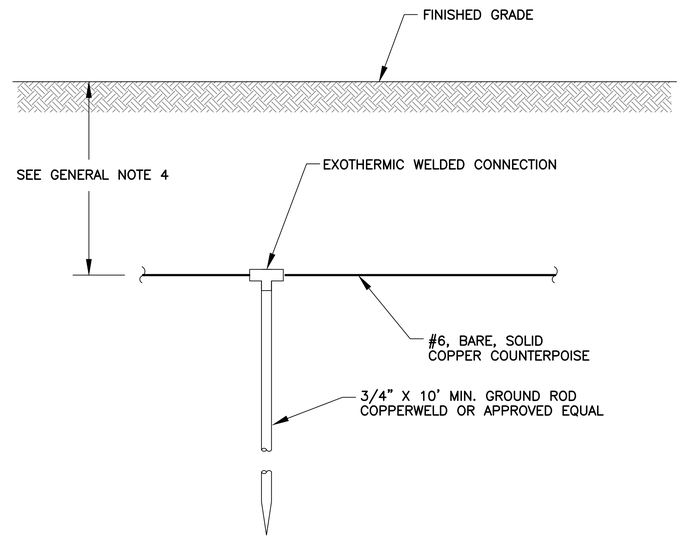
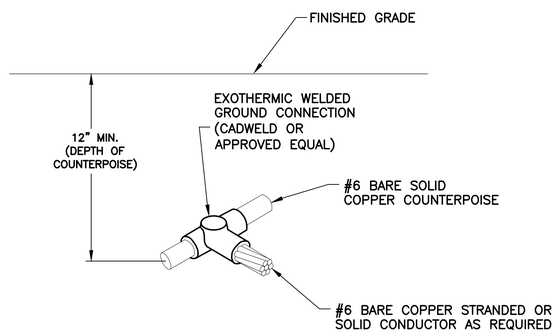


561 TYP CABLE TO GROUND ROD CONNECTION
NTS



761 TYP COUNTERPOISE INSTALLATION DETAIL
NTS



766 TYP COUNTERPOISE TO CABLE CONNECTION DETAIL
NTS

GENERAL NOTES

1. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.
2. WHERE POSSIBLE, NEW COUNTERPOISE SYSTEM SHALL BE CONNECTED TO ANY EXISTING COUNTERPOISE SYSTEM ENCOUNTERED.
3. GROUNDING ELECTRODES INSTALLED AS PART OF THE COUNTERPOISE SYSTEM SHALL BE SPACED AT DISTANCES NO GREATER THAN 500 FT. (MAX).
4. REFER TO CONDUIT/DUCT BANK DETAILS FOR DEPTHS.

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

GROUNDING DETAILS

Call at least two full working days before you begin excavation
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DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.2	35 OF 43

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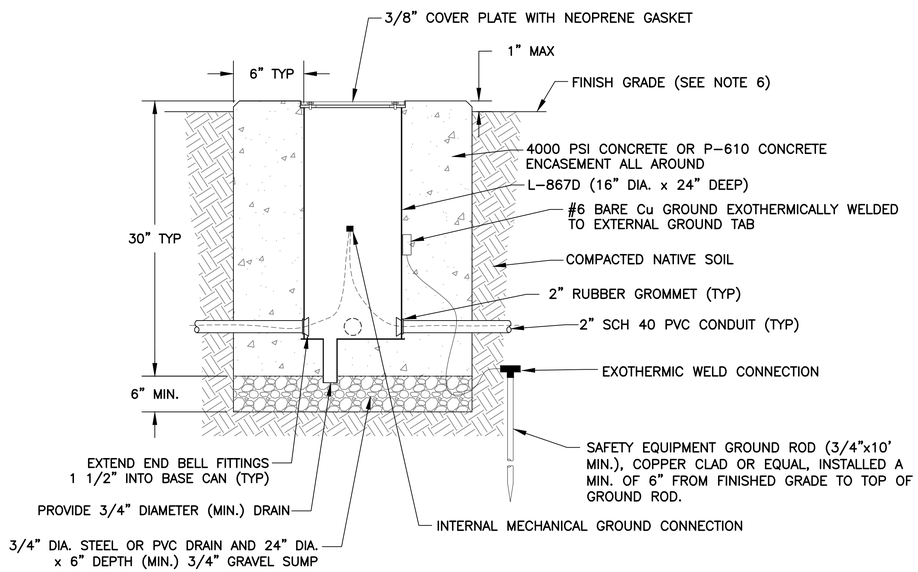
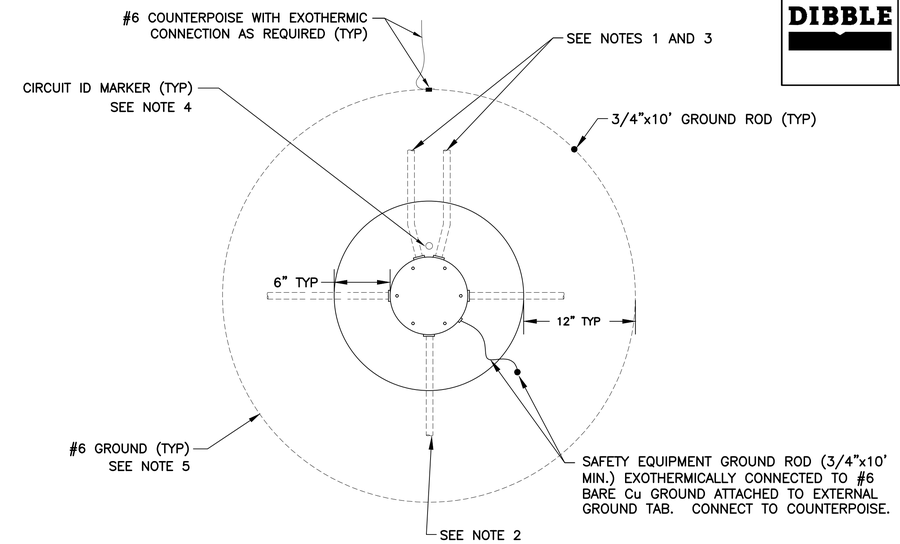
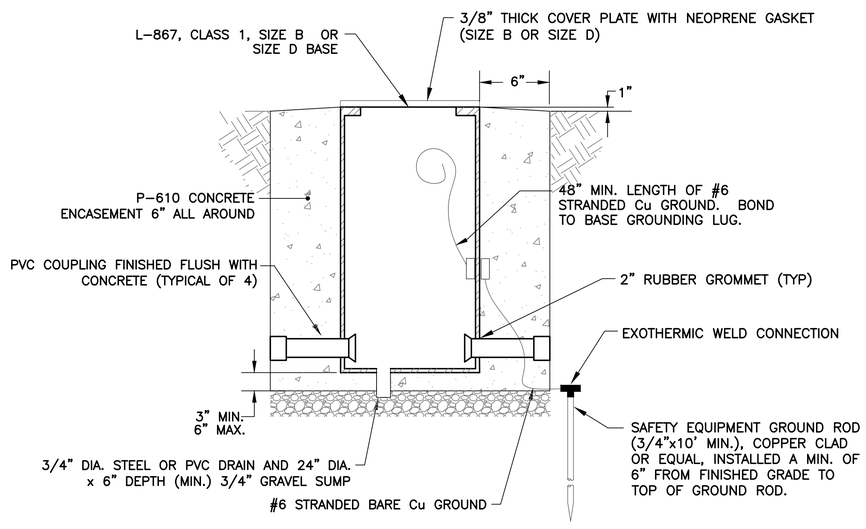




821 TYP — *L-867D JUNCTION CAN DETAIL*
NTS

NOTES:

1. NUMBER OF JUNCTION CANS AND CONDUIT CONFIGURATIONS VARY. SEE LAYOUT PLAN SHEETS FOR ORIENTATION. PROVIDE 2" SPARE CONDUIT FOR EACH CIRCUIT AT TAXIWAY CROSSINGS.
2. CONDUITS WHICH ARE NOT USED IN THE PROJECT SHALL BE CAPPED 4" OUTSIDE OF CONCRETE.
3. ORIENT JUNCTION CAN AS SHOWN ON ELECTRICAL SITE PLANS.
4. CONTRACTOR SHALL PROVIDE A 2" DIAMETER DOMED BRONZE MARKER AT EACH JUNCTION AS SHOWN. MARKER SHALL BE STAMPED WITH CIRCUIT IDENTIFICATION AS SHOWN ON DETAIL 664.
5. INSTALL GROUND ROD AND GROUND LOOP AT ALL JUNCTION CAN AS SHOWN. ONE GROUND ROD SHALL BE PROVIDED. COUNTERPOISE SHALL BE LOCATED NOMINALLY 6" ABOVE CONDUITS. BOND TO JUNCTION CANS.
6. CONTRACTOR SHALL GRADE AROUND JUNCTION CAN AS NECESSARY TO PREVENT SILT/DIRT INFILTRATION ONTO JUNCTION CAN. NO SEPARATE PAYMENT SHALL BE MADE.
7. EACH JUNCTION CAN HAS 4-2" GROMMETED HUBS. HUBS SHALL BE PLACED IN TWO LAYERS AND THE HUBS IN ONE LAYER SHALL BE 90° FROM THE HUBS IN THE OTHER LAYER. EACH PAIR OF HUBS SHALL BE 180° APART. MODIFICATION MAY BE REQUIRED TO ADD SPARE CONDUIT ENTRY HUB. SEAL UNUSED OPENINGS AS REQUIRED.
8. JUNCTION CANS SHALL BE INSTALLED SUCH THAT THE TOP FLANGE IS FLUSH (+0, -1/8") WITH THE TOP OF CONCRETE



902 TYP — *PRE-CAST L-867 FIXTURE BASE/JUNCTION CAN*
NTS

NOTES:

1. CONTRACTOR MAY FURNISH PRE-CAST CONCRETE JUNCTION CANS AND FIXTURE BASES FOR INSTALLATION IN UNPAVED SHOULDERS AND INFIELDS OR RETROFIT IN EXISTING PAVED SHOULDERS. REFER TO CIVIL PLANS FOR FINISHED GRADE AND MATERIALS.
2. ONE-PIECE SONOTUBES OF CORRECT DIAMETER FOR 6" MIN. CONCRETE SURROUND MY BE UTILIZED FOR ONE-TIME USE ONLY. ROUND COLUMN FORMS SPECIFICALLY DESIGNED FOR MULTIPLE USE MAY BE USED.
3. CONTRACTOR SHALL SUBMIT ON SPECIFIC PRE-CAST MEANS AND METHODS FOR ENGINEER REVIEW AND APPROVAL.
4. REFER TO ELEVATED TAXIWAY AND/OR RUNWAY GUARD LIGHT FIXTURE AND COUNTERPOISE INSTALLATION DETAILS.

GENERAL NOTES:

1. LEAVE APPROXIMATELY SIX (6) FEET OF EACH CABLE COILED IN JUNCTION CAN SO THAT EACH CABLE MAY BE RAISED A MINIMUM OF TWO (2) FEET ABOVE TOP OF CAN.
2. CONTRACTOR SHALL PROVIDE CABLE CIRCUIT IDENTIFICATION (ID) MARKERS ATTACHED TO EACH CABLE ENTERING AND LEAVING JUNCTION CANS. IF NO L-823 CONNECTOR IS PRESENT, INSTALL ONE (1) ID MARKER.
3. TRANSITION FROM MULTI-WAY CONDUIT TRENCH TO JUNCTION CAN REQUIRES DISTRIBUTION OF 2" SCH 40 PVC TO EACH JUNCTION CAN. CONTRACTOR SHALL LIMIT CONDUIT BENDS TO 45 DEG. MAXIMUM.
4. CONTRACTOR SHALL INSTALL L-823 CONNECTORS IN A CONSISTENT MANNER FROM JUNCTION CAN TO THE NEXT. EACH SEGMENT OF #8 L-824C, 5KV CABLE IN THE AIRFIELD SHALL HAVE A MALE L-823 CONNECTOR ON ONE END AND A FEMALE CONNECTOR ON THE OTHER.

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Fax: (480) 816-5540
Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

JUNCTION CAN DETAILS

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.3	36 OF 43

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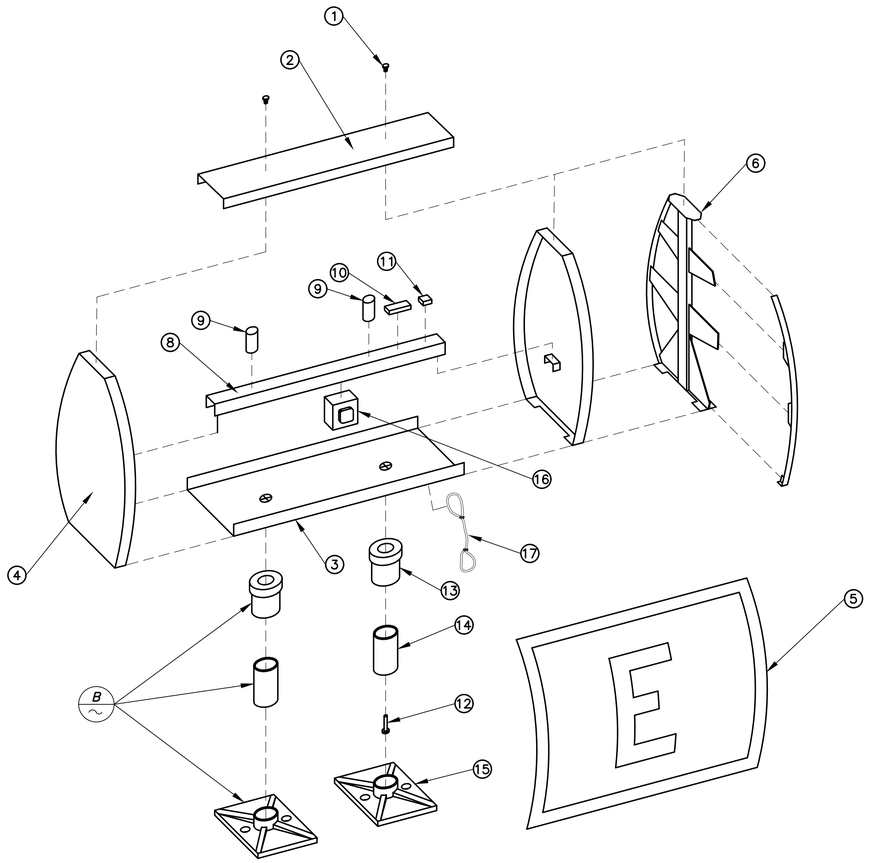
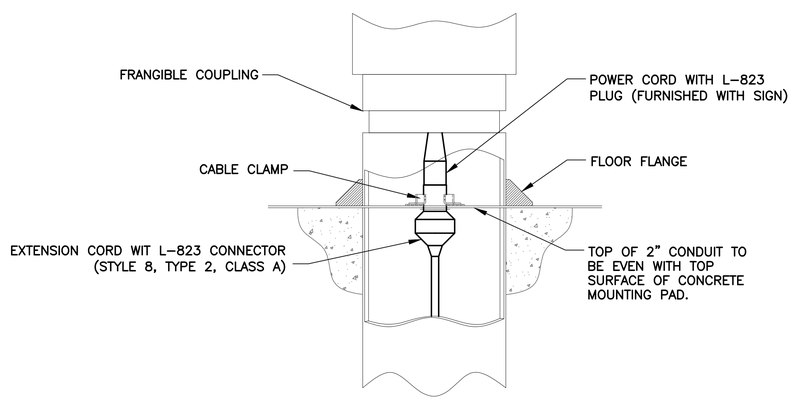


1. TURN FASTENERS
2. TOP COVER
3. BASE
4. END PANEL
5. LEGEND PANEL
6. MULTI–MODULE INSERT
7. FACE INSERT PANEL
8. LAMP SOCKET CHANNEL
9. LAMP SOCKET
10. TERMINAL BLOCK
11. CABLE CLAMP
12. FAA L–823 PLUG
13. SLIP FILTER
14. FRANGIBLE COUPLING (6" LENGTH)
15. FLOOR FLANGE
16. BRIGHTNESS CONTROL TRANSFORMER
17. TETHER

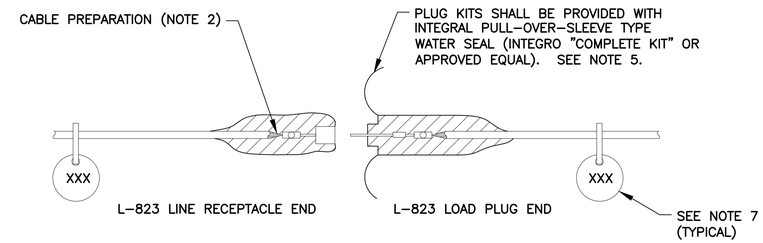
NOTES:

1. FOR SIZE 1 SIGN, WHEN JOINING TWO SIGNS FOR ONE ARRAY, PROVIDE NEW SCLT–6 SIZE 1 MULTIMODE INSERT (TREE) AND S7–A SIZE 1 FACE INSERT CHANNEL (TRACK) OF THE CORRECT COLOR ADDED. DO NOT PROVIDE END PLATES IN THE MIDDLE OF THE ARRAY.
2. PROVIDE EXTERNAL DISCONNECT SWITCH IN WEATHERPROOF ENCLOSURE, FROM MANUFACTURER.
3. THE AIRPORT PREFERS STANDARD, LUMACURVE SIGNS OVER CABINET STYLE SIGNS.

A — L–858(L) LED AIRFIELD GUIDANCE SIGN



B — POWER/SUPPORT LEG



FOR SPLICES INSIDE CANS AND HANDHOLES

NOTES

1. PROVIDE MALE AND FEMALE L–823 CONNECTORS AS REQUIRED ON EACH CONDUCTOR IN EACH BASE, HANDHOLE, OR MANHOLE TO ALLOW ISOLATION OF HOMERUN CIRCUIT, NO STRAIGHT–THROUGH ALLOWED.
2. ALL CABLE ENDS SHALL BE PREPARED WITH THE USE OF A TAPERING TOOL SPECIFICALLY DESIGNED FOR USE WITH L–824 CABLES.
3. PLUG AND RECEPTACLE END FITTINGS SHALL BE CRIMPED ONTO THE CONDUCTOR BY USE OF AN AIRPORT PERSONNEL ACCEPTED RATCHETING TYPE CRIMPING TOOL.
4. AT THE POINT OF CONNECTION WITH THE EXISTING FIELD CIRCUITS, INSTALL NEW L–823 PLUGS ON BOTH THE NEW AND EXISTING CABLES. VERIFY INSULATION TYPES OF BOTH NEW AND EXISTING CABLES AND COORDINATE WITH TERMINATION KITS TO ASSURE PROPER AND WATERPROOF FIT.
5. INSTALL SCOTCH 33+ VINYL ELECTRICAL TAPE ON CONNECTION AFTER PULLING SLEEVE OVER COMPLETE KIT.
6. THERE SHALL BE NO SPLICES BETWEEN LIGHTS, ONLY IN BASES OR HANDHOLES.
7. PROVIDE AND INSTALL NON–CONDUCTIVE CIRCUIT IDENTIFICATION TAGS ATTACHED TO EACH SIDE OF ALL CONNECTOR KITS.
8. ON THE CABLES FOR THE RUNWAY CIRCUIT, TAPE FROM THE BACK END OF THE CONNECTOR KIT ONTO CABLE FOR 3" EACH, RED OR WHITE CIRCUIT TAPE FOR FASTER IDENTIFICATION AND MATCH EXISTING MANHOLE LAYOUTS.
9. ON THE CABLES FOR THE TAXIWAY AND SIGNAGE CIRCUITS, TAPE FROM THE BACK END OF THE CONNECTOR KIT ONTO CABLE FOR 3" EACH, BLUE THEN WHITE CIRCUIT TAPE FOR SIGNS, BLUE ONLY CIRCUIT TAPE FOR TAXIWAY EDGE LIGHTS, FOR FASTER IDENTIFICATION AND MATCH EXISTING MANHOLE LAYOUTS.

925 TYP — TYPICAL 5KV CABLE SPLICE
NTS

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Fax: (480) 816-5540
Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

TYPICAL 5KV CABLE SPLICE DETAIL

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.4	37 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

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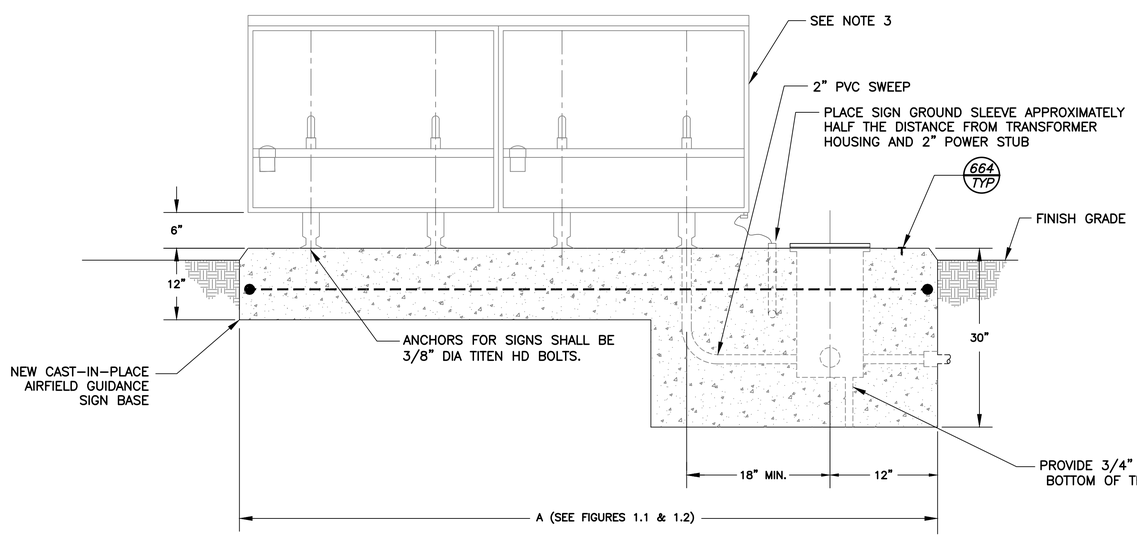
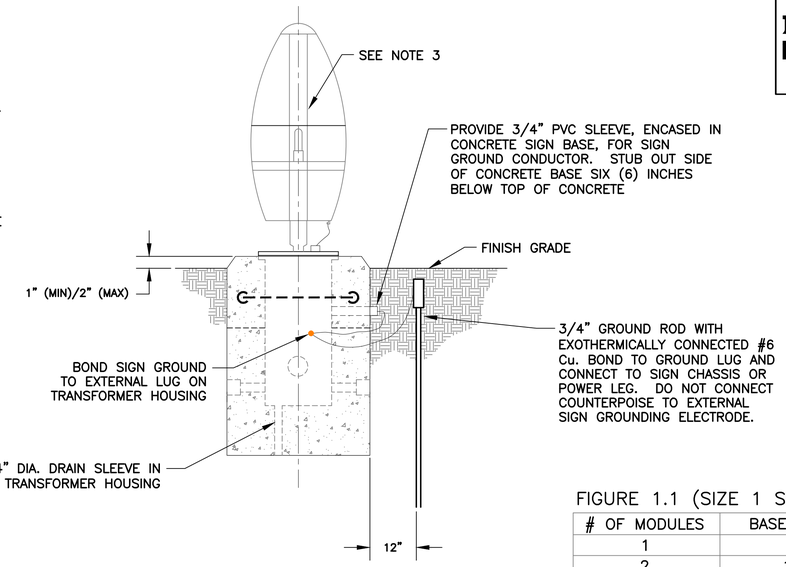


SIDE VIEW



FRONT VIEW (CAN SIDE)

FIGURE 1.1 (SIZE 1 SIGNS):

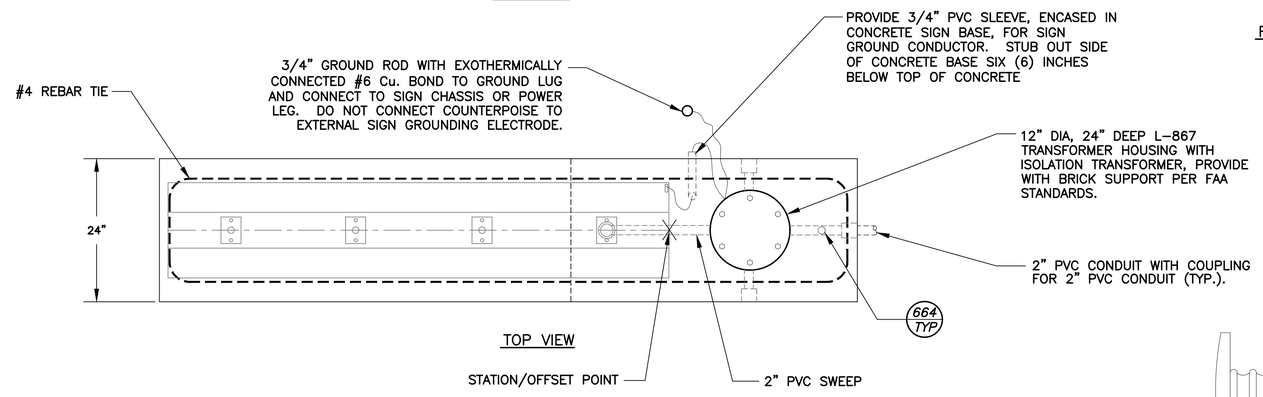
# OF MODULES	BASE LENGTH (A)
1	72"
2	102"
3	132"
4	162"

*ALL LENGTHS SHOWN ARE MINIMUM

FIGURE 1.2 (SIZE 2 SIGNS):

# OF MODULES	BASE LENGTH (A)
1	78"
2	114"
3	150"
4	186"

*ALL LENGTHS SHOWN ARE MINIMUM



TOP VIEW

919 TYP NEW CAST-IN-PLACE GUIDANCE SIGN BASE DETAIL

NTS

NOTES

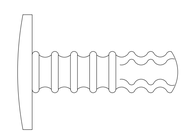
1. NEW CAST-IN-PLACE AIRFIELD GUIDANCE SIGN BASE DETAIL SHOWN WITH A TWO MODULE SIGN FOR ILLUSTRATIVE PURPOSES ONLY. SEE FIGURES 1.1 AND 1,2 FOR ACTUAL LENGTH OF BASE NEEDED FOR MULTIPLE MODULE SIGNS.
2. TRANSFORMER HOUSING SHALL BE ORIENTED AT TAXIWAY/RUNWAY END OF SIGN BASE.
3. SIGNS SHALL BE EQUIPPED WITH DISCONNECTING SWITCH AND WEATHERPROOF COVER ON INBOARD OF SIGN.

SIGN HEIGHTS AND LOCATION DISTANCES FOR TAXIWAY GUIDANCE SIGNS (PROVIDED FOR REFERENCE ONLY)

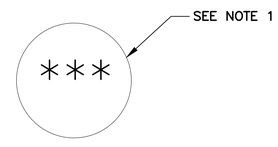
SIGN SIZE	LEGEND HEIGHT	LEGEND PANEL HEIGHT	INSTALLED* (MAX.)	PERPENDICULAR DISTANCE FROM DEFINED PAVMENT EDGE TO NEAR SIDE OF SIGN
1	12"	18"	30"	10' – 20'
2	15"	24"	36"	20' – 35'
3	18"	30"	42"	35' – 60'

* THE HEIGHT REFERRED TO IN THIS COLUMN IS THE DISTANCE FROM TOP OF THE SIGN TO GRADE MEASURED AT THE SIDE OF THE SIGN THAT IS NEAREST TO THE APPLICABLE RUNWAY, TAXIWAY, OR APRON. IN ACCORDANCE WITH PARAGRAPH 1.14, THIS HEIGHT SHOULD BE REDUCED, IF NECESSARY, TO PROVIDE THE REQUIRED 12-INCH CLEARANCE BETWEEN THE TOP OF THE SIGN AND THE CRITICAL AIRCRAFT (AS NOTED IN PARAGRAPH 1.14.3.

(SEE FAA ADVISORY CIRCULAR 150/5340-18 FOR FURTHER INFORMATION AND CLARIFICATION)



SERVCO BRONZE MARKER

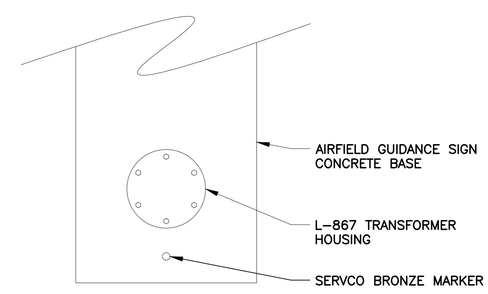


664 TYP CIRCUIT IDENTIFICATION MARKER

NTS

NOTE:

1. STAMP CIRCUIT IDENTIFICATION INTO BASE MARKER WITH 1/2" CHARACTERS.
2. PROVIDE CIRCUIT ID MARKERS AT NEW SIGN BASES AND JUNCTION CANS.



TYPICAL GUIDANCE SIGN BASE MARKER LOCATION

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1189

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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

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PRC RW 12-30 ELECTRICAL IMPROVEMENTS

NEW CAST-IN-PLACE AIRFIELD GUIDANCE SIGN BASE DETAIL

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.5	38 OF 43

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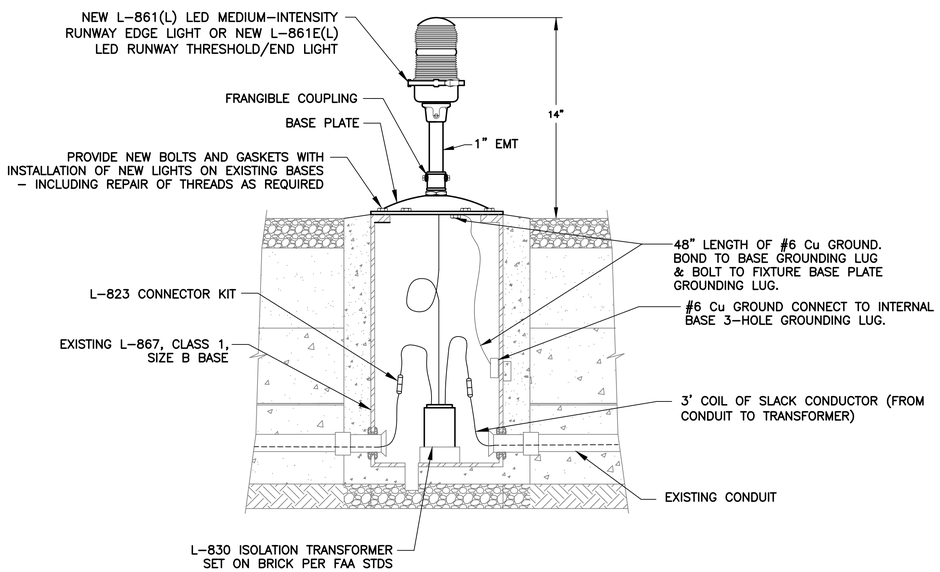
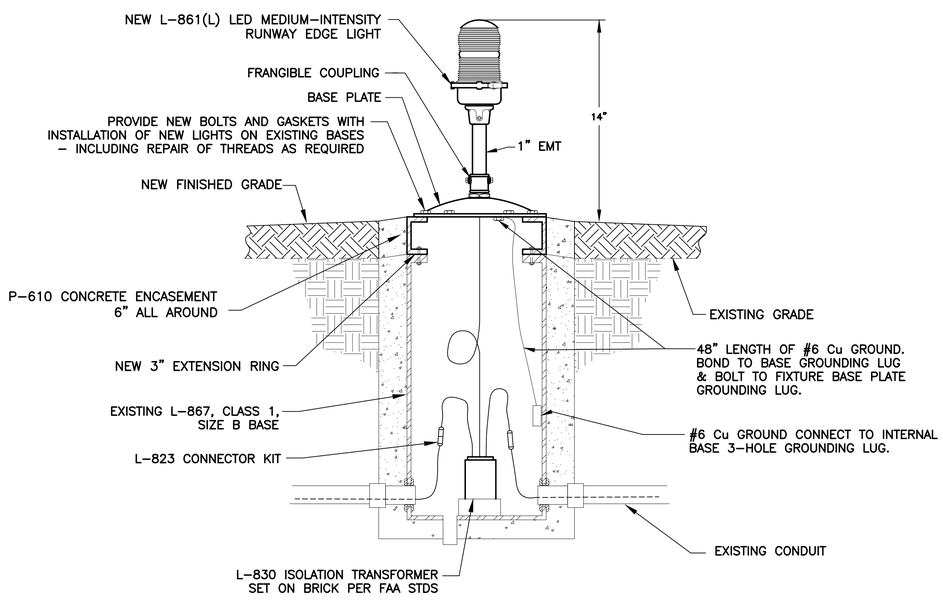
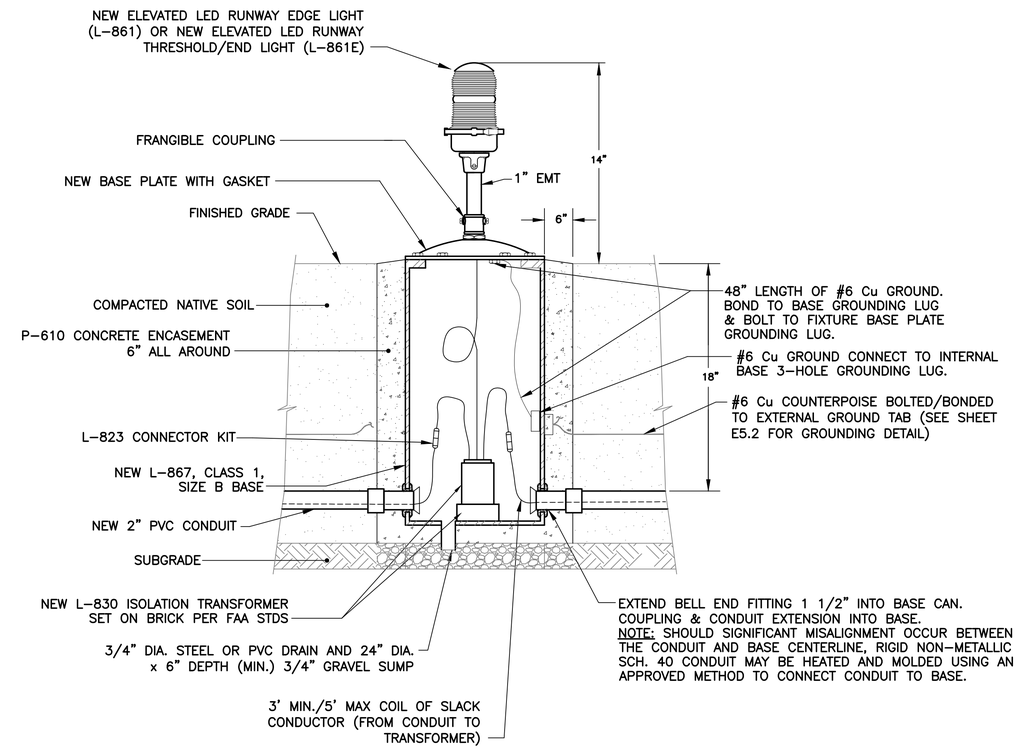
Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.



900 TYP *NEW ELEVATED EDGE LIGHT ON EXISTING BASE CAN DETAIL*
NTS



905 TYP *EXISTING EDGE LIGHT BASE CAN ELEVATION ADJUSTMENT DETAIL*
NTS



901 TYP *ELEVATED EDGE LIGHT DETAIL*
NTS

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CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

ELEVATED EDGE LIGHTING DETAILS

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.6	39 OF 43

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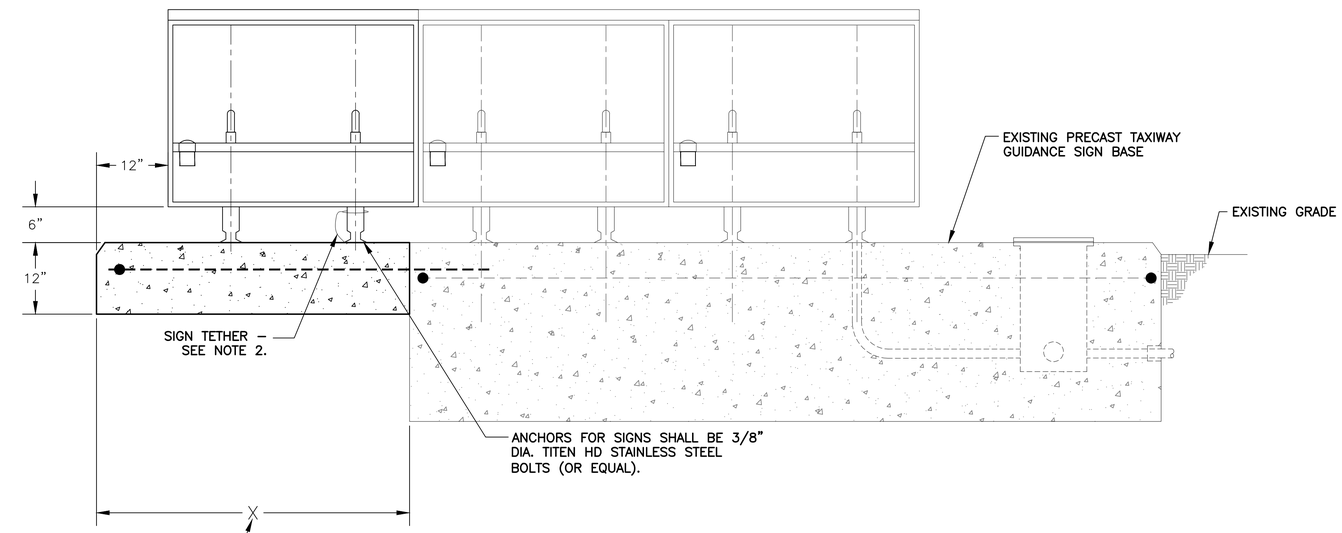
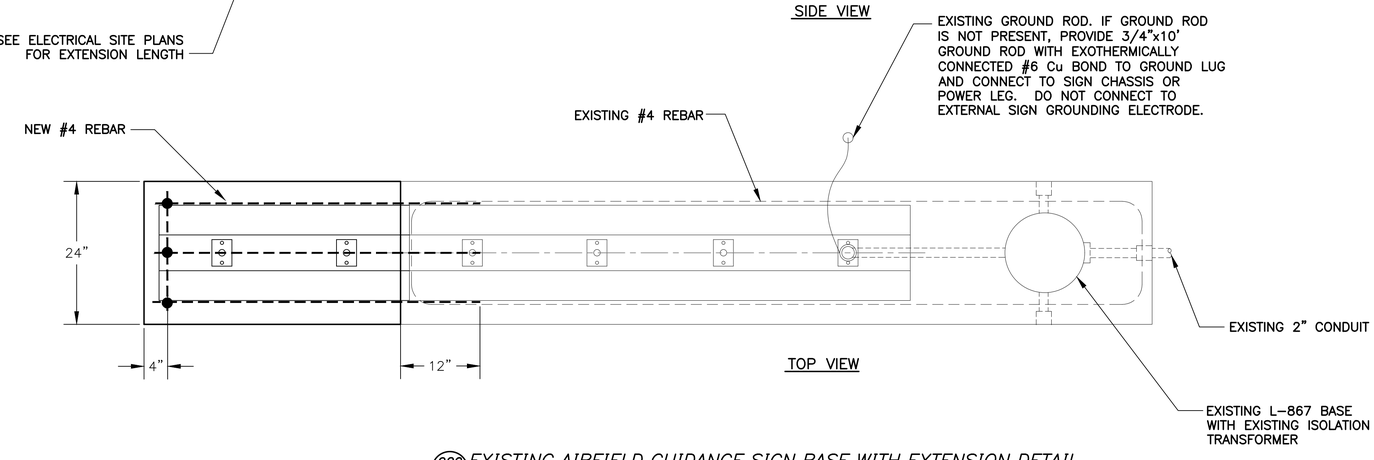


SIDE VIEW



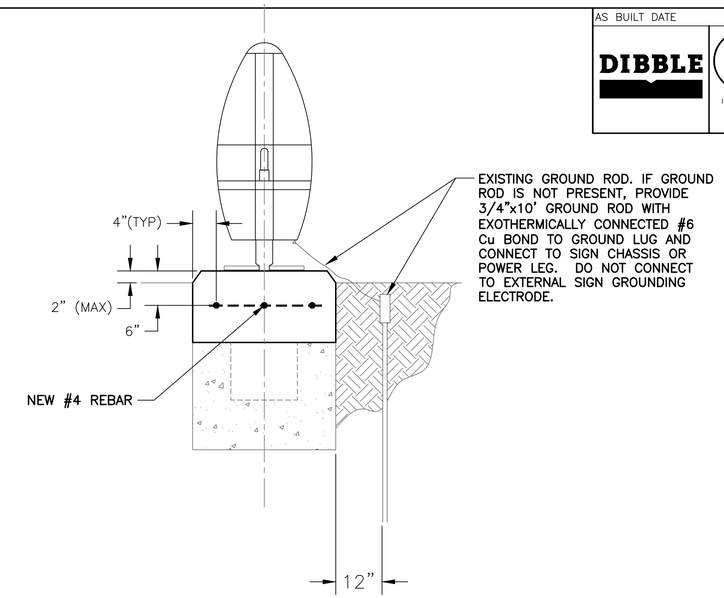
TOP VIEW

920 TYP *EXISTING AIRFIELD GUIDANCE SIGN BASE WITH EXTENSION DETAIL*

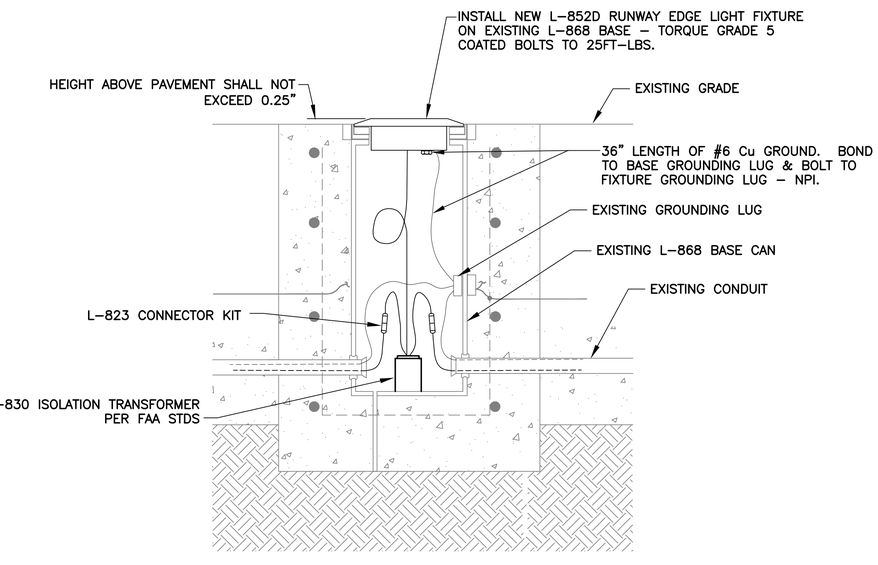
NTS

NOTES

1. PROVIDE AND INSTALL NEW GROUND ROD WITH #6 GROUND AT EXISTING SIGN BASES LACKING AN EXISTING SIGN SAFETY GROUND.
2. SIGN TETHER HARD ANCHOR POINTS MUST BE PROVIDED ON ONE SIGN MOUNTING LEG ABOVE THE FRANGIBLE BREAKING POINT. TETHER ANCHOR HARD POINTS MUST BE PROVIDED SO THAT ONE END OF THE TETHER ATTACHES TO THE SIGN STRUCTURE, AND THE OTHER END ATTACHES BELOW THE FRANGIBLE POINT ON THE COUPLING TO EITHER ONE OF THE LEG MOUNTING BOLTS OR AN INDEPENDENT BOLT IN THE SIGN CONCRETE MOUNTING PAD.



REAR VIEW (EXTENSION SIDE)



893 TYP *NEW IN-PAVEMENT LIGHT FIXTURE INSTALLATION DETAIL*

NTS

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

IN-PAVEMENT EDGE LIGHTING & SIGN BASE EXTENSION DETAILS

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E5.7	40 OF 43

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Registered Professional Engineer (Electrical)
CERTIFICATE NO. 36696
CATHERINE ALCORN
Date Signed 21 MAR 25
ARIZONA, U.S.A.

BASE CAN DATA TABLE

BC–#	NORTHING	EASTING	SIZE
BC–1	1326074.30	549244.57	L–867B
BC–2	1326097.84	549269.72	L–867B

RUNWAY END LIGHT DATA TABLE

REL–#	NORTHING	EASTING
REL–1	1329302.62	546216.27
REL–2	1329326.81	546241.09

RUNWAY EDGE LIGHTING DATA TABLE

RW–#	NORTHING	EASTING
RW–1	1328065.91	547334.73
RW–2	1326588.08	548719.61

AIRFIELD GUIDANCE SIGNS DATA TABLES
(SEE NOTE 2)

NUMBER	NORTHING	EASTING
67	1329273.24	546363.49
68	1329347.81	546365.83
207 (NEW SIGN)	1327928.99	547442.81
120	1327037.48	548441.15
121	1327075.60	548533.52
119	1327003.56	548584.78
118	1326929.83	548541.84
208 (NEW SIGN)	1326231.52	549312.48
105	132797.26	547406.41

EQUIPMENT LOCATION STANDARDS TABLE

EQUIPMENT TYPE	LOCATION STANDARD	NOTES
SIZE 1 AIRFIELD GUIDANCE SIGNS	10' – 20' (SEE NOTE 2)	MEASURE TO SIGN EDGE CLOSEST TO TAXIWAY EDGE/OUTER TAXIWAY EDGE MARKING (SEE FAA AC 1505340–18)
SIZE 2 AIRFIELD GUIDANCE SIGNS	20' – 35' (SEE NOTE 2)	MEASURE TO SIGN EDGE CLOSEST TO TAXIWAY EDGE/OUTER TAXIWAY EDGE MARKING (SEE FAA AC 1505340–18)
RUNWAY EDGE LIGHT	2'–10' (SEE NOTE 3)	MEASURE TO CENTER OF LIGHT FIXTURE – STATION/OFFSET GIVEN IS CENTER OF LIGHT FIXTURE (SEE FAA AC 150/5340–30)
BASE CAN		NORTHING/EASTING GIVEN IS CENTER OF BASE CAN COVER

GENERAL NOTES

1. EQUIPMENT NUMBERS SHOWN ARE FOR CONSTRUCTION REFERENCE. COORDINATE WITH AIRPORT MAINTENANCE FOR LABELING OF ALL EQUIPMENT.
2. CONTRACTOR TO ENSURE AIRFIELD GUIDANCE SIGN LOCATIONS FALL WITHIN FAA SPECIFICATIONS. CONTRACTOR SHALL CONFIRM ANY DIFFERENCES OF MEASUREMENTS/DISCREPANCIES, WHEN SURVEY OF AIRFIELD GUIDANCE SIGN AND BASE IS BEING PERFORMED, WITH ENGINEER BEFORE SIGN BASE IS INSTALLED.
3. CONTRACTOR TO ENSURE NEW RUNWAY EDGE LIGHT LOCATIONS DO NOT EXCEED 10 FEET FROM EDGE OF FULL STRENGTH PAVEMENT/OUTER EDGE OF RUNWAY EDGE MARKING AND ARE IN LINE WITH EXISTING RUNWAY EDGE LIGHTING– PERFORM FIELD ADJUSTMENTS AS NECESSARY. CONTRACTOR SHALL CONFIRM ANY DIFFERENCES OF MEASUREMENTS/DISCREPANCIES, WHEN SURVEY OF LIGHT LOCATIONS IS BEING PERFORMED, WITH ENGINEER BEFORE LIGHT BASE IS INSTALLED.
4. CONTRACTOR TO ENSURE RUNWAY THRESHOLD/END LIGHTS ARE INSTALLED FOLLOWING TYPICAL FAA LAYOUT STANDARDS (SEE AC 1501/5340–30). CONTRACTOR SHALL CONFIRM ANY DIFFERENCES OF MEASUREMENTS/DISCREPANCIES, WHEN SURVEY OF LIGHT LOCATIONS IS BEING PERFORMED, WITH ENGINEER BEFORE LIGHT BASE IS INSTALLED

Call at least two full working days before you begin excavation
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

EQUIPMENT DATA TABLES

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E6.1	41 OF 43

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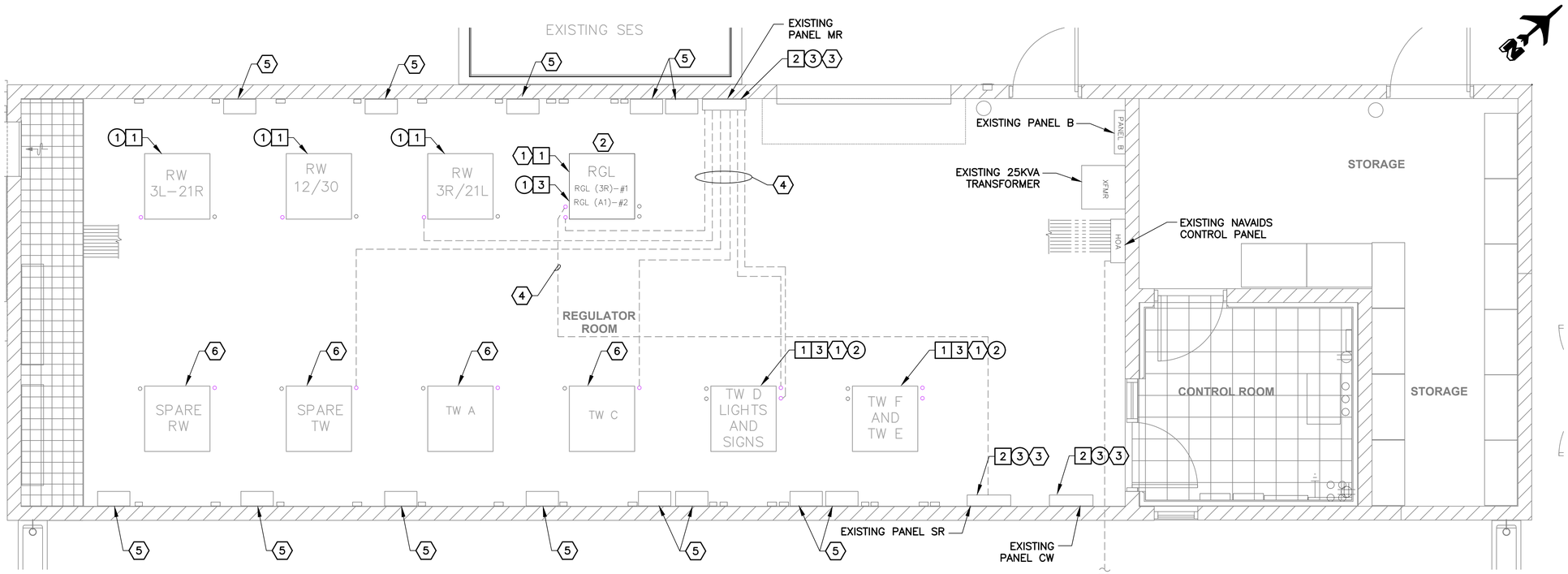
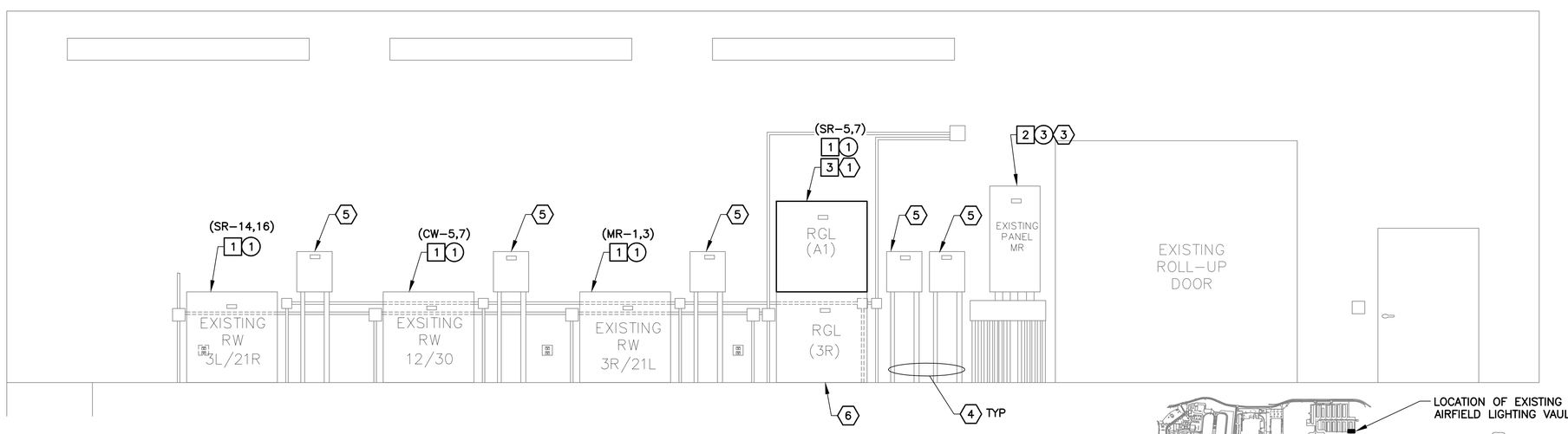


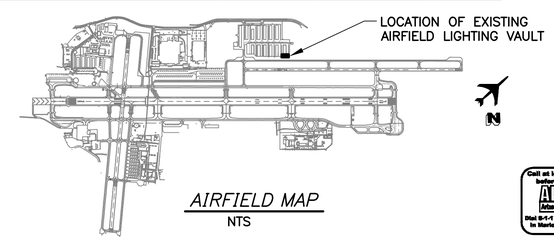
A EXISTING AIRFIELD LIGHTING VAULT – ELECTRICAL EQUIPMENT MODIFICATION PLAN

SCALE: 3/8" = 1'-0"



B EXISTING AIRFIELD LIGHTING VAULT EQUIPMENT ELEVATION
REGULATOR ROOM – WEST WALL

NTS



AIRFIELD MAP

NTS

AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

REMOVAL NOTE

1. DISCONNECT POWER AND COMMUNICATIONS/CONTROL CABLES – REMOVE EXISTING CCR. SALVAGE FOR REINSTALLATION OR RETURN TO AIRPORT. (6 TOTAL)
2. DISCONNECT AND REMOVE EXISTING CCR CIRCUIT BREAKER IN EXISTING PANELBOARD. (6 TOTAL)
3. DISCONNECT AND REMOVE UPPER CCR FOR REPLACEMENT WITH NEW OR EXISTING RELOCATED CCR. REUSE EXISTING STACKING KIT. (3 TOTAL)

CONSTRUCTION NOTE

1. INSTALL AND RECONNECT NEW CCR. (4 TOTAL)
2. INSTALL AND RECONNECT EXISTING CCR IN NEW LOCATION. (2 TOTAL)
3. INSTALL NEW CIRCUIT BREAKER IN EXISTING PANELBOARD. COORDINATE OUTAGE WITH AIRPORT PRIOR. REFER TO PANEL SCHEDULES (SHEET E4.2). (6 TOTAL)

REFERENCE NOTE

1. UPPER CCR WILL REQUIRE DISCONNECTION, REMOVAL, AND REINSTALLATION OF AN EXISTING RELOCATED CCR. LOWER CCR TO REMAIN. EXISTING STACKING KIT MAY REQUIRE REINSTALLATION IF ATTACHED TO UPPER CCR.
2. COORDINATE NOTAM WITH AIRPORT FOR RGL OUTAGE TO REPLACE CCR.
3. COORDINATE WITH AIRPORT FOR OUTAGE OF EXISTING PANELS TO REPLACE CIRCUIT BREAKER AND TERMINATE CABLES.
4. EXISTING CONDUITS, INPUT AND OUTPUT CABLES TO REMAIN – PROTECT IN PLACE
5. EXISTING S1 CUTOUTS TO REMAIN – PROTECT IN PLACE.
6. EXISTING CCR TO REMAIN – PROTECT IN PLACE.

REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024–066–15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

EXISTING AIRFIELD LIGHTING VAULT ELECTRICAL EQUIPMENT MODIFICATION PLAN

DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: AS SHOWN			E7.1	42 OF 43

Call at least two full working days before you begin excavation. ARIZONA 811 (Know the Line, Inc.) Dial 8-1-1 or 1-800-STAKE-IT (283-2348) In Maricopa County: (602) 263-1100

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AS BUILT DATE

DIBBLE

CR engineers
16719 East Palisades Blvd., Suite 202
Fountain Hills, AZ 85268
Phone: (480) 816-5541
Fax: (480) 816-5540

Registered Professional Engineer (Electrical) CERTIFICATE NO. 36696 CATHERINE ALCORN Date Signed 21 MAR 25 ARIZONA, U.S.A.

PANEL: MR		VOLTAGE: 277/480V		MAIN CB: 200A		BUS AMPS: 200A		
CB TYPE: BOLT-ON		MOUNTING: SURFACE		BRACING: 25KAIC		BKR AIC: 25KAIC		
CIRCUIT DESCRIPTION	BKR	CIRCUIT	PHASE A	PHASE B	PHASE C	CIRCUIT	BKR	CIRCUIT DESCRIPTION
RW 3R/21L 10KW CCR	40	1	13920					
	/		2880			2	20	RGL 3L/21L 4KW CCR
	2	3		13920			/	
				2880		4	2	
TWD LIGHTS 15KW CCR	60	5			10320			
	/				6960	6	30	TWD SIGNS 7.5KW CCR
	2	7	10320				/	(TDS)
			6960			8	2	
TWC 7.5KW CCR	30	9		17280				
	/					10	90	SPARE TW 25KW CCR
	2	11			17280		/	
						12	2	
PAPI 3R	20	13	1350					
	/		1350			14	20	PAPI 21L
	2	15		1350			/	
				1350		16	2	
REIL 3R	20	17			300			
	/				300	18	20	REIL 21L
	2	19	300				/	
			300			20	2	
SPARE	20	21		100				
	/					22	20	SPARE
	2	23			100		/	
						24	2	
SPARE	20	25						
	/					26	20	SPARE
	2	27					/	
						28	2	
SPACE		29						
						30		SPACE
SPACE		31						
						32		SPACE
SPACE		33						
						34		SPACE
SPACE		35						
						36		SPACE
SPACE		37						
						38		SPACE
SPACE		39						
						40		SPACE
SPACE		41						
						42		SPACE
CONNECTED KVA PER PHASE			37.4	36.9	35.3	NOTES:		
						EATON TYPE FD CIRCUIT BREKERS		
CONNECTED AMPS PER PHASE			134.9	133.1	127.3			
25% OF CONTINUOUS & LIGHTING LOAD (KVA)			9.3	9.2	8.8			
LARGEST MOTOR (25%)			0.0	0.0	0.0			
CODE KVA PER PHASE			46.7	46.1	44.1			
CODE AMPS PER PHASE AT 277V			168.7	166.4	159.1			

A PANEL MR SCHEDULE

PANEL: CW		VOLTAGE: 277/480V		MAIN CB: 200A		BUS AMPS: 200A		
CB TYPE: BOLT-ON		MOUNTING: SURFACE		BRACING: 25KAIC		BKR AIC: 25KAIC		
CIRCUIT DESCRIPTION	BKR	CIRCUIT	PHASE A	PHASE B	PHASE C	CIRCUIT	BKR	CIRCUIT DESCRIPTION
TW F 10KW CCR	40	1	6960					
	/		2880			2	20	TWE 4KW CCR
	2	3		6960			/	
				2880		4	2	
RW 12/30 7.5KW CCR	30	5			10320			
	/				825	6	20	PAPI 12
	2	7	10320				/	
			825			8	2	
PAPI 30	20	9		825				
	/			300		10	20	REIL 12
	2	11			825		/	
					300	12	2	
REIL 30	20	13	300					
	/		100			14	20	WINDCONE
	2	15		300			/	
				100		16	2	
AIR CONDITIONER	30	17			4627			
					1464	18	20	SPARE
	/	19	4627				/	
			1464			20	2	
	3	21		4627				
				1464		22	20	SPARE
SPARE	20	23			600		/	
	/				1464	24	2	
	2	25	600					
			432			26	20	SPARE
SPARE	20	27					/	
	/			432		28	2	
	2	29						
						30	20	SPARE
SPARE	20	31					/	
	/					32	2	
	2	33						
						34	20	SPARE
SPACE		35					/	
						36	2	
SPACE		37						
						38		SPACE
SPACE		39						
						40		SPACE
SPACE		41						
						42		SPACE
CONNECTED KVA PER PHASE			28.5	17.9	20.4	NOTES:		
						EATON TYPE FD CIRCUIT BREKERS		
CONNECTED AMPS PER PHASE			102.9	64.6	73.7			
25% OF CONTINUOUS & LIGHTING LOAD (KVA)			5.3	2.8	3.1			
LARGEST MOTOR (25%)			1.2	1.2	1.2			
CODE KVA PER PHASE			35.0	21.9	24.7			
CODE AMPS PER PHASE AT 277V			126.4	79.2	89.1			

B PANEL CW SCHEDULE

PANEL: SR		VOLTAGE: 277/480V		MAIN CB: 100A		BUS AMPS: 100A		
CB TYPE: BOLT-ON		MOUNTING: SURFACE		BRACING: 25KAIC		BKR AIC: 25KAIC		
CIRCUIT DESCRIPTION	BKR	CIRCUIT	PHASE A	PHASE B	PHASE C	CIRCUIT	BKR	CIRCUIT DESCRIPTION
TWA 15KW CCR	60	1	10320					
	/					2	20	SPARE
	2	3		10320			/	
						4	2	
RGL A1 2.5KW CCR	20	5			2880			
	/					6	80	SPARE RW 20KW CCR
	2	7	2880				/	
						8	2	
PAPI 3L	20	9		825				
	/			825		10	20	PAPI 21R
	2	11			825		/	
					825	12	2	
SPARE	20	13						
	/		10320			14	40	RW 3L/21R 10KW CCR
	2	15					/	
				10320		16	2	
SPARE	20	17						
	/					18	20	SPARE
	2	19					/	
						20	2	
SPACE		21						
						22		SPACE
SPACE		23						
						24		SPACE
SPACE		25						
						26		SPACE
SPACE		27						
						28		SPACE
SPACE		29						
						30		SPACE
CONNECTED KVA PER PHASE			23.5	22.3	4.5	NOTES:		
						EATON TYPE FD CIRCUIT BREKERS		
CONNECTED AMPS PER PHASE			84.9	80.5	16.4			
25% OF CONTINUOUS & LIGHTING LOAD (KVA)			3.3	3.0	1.1			
LARGEST MOTOR (25%)			0.0	0.0	0.0			
CODE KVA PER PHASE			26.8	25.3	5.7			
CODE AMPS PER PHASE AT 277V			96.8	91.3	20.4			

C PANEL SR SCHEDULE

PANEL: B		VOLTAGE: 120/240		MAIN CB: 100A		BUS AMPS: 100A		
CB TYPE: BOLT-ON		MOUNTING: SURFACE		BRACING: 10KAIC		BKR AIC: 10KAIC		
CIRCUIT DESCRIPTION	BKR	CIRCUIT	LINE 1	LINE 2	CIRCUIT	BKR	CIRCUIT DESCRIPTION	
Lighting Regulator Room	20/1	1	500					
					2	20/1	Generator Block Heater	
Lighting ALCMS Room	20/1	3		300				
					4	20/1	Generator Battery Charger	
Recepts. Regulator Room	20/1	5	900					
			395		6	20/1	Rotating Beacon	
Recepts. Office	20/1	7		720				
					8	20/1	Spare	
Recepts ATCMS	20/1	9	180					
			360		10	20/1	Roll up Door	
UPS Power	20/1	11		180				
				180	12	20/1	Receptacles	
Recepts Storage	20/1	13	900					
			180		14	20/1	Navaids Control Panel	
Recepts Storage/Control Rm	20/1	15		720				
					16	20/1	Radio #1 - RW 3R-21L	
Control Room Monitor (Dedicated)	20/1	17	180					
					18	20/1	Radio #2 - RW 12-30	
TMB	20/1	19		360				
				200	20	20/1	Photo cell	
Beacon Heater	20/1	21	400					
					22	20/1	SPARE	
Beacon Obstruction Light	20/1	23		69				
					24	20/1	SPARE	
SPARE	20/1	25						
					26	20/1	SPARE	
SPARE	20/1	27						
					28		SPACE	
SPACE		29						
					30		SPACE	
CONNECTED KVA PER PHASE			4.0	2.7	NOTES:			
CONNECTED AMPS PER PHASE			33.3	22.7				
25% OF CONTINUOUS & LIGHTING LOAD (KVA)			0.2	0.1				
LARGEST MOTOR (25%)			0.0	0.0				
CODE KVA PER PHASE			4.2	2.8				
CODE AMPS PER PHASE AT 120V			35.2	23.4				

D PANEL B SCHEDULE

PRC AIRPORT CCR INSTALLATION SCHEDULE

CIRCUIT	CCR	EXISTING SIZE / TYPE	LOCATION	CCR Load	SCOPE OF WORK
3R-21L	ADB	20 KW, 3-STEP	MAIN VAULT	6880VA / 6450 Watts	REMOVE EXISTING CCR AND INSTALL NEW 10KW, L-829 CCR WITH NEW CONTROL AND MONITORING UNIT. CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD
RWY 12-30	ADB	15 KW, 3-STEP	MAIN VAULT	7210VA / 6710 Watts	REMOVE EXISTING CCR AND INSTALL NEW 7.5KW, L-829 CCR WITH NEW CONTROL AND MONITORING UNIT. CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD
3L-21R	ADB	15 KW, 3-STEP	MAIN VAULT	3597VA / 2880 Watts	REMOVE EXISTING CCR AND INSTALL NEW 10KW, L-829 CCR WITH NEW CONTROL AND MONITORING UNIT AND CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD
RGL 3L (A1/T)	ADB	4KW, 3-STEP	MAIN VAULT	316VA /330 Watts	REMOVE EXISTING CCR AND INSTALL NEW 2.5KW L-829 CCR WITH NEW CONTROL AND MONITORING UNIT. CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD
TDS (Delta Signs)	ADB	10 KW, 3-STEP	MAIN VAULT	4075VA / 3910 Watts	REMOVE EXISTING CCR AND RE-INSTALL EXISTING 7.5KW CCR FROM TAXIWAY E. CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD
TW ECHO	ADB	7.5 KW, 3-STEP	MAIN VAULT	3190VA / 2900 Watts	REMOVE EXISTING CCR AND RE-INSTALL EXISTING 4KW CCR FROM RGL-3L (A1/T). CONNECT TO EXISTING FEEDER AND ALCMS. INSTALL NEW CIRCUIT BREAKER IN PANELBOARD

E CCR INSTALLATION SCHEDULE

△	REVISION	BY	DATE

CITY OF PRESCOTT
PRESCOTT REGIONAL AIRPORT

PRC PROJECT NO 2024-066-15 | DIBBLE PROJECT NO 1023143.15

PRC RW 12-30 ELECTRICAL IMPROVEMENTS

EXISTING AIRFIELD LIGHTING VAULT PANEL SCHEDULES & CCR INSTALLATION SCHEDULE

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DRN: JBW	DES: SW	CK: CA	DRAWING	SHEET
DATE: 03.21.25	DATE: 03.21.25	DATE: 03.21.25		
SCALE: NONE			E7.2	43 OF 43

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