Special, 5/19/2026 10:30:00 AM

BE IT REMEMBERED that on May 19, 2026, there was begun and holden a SPECIAL session of the Commissioners Court of Jefferson County, Texas, with the following members and officers present and participating except those absent as indicated:

Honorable Jeff Branick, County Judge

Commissioner Brandon Willis, Commissioner Pct. No. 1

Commissioner Cary Erickson, Commissioner Pct. No. 2

Commissioner Michael Sinegal, Commissioner Pct. No. 3

Commissioner Everette D. Alfred, Commissioner Pct. No. 4

Honorable Zena Stephens, Sheriff

Honorable Roxanne Acosta-Hellberg, County Clerk

When the following proceedings were had and orders made, to-wit:

Jeff R. Branick, County Judge
Brandon Willis, Commissioner, Precinct One
Cary Erickson, Commissioner, Precinct Two
Michael S. Sinegal, Commissioner, Precinct Three
Everette "Bo" Alfred, Commissioner, Precinct Four

NOTICE OF MEETING AND AGENDA OF COMMISSIONERS' COURT OF JEFFERSON COUNTY, TEXAS May 19, 2026

Notice is hereby given that the Commissioners' Court of Jefferson County, Texas, will meet at **10:30 AM,** on the **19th** day of **May 2026** at its regular meeting place in the Commissioners' Courtroom, 4th Floor, Jefferson County Courthouse, 1149 Pearl Street, Beaumont, Texas.

Said meeting will be a **Special** meeting for the purpose of transacting the routine business of the County. Persons with disabilities requiring auxiliary aids for services who wish to attend this meeting should contact the County Judge's Office to arrange for assistance.

In addition to the routine business of the County, the subject of said meeting will be the following:

8:45 a.m. - Announcement of an executive (closed) session pursuant to Texas Government Code Section 551.089 to deliberate the deployment, or specific occasions for security implementation of security personnel or devices, that deliberation in an open meeting would have a detrimental effect on the security of County facilities.

9:30 a.m. - Announcement of an executive (closed) session pursuant to Texas Government Code Section 551.0725 to deliberate business and financial issues relating to a contract being negotiated, that deliberation in open meeting would have a detrimental effect on the Commissioners Court in negotiations with a third party.

9:45 a.m. - Announcement of an executive (closed) session pursuant to Texas Government Code Sec. 551.071 to consult with our attorney regarding pending or anticipated litigation.

10:00 a.m. - Announcement of an executive (closed) session pursuant to Texas Government Code Section 551.0725 to deliberate business and financial issues relating to contracts being negotiated, that deliberation in open meeting, would have a detrimental effect on the position of the Commissioners Court in negotiations with a third person.

10:15 a.m. - Announcement of a Workshop to receive and consider information from Mr. Dohn Labiche regarding bids and options for renovation of a portion of the roof in the historical courthouse.

Jefferson County provides the opportunity for the public to view the Commissioner's Court meeting with the following options:

View live with audio from the County Webpage:
https://co.jefferson.tx.us/comm_crt/commlink.htm

Listen to audio by calling 347-973-4395, conference id 113569383# The court will also have a time for public comments at the beginning of the meeting. If you would like to speak at that time, please be on the phone call. The Court will allow public comments related to items on the agenda that day at the beginning of the meeting. Public comments will be limited to 3 minutes per person.

Please be mindful that the audio portion of this meeting will be of better quality from the website.

INVOCATION: Everette "Bo" Alfred, Commissioner, Precinct Four

PLEDGE OF ALLEGIANCE: Brandon Willis, Commissioner, Precinct One

PURCHASING:

(a). Consider and approve specifications for Invitation for Bid (IFB 26-024/MR) Jack Brooks Regional Airport Airfield Lighting Rehabilitation; pursuant to Chapter 262, Texas Local Government Code, the County Purchasing Act and 2 CFR Sections 200.318-327.

SEE ATTACHMENTS ON PAGES 8 - 331

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(b). Consider, establish and approve Selection Review Committee to review the responses received for (RFP 26-014/CG) Auditing Services for Jefferson County.

NO ATTACHMENTS

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(c). Consider and approve award, execute, receive and file Acceptance of Offer for Invitation for Bid (IFB 26-021/MR) Roofing Renovations to Jefferson County Courthouse with Marsh Waterproofing, Inc. for a total contract amount of $390,000.00 (Base Bid and Alternative No. 1 included) with additional unit price of $50.00 per 10 lf galvanized hook strip replacement as needed.

SEE ATTACHMENTS ON PAGES 332 - 334

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(d). Consider and approve, execute, receive and file renewal for (IFB 24-019/MR), Term Contract for Marine Motor Fuel for Jefferson County for a second one (1) year renewal with Tri-Con, Inc. from June 30, 2026 to June 29, 2027; Pursuant to Chapter 262, Texas Local Government Code, the County Purchasing Act and 2 CFR Sections 200.318-326.

SEE ATTACHMENTS ON PAGES 335 - 335

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(e).Consider and approve, execute, receive and file disposition of salvage property as authorized by Local Government Code §263.152 (3), for broken or obsolete items.

SEE ATTACHMENTS ON PAGES 336 - 343

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(f).Consider and approve, execute, receive and file disposal of scrap metal property. Scrap property to be transported to a metal salvage company and there sold for such price as it may command and return funds to the County.

SEE ATTACHMENTS ON PAGES 344 - 345

Motion by: Willis
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

COUNTY AUDITOR:

(a).Regular County Bills – Check #539296 through check #539515.

SEE ATTACHMENTS ON PAGES 346 - 354

Motion by: Alfred
Second by: Sinegal
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

COUNTY COMMISSIONERS:

(a).Consider and possibly approve a resolution for Bonnie Eloise Rush Milam.

SEE ATTACHMENTS ON PAGES 355 - 355

Motion by: Erickson
Second by: Alfred
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

(b).Consider and possibly approve a proclamation for Family Drug Court.

SEE ATTACHMENTS ON PAGES 356 - 356

Motion by: Erickson
Second by: Alfred
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

COUNTY TREASURER:

(a).Receive and File Investment Schedule for April, 2026, including the year to date total earnings on County funds.

SEE ATTACHMENTS ON PAGES 357 - 359

Motion by: Sinegal
Second by: Erickson
In Favor: Branick, Willis, Erickson, Sinegal, Alfred
Action: APPROVED

OTHER BUSINESS:

*****DISCUSSION ON ANY OTHER ITEM NOT ON AGENDA WITHOUT TAKING ACTION.**

Receive reports from Elected Officials and staff on matters of community interest without taking action.

Possible Consideration and approval of Resolutions or Proclamations not to be read during court.

_____

Jeff R. Branick
County Judge

Special, May 19, 2026

There being no further business to come before the Court at this time, same is now here adjourned on this date, May 19, 2026.

JACK BROOKS REGIONAL AIRPORT
Airfield Lighting Rehabilitation
AIP NO. TBD

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project IFB 26-024/MR

JACK BROOKS REGIONAL AIRPORT

GARVER

TEXAS REGISTERED ENGINEERING FIRM F-5713

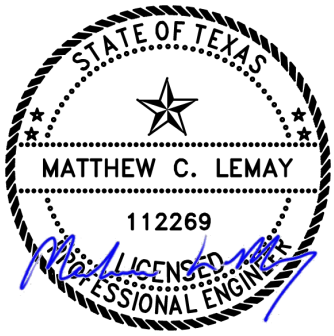
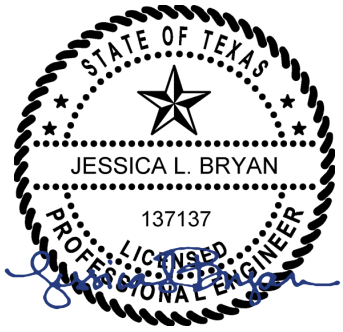
Garver Project Number 2400880

April 2026

CERTIFICATIONS

AIRFIELD LIGHTING REHABILIATION
JACK BROOKS REGIONAL AIRPORT
GARVER PROJECT NO. 2400880

I hereby certify that the applicable portions of this project plans and specifications were prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the State of Texas.

SEAL AND SIGNATURE	APPLICABLE DIVISION OR PROJECT RESPONSIBILITY
Matthew LeMay, P.E.  Digitally Signed 04/24/2026	Electrical Engineer
Jessica Bryan, P.E.  Digitally Signed 04/24/2026	Civil Engineer

GARVER, LLC CERTIFICATE OF AUTHORIZATION:

TX ENGINEERING REGISTRATION NO. F-5713

Expiration Date: 01/31/2027

JEFFERSON COUNTY PURCHASING DEPARTMENT

Deborah L. Clark, Purchasing Agent

1149 Pearl Street
1st Floor, Beaumont, TX 77701

OFFICE MAIN: (409) 835-8593
FAX: (409) 835-8456

LEGAL NOTICE
Advertisement for Invitation for Bids

May 19, 2026

Notice is hereby given that sealed bids will be accepted by the Jefferson County Purchasing Department for Invitation for Bid **(IFB 26-024/MR) Jack Brooks Regional Airport Airfield Lighting Rehabilitation; pursuant to Chapter 262, Texas Local Government, the County Purchasing Act and 2 CFR Sections 200.318-327.** Specifications for this project may be obtained from the Jefferson County website, https://jeffersoncountytx.gov/Purchasing/ or by calling 409-835-8593.

Bids are to be sealed and addressed to the Purchasing Agent with the bid number and name marked on the outside of the envelope or box. Bidders shall forward an original and one (1) copy of their bid to the address shown below. Jefferson County does not accept bids submitted electronically. Late bids will be rejected as non-responsive. Bids will be publicly opened and read aloud in the Jefferson County Purchasing Department (1st Floor, Historic Courthouse) 1149 Pearl Street, Beaumont, Texas 77701, at the time and date below. Bidders are invited to attend the sealed bid opening.

BID NAME:	**Jack Brooks Regional Airport Airfield Lighting Rehabilitation; pursuant to Chapter 262, Texas Local Government, the County Purchasing Act and 2 CFR Sections 200.318-327**
BID NUMBER:	**IFB 26-024/MR**
DUE BY TIME/DATE:	**11:00 AM CT, Wednesday, June 17, 2026**
MAIL OR DELIVER TO:	**Jefferson County Purchasing Department** **1149 Pearl Street, 1st Floor** **Beaumont, Texas 77701**

There will be a **Pre-Bid Conference and Walk-Through** at **11:00 AM CT on Wednesday**, **June 3, 2026**, at the Jack Brooks Regional Airport, Jerry Ware Terminal located at 5000 Jerry Ware Drive, Suite 100, Beaumont, Texas 77705.

The County shall require the Bidder to furnish a Bid Security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas.

Within ten (10) days after the date of contract execution and prior to the issuance of Notice to Proceed and/or Purchase Order, the Bidder shall furnish the following bonds: Performance Bond to the County for the full amount of the contract if the contract exceeds fifty-thousand dollars ($50,000). Payment Bond to the County for the full amount of the contract if the contract exceeds twenty-five thousand dollars ($25,000.00).

Any questions relating to these bid requirements should be directed to Mistey Reeves, Assistant Purchasing Agent at 409-835-8593 or via email at: mistey.reeves@jeffersoncountytx.gov. If no response in 72 hours, contact Deborah Clark, Purchasing Agent at 409-835-8593 or via email at: deb.clark@jeffersoncountytx.gov.

Jefferson County encourages Disadvantaged Business Enterprises (DBEs), Minority/Women Business Enterprises (M/WBEs), and Historically Underutilized Businesses (HUBs) to participate in the bidding process. Jefferson County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment, or the provisions of services. Individuals requiring special accommodations are requested to contact our office at least seven (7) days prior to the bid due date at 409-835-8593.
All interested firms are invited to submit a bid in accordance with the terms and conditions stated in this bid.

Bidders are strongly encouraged to carefully read the entire invitation, as failure to return and/or complete all required documentation will result in a response being declared as non-responsive.

-

Deborah Clark

Deborah L. Clark, Purchasing Agent
Jefferson County, Texas

PUBLISH:
Beaumont Enterprise & Port Arthur News:
May 20, 2026
The Examiner:
May 21, 2026 & May 28, 2026

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BID SUBMISSIONS:

One (1) Original and one (1) Bid Copy; with all copies to include a Completed Copy of this specifications packet (including technical specifications), in its entirety.

Each Bidder shall ensure that required parts of their bid submission are completed with accuracy and submitted as per the requirements within this specifications packet, including any addenda.

Additionally, Bidder shall monitor the Jefferson County Purchasing Department Website for any addenda, additional instructions, or bid updates. https://jeffersoncountytx.gov/Purchasing/

Failure to return and/or complete all required documentation will result in a response being declared as non-responsive.

SECTION 1: GENERAL CONDITIONS OF BIDDING AND TERMS OF CONTRACT

By execution of this document, the Vendor accepts all general and special conditions of the contract as outlined below and, in the specifications, and plans.

1. BIDDING.

1.1 BIDS.
All bids must be submitted on the bid form furnished in this package.

1.2 AUTHORIZED SIGNATURES.
The bid must be executed personally by the Vendor, duly authorized partner of the partnership, or duly authorized officer of the corporation. If executed by an agent, a power of attorney or other evidence of authority to act on behalf of the Vendor shall accompany the bid to become a valid bid.

1.3 LATE BIDS.
Bids must be in the office of the Jefferson County Purchasing Agent before or at the specified time and date bids are due. Bids received after the submission deadline shall be rejected as non-responsive and returned unopened.

1.4 WITHDRAWAL OF BID PRIOR TO OPENING.
A bid may be withdrawn before the opening date by submitting a written request to the Purchasing Agent. If time allows, the Bidder may submit a new bid. Bidder assumes full responsibility for submitting a new bid before or at the specified time and date bids are due. Jefferson County reserves the right to withdraw a request for bids before the opening date.

1.5 WITHDRAWAL OF BID AFTER OPENING.
Bidder agrees that its offer may not be withdrawn or cancelled by the Vendor for a period of ninety (90) days following the date and time designated for the receipt of bids unless otherwise stated in the bid and/or specifications.

1.6 BID AMOUNTS.
Bids shall show net prices, extensions where applicable and net total. In case of conflict between unit price and extension, the unit price will govern. Any ambiguity in the bid as a result of omission, error, unintelligible or illegible wording shall be interpreted in the favor of Jefferson County.

1.7 EXCEPTIONS AND/OR SUBSTITUTIONS.
All bids meeting the intent of the specifications and plans will be considered for award. Vendors taking exception to the specifications and plans, or offering substitutions, shall state these exceptions in the section provided. If bid is made on an article other than the one specified, which a Bidder considers comparable, the name and grade of said article must be specified in the bid and sufficient specifications and descriptive data must accompany same to permit thorough evaluation. The absence of stated exceptions and/or substitutions shall indicate that the Vendor has not taken any exceptions to the specifications and shall be responsible to perform in strict accordance with the specifications. As a matter of practice, Jefferson County rejects exception(s) and /or substitutions as non-responsive but reserves the right to accept any and/or all of the exception(s) and/or substitution(s) deemed to be in the best interest of Jefferson County.

1.8 ALTERNATES.
The Invitation for Bid and/or specifications may expressly allow Bidder to submit an alternate bid. Presence of such an offer shall not be considered an indication of non-responsiveness.

1.9 DESCRIPTIONS.
Unless otherwise specified, any reference to make, manufacturer and/or model used in the bid specifications is merely descriptive and not restrictive, and is used only to indicate type, style, or quality of material desired.

1.10 BID ALTERATIONS.
Bids cannot be altered or amended after submission deadline. Any interlineations, alterations, or erasures made before opening time must be initialed by the signer of the bid, guaranteeing authenticity.

1.11 TAX EXEMPT STATUS.
Jefferson County is exempt from federal excise tax and state sales tax. Unless the bid form or specifications specifically indicate otherwise, the bid price must be net, exclusive of above-mentioned taxes and will be so construed. Therefore, the bid price shall not include taxes.

1.12 QUANTITIES.
Quantities indicated are estimated quantities only and are not a commitment to buy. Approximate usage does not constitute an order, but only implies the probable quantity that will be used. Commodities will be ordered on an as-needed basis. Bidder is responsible for accurate final counts.

1.13 BID AWARD.
Award of contract shall be made to the most responsible, responsive Bidder, whose offer is determined to be the best value, taking into consideration the relative importance of price. Jefferson County reserves the right to be the sole judge as to whether items bid will serve the purpose intended.

Jefferson County reserves the right to award based upon individual line items, sections or total bid.

1.14 SILENCE OF SPECIFICATIONS FOR COMPLETE UNITS.
All materials, equipment and/or parts that will become a portion of the completed work, including items not specifically stated herein but, necessary to render the service(s) complete and operational per the specifications, are to be included in the bid price. Vendor may be required to furnish evidence that the service, as bid, will meet or exceed these requirements.

1.15 ADDENDA.
Any interpretations, corrections or changes to the specifications and plans will be made by addenda no later than forty-eight (48) hours prior to the bid opening. Addenda will be posted on the Purchasing web site. Vendors are responsible for monitoring the web site in order to remain informed on addenda. Vendors shall acknowledge receipt of all addenda with submission of bid.

1.16 GENERAL BID BOND/SURETY REQUIREMENTS.
Failure to furnish bid bond/surety, if requested, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.17 GENERAL INSURANCE REQUIREMENTS.
Failure to furnish Affidavit of Insurance, if required in these specifications, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.18 RESPONSIVENESS.
A responsive bid shall substantially conform to the requirements of this Invitation to Bid and/or specifications contained herein. Bidders who substitute any other terms, conditions, specifications and/or requirements or who qualify their bids in such a manner as to nullify or limit their liability to the contracting entity shall have their bids deemed non-responsive. Also, bids containing any clause that would limit contracting authority shall be considered non-responsive. Examples of non-responsive bids include but shall not be limited to: a) bids that fail to conform to

required delivery schedules as set forth in the bid request; b) bids with prices qualified in such a manner that the bid price cannot be determined, such as with vague wording that may include "price in effect at the time of delivery," and c) bids made contingent upon award of other bids currently under consideration.

1.19 RESPONSIBLE STANDING OF BIDDER.
To be considered for award, Bidder must at least: have the ability to obtain adequate financial resources, be able to comply with required or proposed delivery/completion schedule, have a satisfactory record of performance; have a satisfactory record of integrity and ethics, and be otherwise qualified and eligible to receive award.

1.20 CONFIDENTIAL/PROPRIETARY INFORMATION.
If any material in the bid submission is considered by Bidder to be confidential or proprietary information (including manufacturing and/or design processes exclusive to the Bidder), Bidder **must** clearly mark the applicable pages of bid submission to indicate each claim of confidentiality. Additionally, Bidder must include a statement on company letterhead identifying all Bid Submission section(s) and page(s) that have been marked as confidential. Jefferson County will protect from public disclosure such portions of a bid, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire bid submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire bid submission subject to release under the Texas Public Information Act.

By submitting a bid, Bidder agrees to reproduction by Jefferson County, without cost or liability, of any copyrighted portions of Bidder's bid submission or other information submitted by Bidder.

1.21 PUBLIC BID OPENING.
Bidders are invited to be present at the opening of bids. After the official opening of bids, a period of not less than one week is necessary to evaluate bids. The amount of time necessary for bid evaluation may vary and is determined solely by the County. Following the bid evaluation, all bids submitted are available for public review.

2. PERFORMANCE.

2.1 DESIGN, STRENGTH, AND QUALITY.
Design, strength, and quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practices. The apparent silence of specifications and/or plans as to any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications and/or plans shall be made on the basis of this statement.

2.2 AGE AND MANUFACTURE.
All tangible goods being bid must be new and unused, unless otherwise specified, in first-class condition, of current manufacture, and furnished ready to use. All items not specifically mentioned that are required for a complete unit shall be furnished.

2.3 DELIVERY LOCATION.
All deliveries will be made to the address(es) specified on the purchase order during normal office working hours of 8:00 am CT to 4:00 pm CT, Monday through Friday, unless otherwise authorized by the Purchasing Agent or designee.

2.4 DELIVERY SCHEDULE.
Delivery time may be an important consideration in the evaluation of best value. The maximum number of days necessary for delivery ARO shall be stated in the space, if provided, on the bid form.

2.5 DELIVERY CHARGES.
All delivery and freight charges, F.O.B. destination shown on Jefferson County purchase order, as necessary to perform contract are to be included in the bid price.

2.6 INSTALLATION CHARGES.
All charges for assembly, installation and set-up shall be included in the bid price. Unless otherwise stated, assembly, installation and set-up will be required.

2.7 OPERATING INSTRUCTIONS AND TRAINING.
Clear and concise operating instructions and descriptive literature will be provided in English, if requested. On-site detailed training in the safe and efficient use and general maintenance of item(s) purchased shall be provided as needed at the request of Jefferson County. Instructions and training shall be at no additional cost to the County.

2.8 STORAGE.
Bidder agrees to provide storage of custom ordered materials, if requested, for up to thirty (30) calendar days.

2.9 COMPLIANCE WITH FEDERAL, STATE, COUNTY, AND LOCAL LAWS.
Bids must comply with all federal, state, county and local laws, including, but not limited to, all applicable standard safety, emission, and noise control requirements. Any vehicles or equipment shall contain all standard safety, emission, and noise control requirements required for the types and sizes of equipment at the time of their manufacture. The Contractor agrees, during the performance of work or service, to comply with all applicable codes and ordinances of Jefferson County or the State of Texas as they may apply, as these laws may now read, or as they may hereafter be changed or amended.

2.10 OSHA.
The Bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful Bidder will further certify that all items furnished under this project will conform and comply with federal and State of Texas OSHA standards. The successful Bidder will agree to indemnify and hold harmless Jefferson County for any and all damages that may be assessed against the County.

2.11 PATENTS AND COPYRIGHTS.
The successful Vendor agrees to protect the County from claims involving infringements of patents and/or copyrights.

2.12 SAMPLES, DEMONSTRATIONS, AND TESTING.
At Jefferson County's request and direction, Bidder shall provide product samples and/or testing of items bid to ensure compliance with specifications. Samples, demonstrations and/or testing may be requested at any point prior to or following bid award. Samples, demonstrations and/or testing may be requested upon delivery and/or any point during the term of resulting contract. All samples (including return thereof), demonstrations, and/or testing shall be at the expense of the Bidder/Vendor.

2.13 ACCEPTABILITY.
All articles enumerated in the bid shall be subject to inspection by an officer designated for that purpose by Jefferson County. If found inferior to the quality called for, or not equal in value to the specifications, deficient in workmanship or otherwise, this fact shall be certified to the Purchasing Agent, who shall have the right to reject the whole or any part of the same. Items and/or work determined to be contrary to specifications must be replaced at the vendor's expense. Inferior items not retrieved by the vendor within thirty (30) calendar days, or an otherwise agreed upon time, shall become the property of the County. If disposal of such items warrants an expense, an amount equal to the disposal expense will be deducted from amounts payable to the vendor.

2.14 MAINTENANCE.
Maintenance required for equipment bid should be available in Jefferson County by a manufacturer authorized maintenance facility. Cost for this service shall be shown on the bid sheet as requested or on a separate sheet, as required. If Jefferson County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced

accordingly.

2.15 MATERIAL SAFETY DATA SHEETS.

Under the "Hazardous Communications Act," common known as the "Texas Right to Know Act," a Bidder must provide the user department, with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the Bidder to furnish this documentation, will be cause to reject any bid applying thereto.

2.16 EVALUATION.

Evaluation shall be used as a determinant as to which services are the most efficient and/or most economical for the County. It shall be based on all factors having a bearing on price and performance of the items in the user environment. All bids are subject to tabulation by the Jefferson County Purchasing Department and recommendation to Jefferson County Commissioners' Court. Compliance with all bid requirements and needs of the using department are considered in evaluating bids. Pricing is not the only criteria for making a recommendation. The Jefferson County Purchasing Department reserves to right to contact any Bidder, at any time, to clarify, verify or requirement information with regard to this bid.

3. PURCHASE ORDERS AND PAYMENT.

3.1 PURCHASE ORDERS.

A purchase order(s) shall be generated by the Jefferson County Purchasing Agent to the successful vendor. The purchase order number must appear on all itemized invoices and packing slips. The County will not be held responsible for any work orders placed and/or performed without a valid current purchase order number. Payment will be made for all services rendered and accepted by the contract administrator for which a valid invoice has been received.

3.2 INVOICES.

All invoices shall reference the Purchase Order number. Invoices shall reference the bid item number or a detailed description for each item invoiced. If an item purchased and itemized on the invoice does not correspond to an item in any of the categories awarded to the vendor, invoice shall reference the item as "N/C" to indicate that it is a non-contract item. This requirement is to assist the County in verifying contract pricing on all invoices. Payment will be made under terms of net thirty (30) days unless otherwise agreed upon by seller and the purchasing department.

3.3 PROMPT PAYMENT.

In accordance with the State of Texas Prompt Payment Act, Article 601f V.T.C.S., payment will be made after receive and acceptance by the County of the merchandise ordered and of a valid invoice. Successful Bidder(s) is required to pay Subcontractors within ten (10) days after the successful Bidder receives payment from the County.

3.4 FUNDING.

Jefferson County is operated and funded on an October 1 to September 30 basis; accordingly, the County reserves the right to terminate, without liability to the County, any contract for which funding is not available.

4. CONTRACT.

4.1 CONTRACT DEFINITION.

The General Conditions of Bidding and Terms of Contract, Specifications, Plans, Bidding Forms, Addenda, and any other documents made a part of this bid shall constitute the complete bid. This bid, when duly accepted by Jefferson County, shall constitute a contract equally binding between the successful Bidder and Jefferson County.

4.2 CHANGE ORDER.

No different or additional terms will become part of this contract with the exception of a change order. No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in

the resulting contract. All change orders to the contract will be made in writing and at the discretion and approval of Jefferson County. No change order will be binding unless signed by an authorized representative of the County and the vendor.

4.3 PRICE RE-DETERIMINATION.

A price re-determination may be requested at the time of annual renewal. All requests for price re-determination shall be in written form. Cause for such request, i.e., manufacturer's direct cost, postage rates, Railroad Commission rates, Federal/State minimum wage law, Federal/State unemployment taxes, F.I.C.A, Insurance Coverage Rates, etc., shall be substantiated in writing by the source of the cost increase. The Bidder's past experience of honoring contracts at the bid price will be an important consideration in the evaluation of the lowest and best bid. Jefferson County reserves the right to accept or reject any/all requests for price re-determination as it deems to be in the best interest of the County.

4.4 TERMINATION.

Jefferson County reserves the right to terminate the contract for default if the Bidder breached any of the terms therein, including warranties of Bidder or if the Bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which Jefferson County may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or service within the proper amount of time, and/or to properly perform any and all services required to Jefferson County's satisfaction and/or to meet all other obligations and requirements. Contracts may be terminated without cause upon thirty (30) days' written notice to either party unless otherwise specified. Jefferson County reserves the right to award canceled contract to the next lowest Bidder. Bidder, in submitting this bid, agrees that Jefferson County shall not be liable to prosecution for damages in the event that the County declares the Bidder in default.

4.5 CONFLICT OF INTEREST.

Employees of the County are not permitted to maintain financial interest in, or receive payment, directly or indirectly, borrow from, lend to, invest in, or engage in any substantial financial transaction with any individual, organization, supplier, or Subcontractor who does business with the County without disclosure. When conflict of interest is discovered, it shall be grounds for termination of contract.

4.6 INTEREST BY PUBLIC OFFICIALS.

No public official shall have interest in this contract, in accordance with Texas Local Government Code.

4.7 PRE-AWARD/CONTRACT CONTACT BETWEEN COUNTY AND VENDORS.

The Jefferson County Purchasing Department may initiate discussions with selected vendors; however, discussions <u>may not</u> be initiated by vendors.

The Jefferson County Purchasing Department expects to conduct discussions with vendor's representatives authorized to contractually obligate the vendor with an offer.

Vendors shall not contact any Jefferson County personnel during the IFB process without the express permission from the Jefferson County Purchasing Agent. The Purchasing Agent will disqualify any vendor who has made site visits, contacted Jefferson County personnel, or distributed any literature without authorization from the Jefferson County Purchasing Department.

All correspondence relating to this IFB, from advertisement to award shall be sent to the Jefferson County Purchasing Department. All presentations and/or meetings between Jefferson County and the vendor relating to this IFB shall be coordinated by the Jefferson County Purchasing Department.

Selected vendors may be expected to make a presentation/product demonstration to an Evaluation Committee. Proposals, vendor presentations, and product/service evaluations may develop into negotiating sessions with the

vendor(s) as selected by the Evaluation Committee. Jefferson County expects to conduct negotiations with vendor representatives authorized to contractually obligate the vendor with an offer. If vendor is unable to agree to contract terms and conditions, Jefferson County reserves the right to terminate contract negotiations with that vendor and initiate negotiations with another vendor. In addition to a presentation, visits by the Evaluation Committee to representative vendor client sites may be conducted where the proposed solution can be demonstrated in a production environment.

4.8 INJURIES OR DAMAGES RESULTING FROM NEGLIGENCE.

Successful vendor shall defend, indemnify and save harmless Jefferson County and all its officers, agents and employees from all suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the successful vendor, or of any agent, employee, Subcontractor or supplier in the execution of, or performance under, any contract which may result from bid award. Successful vendor shall pay any judgment with cost which may be obtained against Jefferson County growing out of such injury or damages.

4.9 WARRANTY.

The successful vendor shall warrant that all materials utilized in the performance of this contract shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title.

4.10 UNIFORM COMMERCIAL CODE.

The successful vendor and Jefferson County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

4.11 VENUE.

This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in the County of Jefferson, Texas.

4.12 SALE, ASSIGNMENT, OR TRANSFER OF CONTRACT.

The successful vendor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written consent of Jefferson County.

4.13 SILENCE OF SPECIFICATIONS.

The apparent silence of these specifications as to any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

5. REJECTION OR WITHDRAWAL.

Submission of additional terms, conditions or agreements with the bid document are grounds for deeming a bid non-responsive and may result in bid rejection. Jefferson County reserves the right to reject any and all bids and to waive any informalities and minor irregularities or defects in bids. Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the time set for receipt of bids. Bids are an irrevocable offer and may not be withdrawn within **90** days after opening date.

6. EMERGENCY/DECLARED DISASTER REQUIREMENTS.

In the event of an emergency or if Jefferson County is declared a disaster area, by the County, State, or Federal Government, this Acceptance of Offer may be subjected to unusual usage. Contractor shall service the county during such an emergency or declared disaster under the same terms and conditions that apply during non-emergency/disaster conditions. The pricing as specified in this Acceptance of Offer shall apply to serving the County's needs regardless of the circumstances. If Contractor is unable to supply the services under the terms of the

Acceptance of Offer, then Contractor shall provide proof of such disruption and a copy of the invoice from Contractor's supplier(s).

Additional profit margin as a result of supplying services during an emergency or declared disaster shall not be permitted. In the event that additional equipment, supplies, and materials are required during the declared disaster, additional shipping, handling and drayage fees may apply.

7. AWARD.

The bid will be awarded to the responsible, responsive bidder(s) whose bid, conforming to the solicitation, will be most advantageous to Jefferson County – price and other factors considered. Unless otherwise specified in this IFB, Jefferson County reserves the right to accept a bid in whole or in part, and to award by item or by group, whichever is deemed to be in the best interest of Jefferson County. Any bidder who is in default to Jefferson County at the time of submittal of the bid shall have that bid rejected.

Jefferson County reserves the right to clarify any contractual terms with the concurrence of the Contractor; however, any substantial non-conformity in the offer, as determined by Jefferson County, shall be deemed non-responsive and the offer rejected.

In evaluating bids, Jefferson County shall consider the qualifications of the bidders, and, where applicable, operating costs, delivery time, maintenance requirements, performance data, and guarantees of materials and equipment.

In addition, Jefferson County may conduct such investigation as it deems necessary to assist in the evaluation of a bid and to establish the responsibility, qualifications, and financial ability of the bidders to fulfill the contract.

Jefferson County reserves the right to award this contract on the basis of **lowest and best bid** in accordance with the laws of the State of Texas, to waive any formality or irregularity, to make awards to more than one offeror, and/or to reject any or all bids. In the event the lowest dollar offeror meeting specifications is not a awarded a contract, Offeror may appear before the Commissioners' Court and present evidence concerning Offeror responsibility after officially notifying the Office of the Purchasing Agent of Offeror's intent to appear.

8. CONTRACT.

A response to an IFB is an offer to contract with Jefferson County based upon the terms, conditions, and specifications contained in the IFB. Bids do not become contracts unless and until they are executed by Jefferson County, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the contract are contained in the IFB, unless any of the terms and conditions is modified by an IFB Amendment, a Contract Amendment, or by mutually agreed terms and conditions in the contract documents.

9. WAIVER OF SUBROGATION.

Bidder and bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against Jefferson County as an indirect party to any suit arising out of personal or property damages resulting from bidder's performance under this agreement.

10. FISCAL FUNDING.

A multi-year contract (if requested by the specifications) continuing as a result of an extension option must include fiscal funding out. If, for any reason, funds are not appropriated to continue the contract, said contract shall become null and void.

11. BID RESULTS.

Bid results are not provided in response to telephone inquiries. A preliminary tabulation of bids received will be posted on the Purchasing web page at https://jeffersoncountytx.gov/Purchasing/ as soon as possible following bid opening. A final tabulation will be posted following bid award, and will also be available for review in the Purchasing

Department.

12. CHANGES AND ADDENDA TO BID DOCUMENTS.

Each change or addendum issued in relation to this IFB document will be on file in the Office of the Purchasing Agent, and will be posted on the Purchasing web site as soon as possible. It shall be the bidder's responsibility to make inquiry as to change or addenda issued, and to monitor the web site. All such changes or addenda shall become part of the contract and all bidders shall be bound by such addenda. Information on all changes or addenda issued will be available at the Office of the County Purchasing Agent.

13. SPECIFICATIONS.

Unless otherwise stated by the bidder, the bid will be considered as being in accordance with Jefferson County's applicable standard specifications, and any special specifications outlined in the bid document. References to a particular trade name, manufacturer's catalogue, or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of Jefferson County, and should not be construed as excluding bids on other types of materials, equipment, and supplies. However, the bidder, if awarded a contract, will be required to furnish the particular item referred to in the specifications or description unless departure or substitution is clearly noted and described in the bid.

Jefferson County reserves the right to determine if equipment/ product being bid is an acceptable alternate. All goods shall be new unless otherwise so stated in the bid. Any unsolicited alternate bid, or any changes, insertions, or omissions to the terms and conditions, specifications, or any other requirements of the bid, may be considered non-responsive.

14. DELIVERY.

Bids shall include all charges for delivery, packing, crating, containers, etc. Unless otherwise stated by the bidder (in writing on the included Bid Form), prices bid will be considered as being based on F.O.B. destination/delivered freight included.

15. INTERPRETATION OF BID AN/OR CONTRACT DOCUMENTS.

All inquiries shall be made within a reasonable time prior to the date and time fixed for the bid opening, in order that a written response in the form of an addendum, if required, can be processed before the bids are opened. Inquiries received that are not made in a timely fashion may or may not be considered.

16. CURRENCY.

Prices calculated by the bidder shall be stated in U.S. dollars.

17. PRICING.

Prices shall be stated in units of quantity specified in the bid documents. In case of discrepancy in computing the amount of the bid, the unit price shall govern.

18. NOTICE TO PROCEED/PURCHASE ORDER.

The successful bidder may not commence work under this contract until authorized to do so by the Purchasing Agent.

19. CERTIFICATION.

By signing the offer section of the Offer and Acceptance page, Bidder certifies:

- The submission of the offer did not involve collusion or other anti-competitive practices.
- The Bidder has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to any public servant in connection with the submitted offer.
- The Bidder hereby certifies that the individual signing the bid is an authorized agent for the Bidder and has the

authority to bind the Bidder to the contract.

20. DEFINITIONS.

"County" – Jefferson County, Texas.
"Contractor" – The Bidder whose proposal is accepted by Jefferson County.

21. SMALL, MINORITY & WOMEN BUSINESS ENTERPRISE PARTICIPATION

It is the desire of Jefferson County to increase the participation of Small, Minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the County does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms.

Minority owned business may be eligible for contract procurement assistance with public and private sector entities from MBDA Centers

Dallas Fort Worth MBDA Business Center
8828 N. Stemmons Freeway, Ste. 550 B
Dallas, TX 75247
214-920-2436
Website: https://www.mbdadfw.com
Email: admin1@mbdadallas.com

El Paso MBDA Business Center
2401 East Missouri Avenue
El Paso, TX 79903
915-351-6232
Website: https://www.mbda.gov/business-center/el-paso-mbda-business-center
Email: treed@ephcc.org

San Antonio MBDA Business Center
501 W. Cesar E. Chavez Blvd., Ste. 3.324 B
San Antonio, TX 78207
210-458-2480
Website: https://www.mbda.gov/business-center/san-antonio-mbda-business-center
Email: Jacqueline.jackson@utsa.edu

Small and woman-owned business may be eligible for assistance from U.S. Small Business Administration (SBA):
Website: https://www.sba.gov/local-assistance

Dallas/Fort Worth District Office
150 West Parkway, Ste. 130
Euless, TX 76040
817-684-5500
Website: https://www.sba.gov/district/dallas-fort-worth
Email: dfwdo.email@sba.gov

El Paso District Office
211 N. Florence St, Ste. 201
El Paso, TX 79901
915-834-4600
Website: https://www.sba.gov/district/el-paso
Email: lee.vega@sba.gov

Houston District Office
8701 S. Gessner Dr, Ste. 1200
Houston, TX 77074
713-773-6500
Website: https://www.sba.gov/district/houston
Email: houston@sba.gov

Lower Rio Grande Valley District Office
2422 E. Tyler Ave, Suite E
Harlingen, TX 78550
956-427-8533
Website: https://www.sba.gov/district/lower-rio-grande-valley
Email: lrgvdo.email@sba.gov

San Antonio District Office
615 E. Houston St, Ste 298
San Antonio, TX 78205
210-403-5900
Website: https://www.sba.gov/district/san-antonio
Email: sado.email@sba.gov

West Texas District Office
1205 Texas Ave, Room 408
Lubbock, TX 79401
806-472-7462
Website: https://www.sba.gov/district/west-texas
Email: lubdo@sba.gov

VETHUB certification information can be found at:

Statewide Procurement Division VetHUB Program
P.O. Box 13528
Austin, TX 78711
512-463-5872 or 888-863-5881
Website: https://comptroller.texas.gov/purchasing/vendor/hub
Email: VetHUBProgram@cpa.texas.gov

PROPOSER: INSERT VETHUB, SBE, MBE or WBE Certification behind this page.

SECTION 2: FEDERALLY MANDATED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY UNDER FEDERAL AWARDS REQUIRED BY 2 C.F.R. §200.318-327 & §200.327 APPENDIX II TO 2 CFR §200 & THE FEDERAL AVIATION ADMINISTRATION

The following are Federally mandated contract provisions for Non-Federal Entity (NFE) Contracts with contractors/vendors that may arise from this offer if funded under Federal Awards, as applicable. All contracts shall be in accordance with the current version of Mandated Contract Provisions at time of procurement, as applicable.

During the performance of this contract, the bidder/proposer agrees as follows:

A. Breach of Contract - 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.

Jefferson County 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. Jefferson County reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Jefferson County elects to terminate the contract. The Jefferson County's notice will identify a specific date by which the contractor must correct the breach. Jefferson County may proceed with termination of the contract if the contractor fails to correct the breach by deadline indicated in Jefferson County'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.

B. Termination of Contract:

Termination for Convenience:

Jefferson County 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 Jefferson County. Upon receipt of a written notice of termination, except as explicitly directed by Jefferson County, 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 Jefferson County 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 Jefferson County will take possession.

Jefferson County 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.

C. Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor." Complete Civil Rights Compliance Form in these specifications.

D. Civil Rights – Title VI Assurance: Jefferson County, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

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.

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 U.S.C. § 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 U.S.C. § 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 U.S.C. § 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 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (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 Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 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 U.S.C. 1681 et seq).

E. Davis-Bacon Act

As amended (40 U.S.C. 3141-3148). Prime construction contracts in excess of $2,000 are in compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The decision to award a contract or subcontract is conditioned upon the acceptance of the wage determination. All suspected or reported violations will be reported to the Federal awarding agency by Jefferson County. The current prevailing wage determination issued by the Department of Labor at time of solicitation is listed in section 6, paragraph 6.11:

F. Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3,

Applicable or all prime construction contracts above $2,000 and when the Davis-Bacon Act also applies, for all contracts and subcontracts. The Copeland "Anti-Kickback" Act clause is not federally required for procurements under FEMA's PA or HMA Programs.

"Compliance with the Copeland "Anti-Kickback" Act.

1) Contractor. The Contractor shall comply with 18 U.S.C. § 874,40 U.S.C. § 3145, and the requirements of 29 C.F.R. Part 3 as may be applicable, which are incorporated by reference into this contract.
2) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clause above and such other clauses as the Federal Entity providing funding may by appropriate instructions require, and 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 these contract clauses. Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12."

G. Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

"Compliance with the Contract Work Hours and Safety Standards Act" in accordance with 29 CFR §5.5 (b)(1)-(5).

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 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 (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $33 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 (b)(1).

3) ***Withholding for unpaid wages and liquidated damages*** —
    i. ***Withholding process.*** The Federal agency providing funding or Jefferson County may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this paragraph (b) on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.
    ii. ***Priority to withheld funds.*** The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:
        (A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
        (B) A contracting agency for its reprocurement costs;
        (C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
        (D) A contractor's assignee(s);
        (E) A contractor's successor(s); or
        (F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

4) ***Subcontracts.*** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (5) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance

by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.5). In the event of any violations of these clauses, the prime contractor, and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5) ***Anti-retaliation.*** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:
   i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
   ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
   iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
   iv. Informing any other person about their rights under CWHSSA or this part.

"Further Compliance with the Contract Work Hours and Safety Standards Act" in accordance with 29 CFR §5.5 (c) for any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR § 5.1

1) The contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made; and actual wages paid.
2) Records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of Jefferson County, the Department of Homeland Security, the Federal Entity providing funding and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.

H. Rights to Inventions Made Under a Contract or Agreement.

1) If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

2) The vendor/contractor shall comply with the requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract. (2 CFR 200 Appendix II (f), Rights to Inventions).

I. Clean Air Act (42 U.S.C. 7401-7671q.) **and the Federal Water Pollution Control Act** (33 U.S.C. 1251-1387), as amended for all contract amounts in excess of $150,000.

1) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 *et seq.* and pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 *et. Seq.*
2) The contractor agrees to report each violation to Jefferson County and understands and agrees that Jefferson County will, in turn, report each violation as required to assure notification to the Federal Entity from which Jefferson County has received a Federal Award, and the appropriate Environmental Protection Agency Regional Office.
3) The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with federal assistance provided by a Federal Entity.

J. Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award pursuant to (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. Complete Debarment/Suspension Certification Form in these specifications.

K. Byrd Anti-Lobbying Amendment, as amended (31 U.S.C. 1352) Contractors must sign and submit certification to Jefferson County with each bid or offer exceeding $100,000. Complete Byrd Anti-Lobbying Certification Form in these specifications.

L. Procurement of recovered materials. 2 CFR § 200.323. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired.

1) Competitively within a timeframe providing for compliance with the contract performance schedule;
2) Meeting contract performance requirements; or
3) At a reasonable price.

Information about this requirement, along with the list of EPA-designated items, is available at Comprehensive Procurement Guideline (CPG) Program | US EPA (www.epa.gov). The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

M. Prohibition on certain telecommunications and video surveillance equipment or services. 2 CFR § 200.216. As of November 12, 2020, all Federally funded project recipients and subrecipients, and their contractors and subcontractors, are required to include this contract provision in all Federally-funded contracts and subcontracts, including any purchase orders.

1) Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services, as used in this clause
2) Prohibitions.

a. Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.
b. Unless an exception in paragraph (3) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Agency to:
    i. Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
    ii. Enter, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
    iii. Enter, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or
    iv. Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.
c. Exceptions.
    i. This clause does not prohibit contractors from providing
        1. A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or Contract Provisions Guide.
        2. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.
    ii. By necessary implication and regulation, the prohibitions also do not apply to:
        1. Covered telecommunications equipment or services that:
            a. Are not used as a substantial or essential component of any system; and
            b. Are not used as critical technology of any system.
        2. Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.
d. Reporting requirement.
    i. In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(ii) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.
    ii. The Contractor shall report the following information pursuant to paragraph (d)(i) of this clause:
        1. Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

2. Within 10 business days of submitting the information in paragraph (d)(ii)(1) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

e. Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments.

N. Prohibition of Covered Unmanned Aircraft Systems (UAS): The Bidder or Offeror certifies that they are aware of and comply with relevant Federal statutes and regulations, including those from the Federal Aviation Administration (FAA), for operating unmanned aircraft systems (UAS) in accordance, and in compliance with all related requirements in the FAA Reauthorization Act of 2024 (Public Law 118-63), section 936 (49 U.S.C. § 44801 note).

Contractor warrants that all UAS operations will be conducted in full compliance with all applicable Federal Aviation Administration (FAA) regulations, including but not limited to 14 CFR Part 107, and any other applicable local, state, or Federal laws and regulations.

Sponsors and subgrant recipients cannot use AIP grant funds to enter into, extend, or renew a contract related to covered unmanned aircraft systems (UAS). This includes both procurement and operational contracts, as well as contracts with entities that operate such systems.

O. Domestic preferences for procurements. 2 CFR § 200.322.

1) The contractor should, to the greatest extent practicable and consistent with law, provide 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). The requirements of this section must be included in all subawards, contracts, and purchase orders under Federal awards.
2) For purposes of this section:
   a. "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
   b. "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

P. Buy American Preferences for Infrastructure Projects

"Build America, Buy America Act (BABAA) 2 CFR part 184. Complete Build America, Buy America Act (BABAA) Certification Form in these specifications.

Contractors and their subcontractors who apply or bid for an award for an infrastructure project subject to the domestic preference requirement in the Build America, Buy America Act shall file the required certification to Jefferson County with each bid or offer for an infrastructure project, unless a domestic preference requirement is waived by the funding Federal Agency. Contractors and subcontractors certify that no federal financial assistance funding for infrastructure projects will be provided unless all the iron, steel, manufactured projects, and construction materials used in the project are produced in the United

States. BABAA, Pub. L. No. 117-58, §§ 70901-52. Contractors and subcontractors shall also disclose any use of federal financial assistance for infrastructure projects that does not ensure compliance with BABAA domestic preference requirements. Such disclosures shall be forwarded to the recipient who, in turn, will forward the disclosures to the funding Federal Agency; subrecipients will forward disclosures to the pass-through entity, who will, in turn, forward the disclosures to the funding Federal Agency.

Q. 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. Contractor 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 (20 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.

R. Seismic Safety - The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

S. Access to Records and Reports - The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide Jefferson County, 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.

T. 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, 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.

U. 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 Jefferson County 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 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 the 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.

V. 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.

W. Tax Delinquency and Felony Convictions - The Contractor shall be required to complete the certification regarding tax delinquency and felony convictions included in these contract documents.

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.

X. Prohibition of Segregated Facilities –

1. 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 Opportunity clause in this contract
2. "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.
3. The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

Y. Distracted 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 FAA 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 subtier contracts exceeding $10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

Z. Affirmative Action Requirement –

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: 19% (Vol. 45 Federal Register pg. 65984 10/3/80)

   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 non-federally 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 Jefferson County, Texas.

AA. 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 of 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:

1. Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
2. Fails to meet reasonable contract performance requirements; or
3. Is only available at an unreasonable price.

BB. Disadvantaged Business Enterprise - 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 30 days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within 30 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 Owner. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53)

The prime contractor must not terminate a DBE subcontractor listed in bid without prior written consent of Jefferson County. 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 Jefferson County. Unless Jefferson County 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.

Jefferson County may provide such written consent only if Jefferson County 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 Jefferson County 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 Jefferson County, 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 Jefferson County and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why Jefferson County should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), Jefferson County may provide a response period shorter than five days.

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

The Contractor_____ certifies or affirms the agreement and compliance will all Federally mandated contract provisions listed above in Section 2 where applicable.

_____

Signature of Contractor's Authorized Official

_____

Name and Title of Contractor's Authorized Official

_____

Date

BYRD ANTI-LOBBYING CERTIFICATION

Certification for Contracts, Grants, Loans, and Cooperative Agreements-The undersigned certifies, 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 undersigned, 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 subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

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

The Contractor_____ certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C.Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

_____

Signature of Contractor's Authorized Official

_____

Name and Title of Contractor's Authorized Official

_____

Date

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

DEBARMENT/SUSPENSION CERTIFICATION

Non-Federal entities and Contractors are subject to the debarment and suspension regulations implementing Executive Order 12549, Debarment and Suspension (1986) and Executive Order 12689, Debarment and Suspension (1989) at 2 C.F.R. Part 180 and the Department of Homeland Security's regulations at 2 C.F.R. Part 3000 (No procurement Debarment and Suspension).

This requirement applies to all FEMA grant and cooperative agreement programs.

Federal Executive Order (E .O.) 12549 "Debarment" requires that all Contractors receiving individual awards, using federal funds, and all sub recipients certify that the organization and its principals are not debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency from doing business with the Federal Government. By signing this document, you certify that your organization and its principals are not debarred. Failure to comply or attempts to edit this language may disqualify your bid. Information on debarment is available at the following websites: www.sam.gov and https://acguisition.qov/far/index.html see section 52.209-6.

The Contractor _____ certifies or affirms by your signature that neither you nor your principal is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

_____

Signature of Contractor's Authorized Official

_____

Name and Title of Contractor's Authorized Official

_____

Date

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

CIVIL RIGHTS COMPLIANCE PROVISIONS

1. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause)

(For all awarded contracts that meet the definition of "federally assisted construction contract" provided in 41 CFR Part 60-1.3)

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 identity, 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 he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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 rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or order this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of 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 portion of the sentence immediately preceding paragraph (1) and 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 the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

CIVIL RIGHTS COMPLIANCE PROVISIONS (CONTINUED)

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of Contractors and Subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon Contractors and Subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

_____

Signature of Contractor's Authorized Official

_____

Name and Title of Contractor's Authorized Official

_____

Date

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

SECTION 3: SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS

The following requirements and instructions **supersede** General Requirements where applicable.

1. SUBMISSION OF BID.

Bidder is Responsible for Submitting:

One (1) Original and one (1) Bid Copy; with all copies to include a Completed Copy of this Specifications Packet (including technical specifications), **in its entirety.**

The County requests that bid submissions NOT be bound by staples or glued spines.

Each Bidder shall ensure that required parts of their bid submission are completed with accuracy and submitted as per the requirements within this specifications packet, including any addenda.

Additionally, Bidder shall monitor the Jefferson County Purchasing Department Website for any addenda, additional instructions, or bid updates. https://jeffersoncountytx.gov/Purchasing/

Failure to return and/or complete all required documentation will result in a response being declared as non-responsive.

Bids must be submitted in complete original form by mail or messenger to the following address:
Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, TX 77701

BID PACKAGING: Bidder shall submit response in a tightly sealed opaque envelope or box, plainly marked "SEALED BID." The outside of the envelope of box shall also include the IFB Number, IFB Name, IFB Due Date, and the Bidder's Name and Address; and shall be addressed to the Purchasing Agent.

All submissions must be received by 11:00 am CT, Wednesday, June 17, 2026

Bids will be accepted at the above address until the time and date specified herein, and immediately after will be publicly opened and read aloud.

Jefferson County will not accept any responsibility for bids being delivered by third party carriers.

Late bids will not be accepted and will be returned unopened to the Bidder.
Jefferson County shall not be responsible for any effort or cost expended in the preparation of a response to this IFB.

All bid responses submitted in response to this invitation shall become the property of Jefferson County and will be a matter of public record available for review.

All protests should be coordinated through the Purchasing Office prior to award recommendation to Commissioners' Court.

COURTHOUSE SECURITY: All visitors to the Courthouse must pass through Security. Respondents planning to hand deliver proposals must allow time to get through Security, as a delay in entering the Courthouse will not be accepted as an excuse for late submittal. Mondays and Tuesdays are particularly heavy days.

In response to the Covid-19 pandemic, Jefferson County has implemented precautionary measures as currently recommended by the CDC within its facilities. Bidders are strongly urged to plan accordingly.

COUNTY HOLIDAYS (2026):

January 1, 2026 (Thursday) - New Year's
January 19 (Monday) - Martin Luther King, Jr. Day
April 3 (Friday) - Good Friday
May 25 (Monday) - Memorial Day
June 19 (Friday) - Juneteenth
July 3 Observed (Friday) - Independence Day
September 7 (Monday) - Labor Day
November 11 (Wednesday) - Veteran's Day
November 26 & 27 (Thursday & Friday) - Thanksgiving
December 24 & 25 (Thursday & Friday) Christmas

Submissions During Time of Inclement Weather, Disaster, or Emergency:

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a bid/proposal/statement of qualifications submission deadline, the IFB closing will automatically be postponed until the next business day that County offices are open to the public. Should inclement weather conditions or any other unforeseen event cause delays in courier service operations, the County may issue an addendum to all known vendors interested in the project to extend the deadline. It will be the responsibility of the vendor to notify the county of their interest in the project should these conditions impact their ability to submit a bid/proposal/statement of qualifications submission before the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

Should an emergency or unanticipated event interrupt normal County processes, and bid/proposal/statement of qualifications submissions cannot be received by the Jefferson County Purchasing Department's office by the exact time specified in the IFB and urgent County requirements preclude amendment to the IFB, the time specified for receipt of Statements of Qualifications will be deemed to be extended to the same time of day specified in the solicitation on the first business day on which normal County processes resume.

2. PRE-BID MEETING AND WALK-THROUGH.

There will be a Pre-Bid Meeting and Walk-Through on WEDNESDAY, JUNE 3, 2026, at 11:00 Am CT, at the Jack Brooks Regional Airport, Jerry Ware Terminal located at 5000 Jerry Ware Drive, Suite 100, Beaumont, Texas 77705.

3. QUESTIONS/DEADLINE FOR QUESTIONS.

Questions may be emailed to **Mistey Reeves, Assistant Purchasing Agent** at: mistey.reeves@jeffersoncountytx.gov.
If no response in 72 hours, contact **Deborah Clark, Purchasing Agent** at: deb.clark@jeffersoncountytx.gov.
The Deadline for asking questions or requesting additional information (in writing) is 5:00 pm, CT, Friday, June 5, 2026**.**

4. VENDOR REGISTRATION (System for Award Management).

Vendors doing business with Jefferson County are **required** to be registered with The System for Award Management (SAM), with an "active" status. The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site. Entities may register at no cost directly from the SAM website at: https://www.sam.gov

In instances where a vendor has either an "Inactive" SAM Registration or is not currently registered with the System for Award Management, the Purchasing Department may *initially* accept proof (printout from the SAM website) that the vendor has begun the registration process in order for the IFB/RFQ/RFP submission to be considered as "responsive" to the specifications for the project.
However, the SAM Registration must be completed (showing "active" status, with no exclusions) prior to the award and/or execution of an agreement or contract for the project.

<u>BIDDER</u>: INSERT PROOF OF SYSTEM FOR AWARD MANAGEMENT (SAM) BEHIND THIS PAGE.

5. FORM 1295 (Texas Ethics Commission) SUBMISSSION REQUIREMENT/INSTRUCTIONS FOR BIDDERS.
All Non-Exempt Bidders are required to submit a completed FORM 1295 with bid submission.

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below.
Vendors must enter the required information on Form 1295, and print a copy of the completed form.
The form will include a certification of filing that will contain a unique certification number.

2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Purchasing Department **with bid submission.**

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A sample of a completed FORM 1295 is included on **the following page.**

FORM 1295 Implementation Background:
In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County will be required to complete a Certificate of Interested Parties (FORM 1295), **unless contract is considered exempt as described below.**

In 2017, the Texas legislature amended the law to require Form 1295 to include an "unsworn declaration" which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an "unsworn declaration."

Question: Will the date of birth and address provided appear on the TEC's website when the form is filed?

Answer: No. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application. Although the TEC does not capture the date of birth and street address of the signatory, the contracting state agency or governmental agency will have a physical copy of the form that includes the date of birth and address of the signatory. The TEC cannot answer whether the contracting state agency or governmental agency may release such information. Questions regarding the Texas Public Information Act may be directed to the Office of the Attorney General. See also Paxton v. City of Dall., No. 03-13-00546-CV, 2015 Tex. App. LEXIS 5228, at *10-11 (App.—Austin May 22, 2015) (mem. op.) (pet. denied) (available here)

FORM 1295 EXEMPTIONS:
What type of contracts are exempt from the Form 1295 filing requirement under the amended law?
The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement.

A completed Form 1295 is not required for:
- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

SAMPLE COMPLETED FORM 1295

VENDOR: FORM 1295 MUST BE COMPLETED/SUBMITTED ON TEXAS ETHICS COMMISSION WEBSITE. HARD COPY OF FORM 1295 IS TO BE PRINTED, COMPLETED, SIGNED, AND SUBMITTED WITH BID/PROPOSAL/AGREEMENT/CONTRACT.

JEFFERSON COUNTY WILL CONFIRM RECEIPT OF COMPLETED HARD COPY WITH THE TEXAS ETHICS COMMISSION.

CERTIFICATE OF INTERESTED PARTIES — FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

VENDOR:ENTER YOUR BUSINESS NAME, CITY, STATE, AND COUNTRY HERE

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

JEFFERSON COUNTY, TEXAS

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

VENDOR: ENTER BID/PROPOSAL/CONTRACT/AGREEMENT REF# AND TITLE HERE.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary
VENDOR: ENTER EACH PERSON HAVING INTEREST, OWNERS ARE THE CONTROLLING PARTIES.		X	
VENDOR: WORKERS (OR NON-OWNERS) IN YOUR COMPANY ARE INTERMEDIARY PARTIES.			X

5 Check only if there is NO Interested Party. **CHECK BELOW IF APPLICABLE** ☐

6 UNSWORN DECLARATION **VENDOR: COMPLETE, DATE, AND SIGN THIS DECLARATION SECTION.**

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

NOTE: JEFFERSON COUNTY WILL KEEP A COPY OF THIS FORM ON FILE FOR EACH BID/PROPOSAL/CONTRACT/AGREEMENT AND EACH VENDOR RESPONDING TO BIDS/PROPOSALS.

Must file online at www.ethics.state.tx.us/File

BIDDER: INSERT COMPLETED FORM 1295 BEHIND THIS PAGE.

SECTION 3: SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS (CONTINUED)

6. MULTIPLE VENDOR AWARD.

Jefferson County reserves the right to award this contract to more than one vendor at the County's discretion.

7. DELIVERY.

If delivery is required, all items must be packaged so as to be protected from damage during shipping and handling. Any item(s) damaged in shipping must be replaced in kind, or repaired, by the Contractor, at the discretion of, and at no additional charge to, Jefferson County.

8. PAYMENT.

Jefferson County will pay original invoices that clearly itemize the goods and/or services provided as to quantity, part number, description, price, applicable discount (if any), labor charges showing time differential, if applicable and if previously agreed to, and delivery, installation, and set-up costs, if applicable and if previously agreed to. Only charges as stated on the Bid Form(s) submitted as a part of the bid will be considered.

Invoices must indicate Jefferson County as applicable, the address to which the product(s) and/or service(s) were delivered, and the applicable purchase order number. Invoices will be matched to delivery tickets prior to payment; therefore, all delivery tickets should have an accurate description of the product(s) and/or service(s).

Invoices shall be submitted to:
Jefferson County Auditing Department
Attention: Accounts Payable
1149 Pearl Street, 7th floor
Beaumont, TX 77701.

9. USAGE REPORTS.

Jefferson County reserves the right to request, and receive at no additional cost, up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this IFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Jefferson County department, description of each item purchased, including manufacturer, quantity of each item purchased, per unit and extended price of each item purchased, and total amount and price of all items purchased.

10. INSURANCE.

The Contractor (including any and all Subcontractors as defined in Section 11.1.3 below) shall, at all times during the term of this contract, maintain insurance coverages with not less than the type and requirements shown below. Such insurance is to be provided at the sole cost of the Contractor. These requirements do not establish limits of the Contractor's liability.

All policies of insurance shall waive all rights of subrogation against the County, its officers, employees and agents; a copy of the policy wording or endorsement is required.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County and Garver LLC as additional insured and will provide the actual policy wording or endorsement showing as such.

All insurance must be written by an insurer licensed to conduct business in the State of Texas.

Minimum Insurance Requirements:

Public Liability, including Products & Completed Operations	$1,000,000
Excess Liability	$1,000,000

Property Insurance (policy below that is applicable to this project):
Improvements & Betterments Policy: Improvements/Remodeling (for Lease Tenants)
Builder's Risk Policy: Structural Coverage for Construction Projects
Installation Floater Policy: Improvements/Alterations to Existing Structure
Workers' Compensation Statutory Coverage (See Section 11 Below)

Jefferson County and Garver, LLC shall be included as an insured under the CGL, (using ISO Additional Insured Endorsement CG 20 10 11 85 or a substitute providing equivalent coverage), and under the commercial automobile liability (using ISO Additional Insured Endorsement CA 2048 or a substitute providing equivalent coverage), and commercial umbrella, if any. This insurance, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

Commercial General and Umbrella Liability Insurance: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance, with a limit of not less than$5,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to the Project.

CGL insurance shall be written on ISO occurrence form CG 20 10 (11-85) (or a substitute combination of the following forms CG 20 10 (10-01) and CG 20 37 (10-01) providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury and liability assumed under an insured contract.

There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, underground property damage, or amending the contractual coverage in the ISO occurrence form.

CGL insurance shall be written with an ISO form CG 25 03 05 09 Designated Construction Project(s) General Aggregate Limit or a substitute form providing equivalent coverage.

Continuing CGL Coverage: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance, with a limit of not less than $5,000,000each occurrence for at least 3 years following substantial completion of the Work.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed Work equivalent to that provided under ISO form CG 00 01.

Owner's and Contractor's Protective Liability Insurance: Contractor shall maintain Owner's and Contractor's Protective Liability (OCP) insurance on behalf of Owner and Garver, LLC, as named insured, with a limit of $1,000,000.

Commercial Auto and Umbrella Liability Insurance: Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident.

Such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).

Commercial auto coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

If the Contract Documents require Contractor to remove and haul hazardous waste from the Project site, or if the Project involves such similar environmental exposure, pollution liability coverage equivalent to that provided under

the ISO Pollution Liability-Broadened Coverage for Covered Autos Endorsement (CA 99 48) shall be provided, and the Motor Carrier Act Endorsement (MCS 90) shall be attached.

Property Insurance: If applicable, Contractor shall purchase and maintain property insurance for the Work. Such insurance shall be written in an amount at least equal to the initial contract sum as well as subsequent modifications of that sum. The insurance shall apply on a replacement cost basis. If the insurance obtained in compliance with this paragraph is builders risk insurance, coverage shall be written on a completed value form.

The property insurance as required above shall name as insureds the Owner, Contractor, and all subcontractors and sub-subcontractors on the Project.

Primary and Non-contributory: Contractor agrees that the insurance listed above, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

Waiver of Subrogation: Contractor waives all rights against the Owner and Garver, LLC and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability, commercial umbrella liability insurance, automobile liability insurance and workers compensation insurance maintained pursuant to paragraph C-01 of this agreement.

No Implied Waiver: Contractor shall furnish certifications matching the coverage requirements. Failure of Owner or Engineer to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Owner or Engineer to identify a deficiency from evidence that is provided shall not be construed as a waiver of the contractors obligations to furnish and maintain such insurance, or as a waiver to the enforcement of any of the provisions at a later date.

Any waiver of the contractor's obligation to furnish such certificate or maintain such evidence must be by written change order and signed by a Managing Member (Officer) of the Engineer and the Owner.

Cancellation, Non-Renewal, and/or Impairment Notification: The Contractor shall not cause any insurance policy to be cancelled or permit it to lapse and all insurance policies shall include an endorsement to the effect that the insurance policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance until notice has been mailed to the Owner and Engineer, stating the date when such cancellation or reduction shall be effective, which date shall not be less than (60) days after such notice.

The amount shown in the bid item for the Owner's Protective Insurance shall include that amount of additional premium required for obtaining Owner's and Engineer's Protective Liability insurance for the Owner and Garver, LLC. The Engineer has the right to request justification from the contractor for the full amount of the cost included under the items "Owner's Protective Insurance".

Notice shall be sent via email and regular mail to the following persons and addresses:

Jefferson County Purchasing Department
Deborah Clark
1149 Pearl Street, 1st Floor
Beaumont, TX 77701
Deb.clark@jeffersoncountytx.gov

Jack Brooks Regional Airport
Alex Rupp
5000 Jerry Ware Drive
Beaumont, TX 77705
Alex.rupp@jeffersoncountytx.gov

Garver LLC
Jessica Bryan, PE
21 Waterway Ave.
Suite 300, Office 348
The Woodlands, TX 77380
jlbryan@garverusa.com

11. WORKERS' COMPENSATION INSURANCE Contractor shall maintain workers' compensation and employer's liability insurance in accordance with statutory limits.

The employer's liability, and if necessary commercial umbrella, limits shall not be less than $500,000 each accident for bodily injury by accident or $500,000 each employee for bodily injury by disease.

If Contractor leases its employees, the alternate employer endorsement (WC 00 03 01 A) shall be attached showing Owner in the schedule as the alternate employer.

Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

Where applicable, Nonappropriated Fund Instrumentalities Act (NFIA) shall be attached to the policy. NFIA extends the coverage of the Longshore and Harbor Workers' Compensation Act to civilian employees working on United States military bases throughout the world who are not paid with funds appropriated by Congress. These employees, working in facilities operated for the comfort, contentment, and improvement of armed forces personnel, are instead compensated with funds generated from earnings of their facility.

Where applicable, Outer Continental Shelf Lands Act Endorsement shall be attached to the policy.

Where applicable, the Maritime Coverage Endorsement shall be attached to the policy.

If project is located in a state where workers compensation is secured via monopolistic state funds, include evidence of the "Stop Gap" endorsement to the general liability policy.

11.1 Definitions:

11.1.1 **Certificate of coverage ("Certificate")** – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement, DWC-81, DWC-82, DWC-83, or DWC-84 showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

11.1.2 **Duration of the project** – Includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the governmental entity.

11.1.3 **Persons providing services on the project ("Subcontractor") in article 406.096** – Includes all persons or entities performing all or part of the services under the Contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent Contractors, Subcontractor, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" includes, without limitation, providing, hauling or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

11.2 The Contractor shall provide coverage, based on proper reporting of classification code and payroll amounts and filing any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.

11.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – **refer to Section 10 above**.

11.4 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

11.5 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

11.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

11.5.2 No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate ends during the duration of the project.

11.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.

11.7 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

11.8 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

11.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:

11.9.1 Provide coverage, based on reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all its employees providing services on the project, for the duration of the project.

11.9.2 Provide to the Contractor, prior to that person beginning work on the project a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.

11.9.3 Provide the Contractor, prior to the end of coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

11.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:

11.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and

11.9.4.2 the coverage period, if the coverage period shown on the current certificate of a new certificate of coverage showing extension of coverage, prior to the end of coverage ends during the duration of the project.

11.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.

11.9.6 Notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

11.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs **11.1. – 11.7**., with the certificates of coverage to be provided to the person for whom they are providing services.

11.10 By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services of the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

11.11 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

12. Utilities: All work in this contract shall be in accordance with the Texas Underground Facilities Damage Prevention Act. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities, structures, equipment, or improvements crossed by or adjacent to his construction operations. Where existing utilities, service lines, structures, equipment, etc. are cut, broken, or damaged, the Contractor shall replace or repair immediately these items with the same type of original material and construction or better, at his own expense to the satisfaction of the Owner and the Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects and any expenses incurred by the Owner shall be withheld from the Contractor's payments.

13. Legal Holidays: Holidays that shall be observed are listed is Section 3, pararaph 1 County Holidays. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section 15 below for more information.

14. Project Meetings and Coordination: A preconstruction conference will be called by the Engineer at a time convenient to Jefferson County and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with Jefferson County.

Jefferson County and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

15. Extension of Time: Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

a) If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.

b) An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. These include days with a mean temperature lower than 32° F and days with more than 0.1" of precipitation. Days with more than 0.5" of precipitation are counted as two days. The days included in the contract time for Normal Weather-Related Events and holidays are as follows:

(On a Monthly Basis)

Month	Normal Weather-Related Events	Holidays
January	9	2
February	5	1
March	6	0
April	8	0
May	9	1
June	12	1
July	10	1
August	13	0
September	9	1
October	8	1
November	6	2
December	8	2

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

c) Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

i. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

ii. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. Weather reporting locations and procedures shall be discussed during the preconstruction meeting. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

16. Quality Assurance/Materials Testing: The Owner shall be responsible for quality assurance testing as stated in theses specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

17. Record Documents: The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

18. Contractor/Subcontractor/Supplier Legal Disputes: Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

19. Construction Warrany Observation Cost: The Contractor will be responsible for all costs associated with construction observation and oversight for work related to warranty repair as described in the General Provisions.

20. Contractor's Release of Affidavit: At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

21. Submittals: The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures. The Contractor shall provide one of the following submittal package types:

a) Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

22. Stormwater Pollution Prevention Plan: Refer to Technical Specifications C-105.

23. Subsurface and Physical Conditions: Hazardous Environmentsl Conditions: Not Applicable

24. Owners' Safety Program: Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The following Owner safety programs are applicable to the Work: None

25. Project Suberintendent: The Contractor shall, upon receipt of the Notice of Award, designate in writing to the Engineer for approval the name of the electrical superintendent who will be in charge of the electrical subcontractor's operations. It is a strict requirement of this contract that the electrical superintendent be permanently assigned to the project for the duration of the work. Once assigned to the project, the electrical superintendent cannot be removed by the Contractor without the prior written consent of the Engineer. The electrical superintendent shall have at least 5 years of airport construction experience (or other qualifications satisfactory to the Owner) on construction at air carrier airports and installation of complete in-pavement lighting systems. No electrical work of any type shall be performed on the job site during the absence of the designated representative.

26. Sales and Use Taxes: Reference Section 1.12 of "General Conditions of Bidding and Terms of Contract" for information related to tax exemptions.

<u>BIDDER</u>: INSERT COPY OF CERTIFICATE OF INSURANCE (COI) BEHIND THIS PAGE.

Note: For bid purposes, a general COI will suffice. However, a COI that includes the notation that "Jefferson County as an additional insured" will be required from Awarded Bidder(s) prior to the issuance of a Purchase Order.

RELEASE OF LIEN

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____project.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 2026.

_____
Notary Public

My Commission Expires: _____

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on the

_____

project have been fully satisfied.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 2026.

_____

Notary Public

My Commission Expires: _____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated: _____

Surety Company: _____

By: _____

Resident Agent, State of Texas

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

BIDDER INFORMATION FORM

Instructions: Complete the form below. Please provide legible, accurate, and complete contact information. PLEASE PRINT.

Bid Number & Name: (IFB 26-024/MR) Jack Brooks Regional Airport Lighting Rehabilitation

Bidder's Company/Business Name: _____

Bidder's TAX ID Number: _____

If Applicable: **HUB Vendor No**. _____ **DBE Vendor No**. _____

Contact Person: _____ **Title:** _____

Phone Number (with area code): _____

Alternate Phone Number if available (with area code):_____

Fax Number (with area code):_____

Email Address: _____

Mailing Address (Please provide a <u>physical address for bid bond return</u>, if applicable):

_____
Address

_____
City, State, Zip Code

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

DEFINITION OF TERMS

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Term	Definition
AASHTO	The American Association of State Highway and Transportation Officials.
Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
Agreement	The written instrument, executed by Jefferson County and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents. See also “Contract.”
Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
Airport Improvement Program (AIP)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
Award	The Jefferson County’s notice to the successful bidder of the acceptance of the submitted bid.
Bid	The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. See also “Proposal.”
Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
Bidding Documents	The Bidding Requirements, the proposed Contract Documents, and all Addenda.
Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
Calendar Day	Every day shown on the calendar.

Term	Definition
Certificate of Analysis (COA)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
Contract	A written agreement between the Jefferson County and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded Contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, Payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda. See also "Agreement."
Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

Term	Definition
Engineer	The individual, partnership, firm, or corporation duly authorized by the Jefferson County to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Jefferson County's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Jefferson County Force Account - Work performed for the project by Jefferson County's employees.
Hazardous Environmental Condition	The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of Jefferson County. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

Term	Definition
Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
Materials	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is Jefferson County, TX.
Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the Contract, supplementary to the specifications. Plans may also be referred to as "contract drawings," or "drawings."
Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
Proposal	The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. See also "Bid."
Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by Jefferson County.
Quality Assurance (QA)	Jefferson County's responsibility to assure that construction work completed complies with specifications for payment.
Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

Term	Definition
Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of Jefferson County or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Jefferson County's, or QA Laboratory.
Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by Jefferson County to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
Runway	The area on the airport prepared for the landing and takeoff of aircraft.
Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
Site	Has the meaning set forth in Section 4.01 of the Instructions to Bidders.
Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
Subgrade	The soil that forms the pavement foundation.
Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
Supplemental Agreement	A written agreement between the Contractor and Jefferson County that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.

Term	Definition
Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to Jefferson County by the Contractor.
Taxilane	A taxiway designed for low-speed movement of aircraft between aircraft parking areas and terminal areas.
Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
Technical Data	Those items expressly identified as Technical Data in the Special Provisions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site.
Underground Facilities	All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

SECTION 4: PROPOSAL REQUIREMENTS AND CONDITIONS

4.1 Qualifications of Bidders: Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to Jefferson County at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish Jefferson County satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to Jefferson County.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

4.2 Issuance of proposal forms. Jefferson County reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a) Failure to comply with any prequalification regulations of Jefferson County, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with Jefferson County at the time Jefferson County issues the proposal to a prospective bidder.

c) Documented record of Contractor default under previous contracts with Jefferson County.

d) Documented record of unsatisfactory work on previous contracts with Jefferson County.

4.3 Interpretation of Estimated Proposal Quantities: An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. Jefferson County does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in Section 1, paragraph 4.2 Change Order, without in any way invalidating the unit bid prices.

4.4 Examination of plans, specifications and site: The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements

of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

4.5 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by Jefferson County. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

4.6 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in Jefferson County's invitation for bid. It is Jefferson County's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

4.7 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a) If the proposal is on a form other than that furnished by Jefferson County, or if Jefferson County's form is altered, or if any part of the proposal form is detached.

b) If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c) If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d) If the proposal contains unit prices that are obviously unbalanced.

e) If the proposal is not accompanied by the proposal guaranty specified by Jefferson County.

f) If the applicable Disadvantaged Business Enterprise information is incomplete.

Jefferson County reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of Jefferson County and conforms to local laws and ordinances pertaining to the letting of construction contracts.

4.8 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to Jefferson County.

4.9 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

4.10 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by Jefferson County in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

4.11 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

4.12 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b) Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of Jefferson County until any such participating bidder has been reinstated by the Jefferson County as a qualified bidder.

c) If the bidder is considered to be in "default" for any reason specified in paragraph 4.2, Issuance of Proposal Forms, of this section.

4.13 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify Jefferson County's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to Jefferson County's Engineer a written request for interpretation no later than 7 days prior to bid opening.

Any interpretation of the project bid documents by Jefferson County's Engineer will be by written addendum issued by Jefferson County. Jefferson County will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

SECTION 5: AWARD AND EXECUTION OF CONTRACT

5.1 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

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

a) If the proposal is irregular as specified in Section 4, paragraph 4.2, Irregular Proposals.
b) If the bidder is disqualified for any of the reasons specified Section 4, paragraph 4.12, *Disqualification of Bidders.*

In addition, until the award of a contract is made, Jefferson County reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of Jefferson County and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote Jefferson County's best interests.

5.2 Award of contract. The award of a contract, if it is to be awarded, shall be made within the time referenced in the Advertisement and the Proposal, unless otherwise specified herein.

If Jefferson County elects to proceed with an award of contract, Jefferson County will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

5.3 Cancellation of award. Jefferson County reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by Jefferson County in accordance with paragraph 5.7 Approval of Contract.

5.4 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after Jefferson County has made a comparison of bids as specified in the paragraph 5.1 Consideration of Proposals. Proposal guaranties of the two lowest bidders will be retained by Jefferson County until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as Jefferson County receives the contract bonds as specified in paragraph 5.5, Requirements of Contract Bonds.

5.5 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish Jefferson County a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to Jefferson County. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

5.6 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to Jefferson County, along with the fully executed surety bond or bonds specified in paragraph 5.5, Requirements of Contract Bonds, of this section, within the time specified in the proposal.

5.7 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, Jefferson County shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute Jefferson's County approval to be bound by the successful bidder's proposal and the terms of the contract.

5.8 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 5.6, Execution of Contract, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to Jefferson County.

SECTION 6: MINIMUM SPECIFICATIONS

The following requirements and specifications supersede General Bid Requirements where applicable. Any questions relating to bid submission or bid item specifications requirements should be directed to Mistey Reeves, Assistant Purchasing Agent at 409-835-8593 or via email at: mistey.reeves@jeffersoncountytx.gov. If no response in 72 hours, contact Deb Clark, Purchasing Agent at 409-835-8593 or via email at: deb.clark@jeffersoncountytx.gov. Please reference Bid Number: IFB 26-024/MR.

6.1 Scope of the Project:

Jefferson County is soliciting bids for the rehabilitation of the airfield lighting system at Jack Brooks Regional Airport. This will consist of a base bid of new runway edge lights for Runway 12-30 and Runway 16-34, runway end identification lights (REILs) for runway ends 16, 30, and 34, taxiway lighting along portions of Taxiways D and F, and improvements to the airfield lighting vault within the Jerry Ware Terminal. This is also an additive alternate that consists of the removal of abandoned Taxiway E pavement within the safety areas of Runways 12-30 and 16-34. The additive alternate also includes the restoration of the previously pavement areas.

6.2 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

6.3 Alteration of work and quantities. Jefferson County reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, Jefferson County's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 11, paragraph 11.3, Compensation for Altered Quantities.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If Jefferson County and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, Jefferson County reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

6.4 Omitted items. Jefferson County, Jefferson County's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 11, paragraph 11.4, Payment for Omitted Items.

6.5 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Jefferson County may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in Jefferson County's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 11, paragraph 11.5, Payment for Extra Work. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Definition of Terms, Supplemental Agreement.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, Jefferson County shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by Jefferson County.

6.6 Maintenance of Traffic: It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 10, paragraph 10.4, Limitation of Operations. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 9, paragraph 9.15, Contractor's Responsibility for Utility Service and Facilities of Others.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual

on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

6.7 Removal of Existing Structures: All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

6.8 Rights in and use of Materials Found in the Work: It is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of Jefferson County when so used in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by Jefferson County and the Resident Project Representative (RPR) and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of Jefferson County and the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request Jefferson County and the RPR's approval in advance of such use.

Should the Jefferson County and the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

6.9 Final Cleanup: Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

6.10 Terms: This project is contingent upon grant funding. Bid pricing shall be an irrevocable offer valid for 90 days from bid opening. The contractor will complete all work on this project within 105 calendar days of the first day of construction indicated in the Notice to Proceed. Retainage will be 5%. The liquidated damages shall be $5,000.00 per calendar day exceeding the 105 calendar days of construction.

The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all permits, labor, materials, equipment, tools, transportation, supplies and clean-up required to complete the work in strict accordance with the plans, specifications, and terms of the contract. CONTRACTOR TO PERFORM ALL WORK AS INDICATED. Contractor will be responsible for any damage caused by contractor.

1 YEAR WARRANTY Contractor will provide an Affidavit of Warranty at the end of the project. A copy of the Warranty document is on page 101 of these specifications.

6.11 Wages: Certified payroll will be required for this project. The current prevailing wage determination listed on Sam.gov website pursuant to the Davis-Bacon Act at the time these specifications were prepared are listed below. Contractor is responsible for using the current prevailing wage determination as published on Sam.gov website during the term of this contract.

"General Decision Number: TX20260299 01/02/2026
Superseded General Decision Number: TX20250299

State: Texas
Construction Type: Highway
Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS
Modification Number Publication Date
0 01/02/2026
SATX2025-013 11/15/2023

Rates Fringes

Asphalt Distributor Operator.....$ 23.26 0.00

Asphalt Paving Machine
Operator.....$ 22.67 0.00

Asphalt Raker.....$ 20.41 0.00

Broom or Sweeper Operator.....$ 17.63 0.00

Concrete Finisher, Paving and
Structures.....$ 20.79 0.00

Concrete Pavement Finishing
Machine Operator.....$ 22.18 0.00

Concrete Paving, Curing,
Float, Texturing Machine
Operator.....$ 22.62 0.00

Concrete Saw Operator.....$ 21.57 0.00

Crane Operator, Hydraulic 80
tons or less.....$ 24.75 0.00

Crane Operator, Lattice Boom
80 Tons or Less.....$ 25.74 0.00

Crane Operator, Lattice Boom
Over 80 Tons.....$ 23.85 0.00

Crawler Tractor Operator.....$ 20.33 0.00

Electrician.....$ 31.46 0.00

Excavator Operator, 50,000
pounds or less.....$ 21.53 0.00

Excavator Operator, Over
50,000 pounds.....$ 22.24 0.00

Flagger.....$ 16.63 0.00

Form Builder/Setter,
Structures.....$ 19.93 0.00

Form Setter, Paving & Curb.....$ 19.32 0.00

Foundation Drill Operator,
Crawler Mounted.....$ 22.25 0.00

Foundation Drill Operator,
Truck Mounted.....$ 26.04 0.00

Front End Loader Operator, 3
CY or Less.....$ 19.72 0.00

Front End Loader Operator,
Over 3 CY.....$ 20.34 0.00

Laborer, Common.....$ 17.12 0.00

Laborer, Utility.....$ 19.11 0.00

Loader/Backhoe Operator.....$ 21.37 0.00

Mechanic.....$ 23.38 0.00

Milling Machine Operator.....$ 21.65 0.00

Motor Grader Operator, Fine
Grade.....$ 23.91 0.00

Motor Grader Operator, Rough.....$ 21.20 0.00

Off Road Hauler.....$ 17.12 0.00

Painter, Structures.....$ 26.40 0.00

Pavement Marking Machine
Operator.....$ 17.12 0.00

Piledriver.....$ 21.48 0.00

Pipelayer.....$ 20.03 0.00

Reinforcing Steel Worker.....$ 22.34 0.00

Roller Operator, Asphalt.....$ 19.79 0.00

Roller Operator, Other.....$ 18.93 0.00

Servicer.....$ 20.33 0.00

Spreader Box Operator.....$ 17.84 0.00

Structural Steel Worker.....$ 22.64 0.00

Truck Driver Lowboy Float.....$ 25.94 0.00

Truck Driver, Single Axle.....$ 21.93 0.00

Truck Driver, Single or
Tandem Axle Dump Truck.....$ 18.60 0.00

Truck Driver, Tandem Axle
Tractor with Semi Trailer.....$ 20.17 0.00

Welder.....$ 20.97 0.00

Work Zone Barricade Servicer.....$ 17.37 0.00

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.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, 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 spent performing on the contract in 2025. The applicable Executive Order

minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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
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SECTION 7: CONTROL OF WORK

7.1 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

7.2 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to Jefferson County, the RPR will advise Jefferson County of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to Jefferson County a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

7.3 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for

materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify Jefferson County or the designated representative in writing requesting their written interpretation and decision.

7.4 List of Special Provisions. (See Section 2 FEMA & FAA Mandated Contract Provisions)

a. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

b. STATE TERMS AND CONDITIONS

c. LOCAL TERMS AND CONDITIONS

7.5 Cooperation of Contractor. The Contractor shall be supplied with three hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

7.6 Cooperation between Contractors. Jefferson County reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless Jefferson County from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

7.7 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land

Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): electronic CAD format (.dwg or .dgn).

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to Jefferson County.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

7.8 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

7.9 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Jefferson County, authorized representatives of Jefferson County of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

7.10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 6.2, Conformity with Plans and Specifications.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 9, paragraph 9.14, Contractor's Responsibility for Work.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

7.11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

7.12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

7.13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph76.12, Maintenance during Construction, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, Jefferson County may suspend any work necessary for Jefferson County to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by Jefferson County, shall be recovered as a liquidated damage against the Contractor.

7.14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit Jefferson County, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by Jefferson County shall not void or alter any provision of the contract.

7.15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Jefferson County will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

7.16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to Jefferson County for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

SECTION 8: CONTROL OF MATERIALS

8.1 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, Airport Lighting Equipment Certification Program and Addendum, that is in effect on the date of advertisement.

8.2 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of Jefferson County in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

8.3 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance or each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

8.4 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that Jefferson County shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

8.5 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of Jefferson County or lessee of such property. The Contractor shall make all

arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of Jefferson County's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by Jefferson County or lessee of the property.

8.6 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

8.7 Jefferson County furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by Jefferson County. Jefferson County-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Jefferson County-furnished materials shall be included in the unit price bid for the contract item in which such Jefferson County-furnished material is used.

After any Jefferson County-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Jefferson County-furnished material. Jefferson County will deduct from any monies due or to become due the Contractor any cost incurred by Jefferson County in making good such loss due to the Contractor's handling, storage, or use of Jefferson County-furnished materials.

SECTION 9: LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

9.1 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify Jefferson County and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

9.2 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

9.3 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless Jefferson County, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify Jefferson County for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

9.4 Restoration of surfaces disturbed by others. Jefferson County reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with Jefferson County, such authorized work (by others) must be shown on the plans and is indicated as follows:

NONE NOTED

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

9.5 Federal Participation. The United States Government has agreed to reimburse Jefferson County for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

9.6 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

9.7 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 6, paragraph 6.6, Maintenance of Traffic, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 10, paragraph 10.4, Limitation of Operations.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

9.8 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) GC-001 through GC-503 of the project plans.

9.9 Use of explosives. The use of explosives is not permitted on this project.

9.10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

9.11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and Jefferson County and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by Jefferson County for such purpose may be retained for the

use of Jefferson County or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to Jefferson County, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

9.12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

9.13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of Jefferson County prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Detailed phasing information is provided in the Construction Safety and Phasing Plan.

Upon completion of any portion of work listed above, such portion shall be accepted by Jefferson County in accordance with Section 7, paragraph 7.14, Partial Acceptance.

No portion of the work may be opened by the Contractor until directed by Jefferson County in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by Jefferson County shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

9.14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 7, paragraph 7.14, Partial Acceptance, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

9.15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 9.4, Restoration of Surfaces Disturbed by Others, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by Jefferson County to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

Owner	Contact	Phone Number
FAA SCC	Tiffany Richardson	(832)-681-6801

It is understood and agreed that Jefferson County does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.
It is further understood and agreed that the Contractor shall, upon execution of the contract, notify Jefferson County of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 9.4, Restoration of Surfaces Disturbed By Others. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for Jefferson County to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

9.15 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a) The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b) The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport manager and engineer a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c) If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d) Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

e) If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by Jefferson County. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

9.16 Furnishing rights-of-way. Jefferson County will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

9.17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of Jefferson County either personally or as an official of Jefferson County. It is understood that in such matters they act solely as agents and representatives of Jefferson County.

9.18 No waiver of legal rights. Upon completion of the work, Jefferson County will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop Jefferson County from correcting any measurement, estimate, or certificate made before or after

completion of the work, nor shall Jefferson County be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of Jefferson County of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to Jefferson County for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards Jefferson County's rights under any warranty or guaranty.

9.19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

9.20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and Jefferson County will direct the Contractor to either resume operations or to suspend operations as directed.

Should Jefferson County order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 6, paragraph 6.5, Extra Work, and Section 11, paragraph 11.5, Payment for Extra Work. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 10, paragraph 10.7, Determination and Extension of Contract Time.

9.21 Insurance Requirements. See Section 3, paragraphs 10 & 11.

SECTION 10: EXECUTION AND PROGRESS

10.1 Subletting of contract. Jefferson County will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least 25 percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Jefferson County, and shall be consummated only on the written approval of Jefferson County.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

10.2 Notice to proceed (NTP). Jefferson County's notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by Jefferson County.

10.3 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work and in advance of the preconstruction meeting. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the

execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by Jefferson County.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

10.4 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 9, paragraph 9.8, Construction Safety and Phasing Plan (CSPP).

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

10.4.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to Jefferson County for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing Jefferson County. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

10.5 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

10.6 Temporary suspension of the work. Jefferson County shall have the authority to suspend the work wholly, or in part, for such period or periods Jefferson County may deem necessary, due to unsuitable weather, or other

conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by Jefferson County, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to Jefferson County for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

10.7 Determination and extension of contract time. The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

10.7.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of Jefferson County's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

10.8 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 10.7, Determination and Extension of Contract Time) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by Jefferson County should the Contractor fail to complete the work in the time provided in their contract.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of Jefferson County of any of its rights under the contract.

10.9 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for Jefferson County to terminate the contract for any of the following reasons, if the Contractor:

a) Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b) Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c) Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d) Discontinues the execution of the work, or

e) Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f) Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g) Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h) Makes an assignment for the benefit of creditors, or

i) For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should Jefferson County consider the Contractor in default of the contract for any reason above, Jefferson County shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and Jefferson County's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then Jefferson County will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. Jefferson County may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by Jefferson County, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to Jefferson County the amount of such excess.

10.10 Termination for national emergencies. Jefferson County shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

10.11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

SECTION 11: MEASUREMENT AND PAYMENT

11.1 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

MEASUREMENT AND PAYMENT TERMS

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term “ton” will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

Term	Description
Asphalt Material	Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton or hundredweight.
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted. In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Term	Description
Scales – Cont.	All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 11.5 Payment for Extra Work.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

11.2 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 9, paragraph 9.18, No Waiver of Legal Rights.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

11.3 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 6, paragraph 6.3, Alteration of Work and Quantities, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

11.4 Payment for omitted items. As specified in Section 6, paragraph 6.4, Omitted Items, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of Jefferson County.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of Jefferson County. In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such

additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

11.5 Payment for extra work. Extra work, performed in accordance with Section 6, paragraph 6.5, Extra Work, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

11.6 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 11.7, Payment for Materials on Hand. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

1) From the total of the amount determined to be payable on a partial payment, 5% percent of such total amount will be deducted and retained by Jefferson County for protection of Jefferson County's interests. Unless otherwise instructed by Jefferson County, the amount retained by Jefferson County will be in effect until the final payment is made except as follows:

    a) Contractor may request release of retainage on work that has been partially accepted by Jefferson County in accordance with Section 7, paragraph 7.14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by Jefferson County for partially accepted work.

    b) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 11.8.

2) The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide Jefferson County evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by Jefferson County. When Jefferson County has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

3) When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at Jefferson County's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. Jefferson County may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind Jefferson County to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 11.9, Acceptance and Final Payment.

The Contractor shall deliver to Jefferson County a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to Jefferson County to indemnify Jefferson County against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees Jefferson County may be compelled to pay in discharging any such lien or claim.

11.7 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to Jefferson County. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

1) The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

2) The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

3) The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

4) The Contractor has furnished Jefferson County legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

5) The Contractor has furnished Jefferson County evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and Jefferson County's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

11.8 Payment of withheld funds. At the Contractor's option, if Jefferson County withholds retainage in accordance with the methods described in paragraph 11.6 Partial Payments, the Contractor may request that the Jefferson County deposit the retainage into an escrow account. Jefferson County's deposit of retainage into an escrow account is subject to the following conditions:

1) The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to Jefferson County.

2) The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to Jefferson County and having a value not less than the retainage that would otherwise be withheld from partial payment.

3) The Contractor shall enter into an escrow agreement satisfactory to Jefferson County.

4) The Contractor shall obtain the written consent of the surety to such agreement.

11.9 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 7, paragraph 7.15, Final Acceptance, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by Jefferson County as a claim in accordance with Section 7, paragraph 7.16, Claims for Adjustment and Disputes.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 11.11, Contractor Final Project Documentation, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, Claims for Adjustments and Disputes, or under the provisions of this paragraph, such claims will be considered by Jefferson County in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

11.10 Construction warranty.

1) In addition to any other warranties in this contract, the Contractor warrants that work performed under his contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

2) This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If Jefferson County takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date Jefferson County takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

3) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Jefferson County real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

4) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

5) Jefferson County will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

6) If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, Jefferson County shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

7) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (a) Obtain all warranties that would be given in normal commercial practice; (b) Require all warranties to be executed, in writing, for the benefit of Jefferson County, as directed by Jefferson County, and (c) Enforce all warranties for the benefit of Jefferson County.

8) This warranty shall not limit Jefferson County's rights with respect to latent defects, gross mistakes, or fraud.

11.11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

1) Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

2) Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

3) Complete final cleanup in accordance with Section 6, paragraph 6.9, Final Cleanup.

4) Complete all punch list items identified during the Final Inspection.

5) Provide complete release of all claims for labor and material arising out of the Contract.

6) Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

7) When applicable per state requirements, return copies of sales tax completion forms.

8) Manufacturer's certifications for all items incorporated in the work.

9) All required record drawings, as-built drawings or as-constructed drawings.

10) Project Operation and Maintenance (O&M) Manual(s).

11) Security for Construction Warranty.

12) Equipment commissioning documentation submitted, if required.

AFFIDAVIT OF WARRANTY

CONTRACTOR: _____

PROJECT: Jack Brooks Regional Airport Airfield Lighting Rehabilitation

LOCATION: _____

WORK PERFORMED: _____

_____

FINAL CONTRACT AMOUNT: $_____

CONTRACT DATE: _____

CONTRACTOR warrants and guarantees to the OWNER and that all Work is in accordance with the Contract Documents and will not be defective. CONTRACTOR'S warranty and guarantee hereunder excludes defects or damage caused by;

1) Abuse, modification, or improper maintenance or operation by persons other than the CONTRACTOR, Sub-contractors, Suppliers, or any other individual or entity for whom the CONTRACTOR is responsible; or

2) Normal wear and tear under normal usage.

The Signing Officer, as titled, of said CONTRACTOR, does hereby Guarantee and Warranty in accordance with the Requirements (Plans and Specifications), all Labor and Materials on the said Project, and all work performed under the Contract between _____ AND JEFFERSON COUNTY and/or assign to be free from defects resulting from faulty Workmanship and/or Materials for the Guarantee Period extending from _____ through _____ Upon receipt of written notice from the OWNER or JEFFERSON COUNTY, the CONTRACTOR shall remedy the defects and replace any property damaged therefrom occurring within the warranty and guarantee period, as required.

SIGNING OFFICER: _____ DATE: _____

PRINTED NAME: _____ TITLE _____

Acknowledged by_____, Notary Public.

Printed Name _____

My Commission expires: _____

OFFER AND ACCEPTANCE FORM
OFFER TO CONTRACT

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer.

We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): _____, _____, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

	For clarification of this offer, contact:
Company Name	
Address	Name & Title
City State Zip	Phone Fax
Signature of Person Authorized to Sign	E-mail
Printed Name	
Title	

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

ACCEPTANCE OF OFFER

The Offer is hereby accepted for the following items: Jack Brooks Regional Airport Airfield Lighting Rehabilitation.

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as Contract No. IFB 26-024/MR, Jack Brooks Regional Airport Lighting Rehabilitation. The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

COUNTERSIGNED:

Jeff R. Branick, County Judge **JEFFERSON COUNTY, TEXAS**	**Date**

ATTEST:

Roxanne Acosta Hellberg, County Clerk **JEFFERSON COUNTY, TEXAS**	**Date**

BIDDER: INSERT ALL ADDENDA BEHIND THIS PAGE.
PLEASE BE SURE TO COMPLETE, SIGN, ATTEST, AND DATE EACH ADDENDUM.

<u>BIDDER</u>: INSERT BID SECURITY BEHIND THIS PAGE.

JACK BROOKS REGIONAL AIRPORT BPT AIRFIELD LIGHTING REHABILITATION
UNIT PRICES - BASE BID

Item #	Spec. No.	Description	Unit	Estimated Quantity	Unit Price	Amount
1	SS-120-3.1	Construction Safety and Security	LS	1		
2	SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures	LS	1		
3	SS-300-5.2	Electrical Vault Modifications	LS	1		
4	SS-300-5.3	Existing Lighting Regulator, Removed	EA	3		
5	SS-300-5.4	L-829, 10 kW, Lighting Regulator, Installed	EA	2		
6	SS-300-5.5	L-829, 7.5 kW, Lighting Regulator, Installed	EA	2		
7	SS-300-5.6	Generator and Transfer Switch System, Installed	LS	1		
8	SS-300-5.7	ALCMS Modifications	ALLOW	1		
9	SS-301-5.1	Existing Base Mounted Runway Edge Light, Removed	EA	97		
10	SS-301-5.2	Existing Flush In-Pavement Runway Edge Light, Removed, Blank Cover Installed	EA	9		
11	SS-301-5.3	Existing Base Mounted Guidance Sign, Removed	EA	33		
12	SS-301-5.4	Existing Base Mounted Guidance Sign, Removed, Base to Remain	EA	7		
13	SS-301-5.5	Existing Base Mounted Taxiway Edge Light, Removed, Base to Remain	EA	34		
14	SS-301-5.6	Existing Base Mounted Taxiway Edge Light, Removed	EA	56		
15	SS-301-5.7	Existing Runway End Identification Light System, Removed	EA	3		
16	SS-301-5.8	Existing Base Mounted Runway Threshold Lights, Removed	EA	24		
17	SS-301-5.9	Existing Base Mounted Runway Threshold Lights with Base to Remain, Removed	EA	8		
18	SS-301-5.10	Existing Generator and Transfer Switch, Removed	LS	1		
19	SS-301-5.11	Existing Airport Rotating Beacon Fixture, Removed	LS	1		
20	SS-301-5.12	Existing Base Mounted Runway Edge Light with Base to Remain, Removed	EA	10		
21	SS-301-5.13	Conduit or Duct Bank, Cleared – per Linear Foot	LF	10,350		
22	SS-301-5.14	Abandoned Sign Base, Removed	EA	1		
23	SS-305-5.1	Directional Boring, 1-Way 2"C Polyethylene Conduits	LF	1,400		
24	SS-305-5.2	Directional Boring, 2-Way 2"C Polyethylene Conduits	LF	1,800		
25	SS-310-5.1	Flight Check Mobilization	EA	1		
26	SS-310-5.2	Temporary Airfield Lighting	LS	1		
27	C-105-6.1	Mobilization (Maximum 5% of Total Bid)	LS	1		

Item #	Spec. No.	Description	Unit	Estimated Quantity	Unit Price	Amount
28	L-101-5.1	L-802A(L), Class I Airport Rotating Beacon, In Place	EA	1		
29	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	LF	51,500		
30	L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Connections/Terminations	LF	31,400		
31	L-110-5.1	Non-Encased Electrical Conduit, 1W-2”	LF	25,100		
32	L-110-5.2	Concrete Encased Electrical Conduit, 1W-2” with Sawkerf Pavement Repair	LF	700		
33	L-110-5.3	Non-Encased Electrical Conduit, 2W-2”	LF	650		
34	L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16” Diameter by 24” Depth	EA	11		
35	L-115-5.2	Electrical Junction Structure Plaza, Two L-867 Class 1, Size 16” Diameter by 24” Depth Cans	EA	10		
36	L-115-5.3	2'x3' Airfield Handhole Cover Replacement	EA	3		
37	L-125-5.1	L-849A(L) Runway End Identification Lights System, Installed on Runway 16	LS	1		
38	L-125-5.2	L-849A(L) Runway End Identification Lights System, Installed on Runway 34	LS	1		
39	L-125.5.3	L-849A(L) Runway End Identification Lights System, Installed on Runway 30	LS	1		
40	L-125-5.4	L-850C(L) Low Profile Base Mounted In-pavement Runway Edge Light, Installed In Existing Full Strength Pavemen	EA	8		
41	L-125-5.5	L-862(L) Base Mounted Runway Edge Light, Installed	EA	98		
42	L-125-5.6	L-862(L) Base Mounted Runway Edge Light, Installed on Existing Base	EA	10		
43	L-125-5.7	L-861T(L) Base Mounted Taxiway Edge Light, Installed	EA	4		
44	L-125-5.8	L-861T(L) Base Mounted Taxiway Edge Light, Installed on Existing Base	EA	34		
45	L-125-5.9	L-862E(L) Base Mounted Runway Threshold Light, Installed	EA	24		
46	L-125-5.10	L-862E(L) Base Mounted Runway Threshold Light, Installed on Existing Base	EA	8		
47	L-125-5.11	L-858 Base Mounted, 1-Module Guidance Sign, Installed	EA	9		
48	L-125-5.12	L-858 Base Mounted, 1-Module Guidance Sign, Installed on Existing Base	EA	1		
49	L-125-5.13	L-858 Base Mounted, 2-Module Guidance Sign, Installed on Existing Base	EA	4		
50	L-125-5.14	L-858 Base Mounted, 3-Module Guidance Sign Installed on Existing Base	EA	2		
51	L-125-5.15	L-858 Base Mounted, 4-Module Guidance Sign, Installed on Existing Base	EA	1		
52	P-101-5.2	Pavement Marking Removal	SF	2,080		
53	P-620-5.2	Taxiway Marking, Black (without Reflective Media)	SF	740		
				Total Bid – Base Bid		$

JACK BROOKS REGIONAL AIRPORT BPT AIRFIELD LIGHTING REHABILITATION
UNIT PRICES - ADDITIVE ALTERNATE 1
TAXIWAY E PAVEMENT REMOVAL

Item #	Spec. No.	Description	Unit	Estimated Quantity	Unit Price	Amount
1	SS-120-3.2	Construction Safety and Security (ADD ALT 1)	LS	1		
2	SS-305-5.1	Directional Boring, 1-Way 2"C Polyethylene Conduits	LF	(575)		
3	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	LF	(400)		
4	L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Connections/Terminations	LF	(200)		
5	L-110-5.1	Non-Encased Electrical Conduit, 1W-2"	LF	550		
6	L-110-5.2	Concrete Encased Electrical Conduit, 1W-2" with Sawkerf Pavement Repair	LF	(175)		
7	L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16" Diameter by 24" Depth	EA	(6)		
8	P-101-5.1	Asphalt Pavement Section Removal (9" thick)	SY	6,130		
9	P-101-5.2	Pavement Marking Removal	SF	2,080		
10	P-620-5.1	Runway and Taxiway Marking, Yellow (with Type III Reflective Media)	SF	1,040		
11	P-620-5.2	Runway and Taxiway Marking, Black (without Reflective Media)	SF	740		
12	T-901-5.1	Seeding	ACRE	1		
13	T-905-5.1	Topsoil (8" Thickness)	SY	6,130		
			Total Bid – Additive Alternative 1			$

BIDDER ACKNOWLEDGEMENT OF BID ADDENDA (IF APPLICABLE):

Addendum 1 _____ Date Received_____

Addendum 2 _____ Date Received_____

Addendum 3 _____ Date Received_____

BIDDER: INCLUDE FULL, SIGNED, & ATTESTED COPY OF EACH ADDENDUM ISSUED WITH BID SUBMISSION.

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

VENDOR REFERENCES FORM

Bidder: Please list at least three (3) companies or governmental agencies (preferably a municipality) where the same or similar products and/or services as contained in this specification package were recently provided.

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

REFERENCE ONE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work:

REFERENCE TWO

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work:

REFERENCE THREE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

SIGNATURE PAGE

As permitted under Article 4413 (32c) V.A.C.S., other governmental entities may wish to participate under the same terms and conditions contained in this contract (i.e., piggyback). In the event any other entity participates, all purchase orders will be issued directly from and shipped directly to the entity requiring supplies/services. Jefferson County shall not be held responsible for any orders placed, deliveries made or payment for supplies/services ordered by another entity. Each entity reserves the right to determine their participation in this contract.

Would Bidder be willing to allow other governmental entities to piggyback off this contract, if awarded, under the same terms and conditions? .....**Yes** ☐ **No** ☐

This bid shall remain in effect for ninety (90) days from bid opening and shall be exclusive of federal excise and state and local sales tax (exempt).

The undersigned agrees, if this bid is accepted, to furnish any and all items upon which prices are offered, at the price and upon the terms and conditions contained in the Invitation for Bid, Conditions of Bidding, Terms of Contract, and Specifications and all other items made a part of the accepted contract.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other Bidder or to any other person(s) engaged in this type of business prior to the official opening of this bid. And further, that neither the Bidder nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to bid or not to bid thereon.

Bidder (Entity Name)	Signature
Street & Mailing Address	Print Name
City, State & Zip	Date Signed
Telephone Number	Fax Number
E-mail Address	

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, 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 undersigned, 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 subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

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

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

_____

Signature of Contractor's Authorized Official

_____

Name and Title of Contractor's Authorized Official *(Please Print)*

_____

Date

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

CONFLICT OF INTEREST QUESTIONNAIRE

CONFLICT OF INTEREST QUESTIONNAIRE — FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information in this section is being disclosed.**

_____
Name of Officer

This section (item 3 including subparts A, B, C, & D) must be completed for each officer with whom the vendor has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more?

☐ Yes ☐ No

D. Describe each employment or business and family relationship with the local government officer named in this section.

4

_____ _____
Signature of vendor doing business with the governmental entity Date

Adopted 8/7/2015

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

LOCAL GOVERNMENT OFFICER
CONFLICTS DISCLOSURE STATEMENT – OFFICE USE ONLY

LOCAL GOVERNMENT OFFICER CONFLICTS DISCLOSURE STATEMENT

FORM CIS

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This is the notice to the appropriate local governmental entity that the following local government officer has become aware of facts that require the officer to file this statement in accordance with Chapter 176, Local Government Code.

OFFICE USE ONLY

Date Received

1 **Name of Local Government Officer**

2 **Office Held**

3 **Name of vendor described by Sections 176.001(7) and 176.003(a), Local Government Code**

4 **Description of the nature and extent of employment or other business relationship with vendor named in item 3**

5 **List gifts accepted by the local government officer and any family member, if aggregate value of the gifts accepted from vendor named in item 3 exceeds $100 during the 12-month period described by Section 176.003(a)(2)(B).**

Date Gift Accepted _____ Description of Gift _____

Date Gift Accepted _____ Description of Gift _____

Date Gift Accepted _____ Description of Gift _____

(attach additional forms as necessary)

6 **AFFIDAVIT**

I swear under penalty of perjury that the above statement is true and correct. I acknowledge that the disclosure applies to each family member (as defined by Section 176.001(2), Local Government Code) of this local government officer. I also acknowledge that this statement covers the 12-month period described by Section 176.003(a)(2)(B), Local Government Code.

_____
Signature of Local Government Officer

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20 _____, to certify which, witness my hand and seal of office.

_____ _____ _____
Signature of officer administering oath | Printed name of officer administering oath | Title of officer administering oath

Adopted 8/7/2015

THIS FORM IS FOR OFFICE USE ONLY

GOOD FAITH EFFORT (GFE) DETERMINATION CHECKLIST

Bidder intends to utilize Subcontractors/Subconsultants in the fulfillment of this contract (if awarded).
☐ Yes ☐ No

Instructions: In order to determine if a "Good Faith Effort" was made in soliciting HUBs for subcontracting opportunities, the following checklist and supporting documentation shall be completed by the Prime Contractor/Consultant, and returned with the Prime Contractor/ Consultant's bid. This list contains the **minimum** efforts that should be put forth by the Prime Contractor/Consultant when attempting to achieve or exceed the goals of HUB Subcontractor participation. The Prime Contractor/Consultant may extend his/her efforts in soliciting HUB Subcontractor participation beyond what is listed below.

Did the Prime Contractor/Consultant . . .?

☐ Yes ☐ No 1. To the extent practical, and consistent with standard and prudent industry standards, divide the contract work into the smallest feasible portions, to allow for maximum HUB Subcontractor participation?

☐ Yes ☐ No 2. **Notify** in writing a reasonable number of HUBs, allowing sufficient time for effective participation of the planned work to be subcontracted?

☐ Yes ☐ No 3. **Provide** HUBs that were genuinely interested in bidding on a Subcontractor, adequate information regarding the project (i.e., plans, specifications, scope of work, bonding and insurance requirements, and a point of contract within the Prime Contractor/Consultant's organization)?

☐ Yes ☐ No 4. **Negotiate** in good faith with interested HUBs, and not reject bids from HUBs that qualify as lowest and responsive Bidders?

☐ Yes ☐ No 5. **Document** reasons HUBs were rejected? Was a written rejection notice, including the reason for rejection, provided to the rejected HUBs?

☐ Yes ☐ No 6. If Prime Contractor/Consultant has zero (0) HUB participation, **please explain the reasons why.**

If "No" was selected, please explain and include any pertinent documentation with your bid.
If necessary, please use a separate sheet to answer the above questions.

Printed Name of Authorized Representative	Signature
Title	Date

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

NOTICE OF INTENT (NOI) TO SUBCONTRACT WITH HISTORICALLY UNDERUTILIZED BUSINESS (HUB)

Bidder intends to utilize Subcontractors/Subconsultants in the fulfillment of this contract (if awarded).
☐ Yes ☐ No

Instructions for Prime Contractor/Consultant: Bidder shall submit this form with the bid; however, the information below may be submitted after contract award, but prior to beginning performance on the contract.

Please submit one form for each HUB Subcontractor/Subconsultant with proper signatures, per the terms and conditions of your contract.

Contractor Name: _____ HUB: ☐ Yes ☐ No

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____

Prime Contract Amount: $ _____

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

_____

Printed Name of Contractor Representative	Signature of Representative	Date

Printed Name of HUB	Signature of Representative	Date

Note: Nothing on this Notice of Intent Form is intended to confer any rights, expressed or implied, to any third parties.

Pre-Approval for Subcontractor Substitutions must be obtained from the Jefferson County Purchasing Agent's Representative. The "HUB Subcontractor/Subconsultant Change Form" must be completed and faxed to 409-835-8456.

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB)
SUCONTRACTING PARTICIPATION DECLARATION FORM

PAGE 1 OF 4

Bidder intends to utilize Subcontractors/Subconsultants in the fulfillment of this contract (if awarded).
☐ Yes ☐ No

Prime Contractor: _____ HUB: ☐ Yes ☐ No

HUB Status (Gender & Ethnicity): _____

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____ IFB/RFP No.: _____

Total Contract: $ _____ Total HUB Subcontract(s): $ _____

Construction HUB Goals: 12.8% MBE:: _____ % 12.6% WBE: _____ %

Sub-goals: 1.7 African-American, 9.7% Hispanic, 0.7% Native American, 0.8% Asian American.
Use these goals as a guide to diversify.

FOR HUB OFFICE USE ONLY:

Verification date HUB Program Office reviewed and verified HUB Sub information Date: _____ Initials: _____

PART I. HUB SUBCONTRACTOR DISCLOSURE

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Texas Bldg & Procurement Comm. ☐ Texas Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB)
SUBCONTRACTING PARTICIPATION DECLARATION FORM

HUB Subcontractor Disclosure

PART I: Continuation Sheet (Duplicate as Needed)

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

All HUB Subcontractor Participation may be verified with the HUB Subcontractor(s) listed on Part I.

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB)
SUCONTRACTING PARTICIPATION DECLARATION FORM

PART II: STATEMENT OF NON-COMPLIANCE FOR NOT MEETING HUB SUBCONTRACTING GOALS

Instructions to Bidder: Please complete Good Faith Effort (GFE) Checklist and attach any supporting documentation.

Our firm was unable to meet the HUB goals for this project for the following reasons:

- ☐ All Subcontractors to be utilized are "Non-HUBs." *(Complete Part III)*
- ☐ HUBs were solicited but did not respond.
- ☐ HUBs solicited were not competitive.
- ☐ HUBs were unavailable for the following trade(s):
- ☐ Other: _____

Was the Jefferson County HUB Office contacted for assistance in locating HUBs? ☐ Yes ☐ No

PART III: DISCLOSURE OF OTHER "NON-HUB" SUBCONTRACTS

The Bidder shall use this area to provide a listing of all "Non-HUB" Subcontractors, including suppliers, that will perform under this project. A list of those "Non-HUB" Subcontractors the Bidder selects, after bid submission, shall be provided to the Purchasing Office not later than five (5) calendar days after being notified that Bidder is the apparent low Bidder. A list of those "Non-HUB" Subcontractors that are selected after contract award must be provided **immediately** after their selection.

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB)
SUBCONTRACTING PARTICIPATION DECLARATION FORM

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

I hereby certify that I have read the *HUB Program Instructions and Information*, truthfully completed all applicable parts of this form, and **attached any necessary support documentation as required**. I fully understand that intentionally falsifying information on this document may result in my not receiving a contract award or termination of any resulting contract.

Name (print or type): _____

Title: _____

Signature: _____

Date: _____

E-mail address: _____

Contact person that will be in charge of invoicing for this project:

Name (print or type): _____

Title: _____

Date: _____

E-mail address: _____

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

RESIDENCE CERTIFICATION/TAX FORM

Pursuant to Texas Government Code §2252.001 *et seq*., as amended, Jefferson County requests Resident Certification. §2252.001 *et seq*. of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

(3) "Non-resident Bidder" refers to a person who is not a resident.

(4) "Resident Bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

☐ I certify that _____ [company name] is a Resident Bidder of Texas as defined in Government Code §2252.001.

☐ I certify that _____ [company name] is a Nonresident Bidder as defined in Government Code §2252.001 and our principal place of business is _____ _____ (city and state).

Taxpayer Identification Number (T.I.N.):	
Company Name submitting bid/proposal:	
Mailing address:	
If you are an individual, list the names and addresses of any partnership of which you are a general partner:	

Property: List all taxable property owned by you or above partnerships in Jefferson County.

Jefferson County Tax Acct. No.*	Property address or location**

* This is the property amount identification number assigned by the Jefferson County Appraisal District.

** For real property, specify the property address or legal description. For business property, specify the address where the property is located. For example, office equipment will normally be at your office, but inventory may be stored as a warehouse or other location.

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

HOUSE BILL 89 VERIFICATION

I, _____, the undersigned representative of (company or business name)_____ (heretofore referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.002, Texas Government Code:

1. "**Boycott Israel**" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made ordinary business purposes; and

2. "**Company**" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or an limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business association that exist to make a profit.

_____
Signature of Company Representative

_____
Date

On this _____ day of _____, 20____, personally appeared

_____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

Notary Seal

_____
Notary Signature

_____
Date

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

SENATE BILL 252 CERTIFICATION

On this day, I, Deborah L. Clark, Purchasing Agent for Jefferson County, Texas, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, certify that I did review the website of the Comptroller of the State of Texas concerning the listing of companies that is identified under Section 806.051, Section 807.051, or Section 2253.253 and I have ascertained that the below named company is not contained on said listing of companies which do business with Iran, Sudan, or any Foreign Terrorist Organization.

_____

Company Name

_____

IFB/RFP/RFQ number

Certification check performed by:

_____

Purchasing Representative

_____

Date

THIS FORM IS FOR OFFICE USE ONLY

BID AFFIDAVIT

The undersigned certifies that the bid prices contained in this bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all commodities upon which prices are extended at the price offered, and upon the conditions contained in the specifications and the Notice to Bidders.

STATE OF_____ COUNTY OF_____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____,

on this day personally appeared _____, who
(name)
after being by me duly sworn, did depose and say:

"I, _____ am a duly authorized officer of/agent
(name)
for _____ and have been duly authorized to execute the
(name of firm)
foregoing on behalf of the said_____.
(name of firm)

I hereby certify that the foregoing bid has not been prepared in collusion with any other Bidder or other person or persons engaged in the same line of business prior to the official opening of this bid. Further, I certify that the Bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities bid on, or to influence any person or persons to bid or not to bid thereon."

Name and address of Bidder:_____

_____

Fax: _____ Telephone#_____

by: _____ Title:_____
(print name)

Signature:_____

SUBSCRIBED AND SWORN to before me by the above-named

_____ on

this the _____ day of_____, 20___.

REQUIRED FORM
<u>Bidder</u>: Please complete this form and include with bid submission.

_____
Notary Public in and for
the State of _____

SUPPLEMENTAL SPECIFICATIONS

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ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The Contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The Contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval. No separate payment shall be made for completion of the SPCD.

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Contractor Safety Plan Compliance Documents

Owner Name: **JACK BROOKS REGIONAL AIRPORT**

Airport: **Jack Brooks Regional Airport**

Project Description: **BPT Airfield Lighting Rehabilitation**

Contractor: _____

Each item listed below corresponds to a specific section of the approved CSPP. The Contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principal or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Coordination:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety and Phasing Plan.

Owner: JACK BROOKS REGIONAL AIRPORT	
Contact:	**Phone:**
Engineer:	
Project Manager:	**Phone:**
Project Engineer:	**Phone:**
Construction Observer:	**Phone:**
Materials Testing:	**Phone:**
Contractor:	
Project Manager:	**Phone:**
Superintendent:	**Phone:**
Subcontractors:	**Phone:**
LIST ALL SUBS	

Yes_____No_____

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety and Phasing Plan.

Yes_____No_____

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety and Phasing Plan.

Yes_____No_____

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 “Protection of Navigational Aids (NAVAIDS)” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 “Contractor Access” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 “Wildlife Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 “Foreign Object Debris (FOD) Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 “Hazardous Materials (HAZMAT) Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 “Notification of Construction Activities” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 “Inspection Requirements” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 “Underground Utilities” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 “Penalties” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 “Special Conditions” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with Section 14 “Runway and Taxiway Visual Aids” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 “Marking and Signs for Access Routes” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 “Hazard Marking and Lighting” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

17. Section 17 – Work Zone Lighting for Nighttime Construction: This project shall be completed in accordance with Section 17 “Work Zone Lighting for Nighttime Construction” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

18. **Section 18 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 18 “Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

19. **Section 19 – Other Limitations on Construction:** This project shall be completed in accordance with Section 19 “Other Limitations on Construction” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: _____

_____
Print Name and Title of Contractor's Representative

END OF ITEM SS-101

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ITEM SS-120 CONSTRUCTION SAFETY AND SECURITY

DESCRIPTION

120-1.1 This item covers safety and security for construction of the proposed improvements.

The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Construction Safety and Security."

The item "Construction Safety and Security" shall include:

1. Lighted Barricades and Closed Taxiway and Runway Markers
2. Temporary Relocated Threshold
3. Temporary Signs
4. Temporary Construction Fence
5. Temporary Construction Gate
6. Lockout/Tagout Program
7. Airport Security Requirements
8. Airport Safety Requirements

CONSTRUCTION METHODS

120-2.1 Lighted barricades and closed taxiway and lighted runway markers.

a. The Contractor shall furnish, install, maintain, and remove closed taxiway and lighted runway markers and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted runway markers and barricades shall be constructed and installed as shown on the plans. The lighted barricades shall be constructed and installed as shown on the plans. All lighted barricades and closed taxiway and runway markers shall be constructed in accordance with AC 150/5370-2G Operational Safety on Airports During Construction.

b. All work involved in the furnishing, installation, maintenance, and removal of lighted barricades, barrels and closed taxiway and runway markers will not be measured for separate payment, but will be considered subsidiary to the bid item “Construction Safety and Security.”

120-2.2 Temporary Signs. The Contractor shall furnish, install, maintain, and remove temporary signs in accordance with details on the plans and as directed by the Engineer. All temporary signs shall be constructed in accordance with AC 150/5370-2 Operational Safety on Airports During Construction, latest edition. All work involved in the furnishing, installation, maintenance, and removal of temporary signs will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.3 Temporary Construction Fence. The Contractor shall furnish, install, maintain, and remove temporary construction fencing with details on the plans and as directed by the Engineer. All temporary fencing shall be constructed in accordance with AC 150/5370-10 Standard Specifications for Construction of Airports, latest edition. All work involved in the furnishing, installation, maintenance, and removal of temporary fencing will not be measured for separate payment but will be considered subsidiary to the bid item “Construction Safety and Security.”

120-2.4 Temporary Construction Gate. The Contractor shall furnish, install, maintain, and remove temporary construction gates with details on the plans and as directed by the Engineer. All temporary gates shall be constructed in accordance with AC 150/5370-10 Standard Specifications for Construction of Airports, latest edition. All work involved in the furnishing, installation, maintenance, and removal of temporary gates will not be measured for separate payment but will be considered subsidiary to the bid item “Construction Safety and Security.”

120-2.5 Lockout / Tagout program. The Contractor shall submit a complete copy of an electrical energy source Lockout/Tagout Program in accordance with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, that meets the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335. Implementation of the Lockout/Tagout Program and the related safety requirements are the sole responsibility of the Contractor.

120-2.6 Airport security requirements. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.7 Airport safety requirements. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

MEASUREMENT AND PAYMENT

120-3.1 Construction safety and security will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Construction Safety and Security", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-120-3.1	Construction Safety and Security - per Lump Sum
Item SS-120-3.2	Construction Safety and Security (ADD ALT 1) – per Lump Sum

END OF ITEM SS-120

ITEM SS-300 BASIC ELECTRICAL REQUIREMENTS

DESCRIPTION

300-1.1 This item shall consist of furnishing and installing complete electrical systems as defined in the plans and in these specifications. The work includes the installation, connection and testing of new electrical systems, equipment and all required appurtenances to construct and demonstrate proper operation of the completed electrical systems.

300-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

300-1.3 This work shall consist of lockout/tagout and constant current regulator calibration procedures at the airport electrical vault in accordance with the design and details shown in the plans and in compliance with these specification documents.

300-1.4 This work shall also consist of modifications to the existing airport electrical vault in accordance with the design and dimensions shown in the plans. This work shall also include renovation of the existing electrical vault and the demolition and removal of equipment and items in the existing electrical vault building in accordance with the details shown in the plans.

EQUIPMENT AND MATERIALS

300-2.1 Standards.

a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
   (1) NFPA 70 - National Electrical Code.
   (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
   (3) NFPA 101 - Life Safety Code.
   (4) Internet Website: http://www.nfpa.org
b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
   (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
   (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
   (3) Internet Website: http://www.gpoaccess.gov/cfr/index.html
c. ANSI/IEEE C2 - National Electrical Safety Code.
d. NECA 1 – Standard for Good Workmanship in Electrical Construction.
e. Applicable Federal, State and Local Electrical Codes.
f. Applicable Federal, State and Local Energy Codes.
g. Applicable Federal, State and Local Building Codes.
h. Applicable Federal, State and Local Fire Codes.
i. Applicable City Electrical Code.
j. Applicable City Ordinances pertaining to electrical work.
k. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.

Contractor shall utilize the most current editions of standards, which are current at time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

300-2.2 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified and listed under Advisory Circular (AC) 150/5345-53, Airport Lighting

Equipment Certification Program, current version on the date that the submittals are received by the Engineer. When an equipment advisory circular is being updated and two equipment lists for the same specific equipment are listed in the current certified equipment AC 150/5345-53 addendum, only that equipment qualified to the latest advisory circular will be acceptable.

b. Airport lighting equipment and materials shall also meet the Buy American Preference requirements in 49 USC 50101 and the Aviation Safety and Capacity Expansion Act. The equipment shall be approved and listed on the FAA "Equipment Meeting Buy American Requirements" list located at *www.faa.gov/airports/aip/procurement/federal_contract_provisions/*, current version on the date that the submittals are received by the Engineer, or the Contractor may submit a signed formal letter from the manufacturer that clearly lists the specific equipment, model number, location where it is manufactured, and statement certifying that the equipment and/or materials meet the Buy American Preference requirements.

c. 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. All equipment and materials shall be new and meet applicable manufacturer's standards. All electrical components and products shall be tested and listed by an OSHA accepted, nationally recognized testing laboratory (NRTL) to conform to the standards indicated in these contract documents and to the industry standards required in the NEC, NEMA, IEEE, UL, and applicable FAA advisory circulars.

d. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

e. 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 pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components or 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.

f. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Contract Documents plans and specifications. The Engineer reserves the right to reject all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

g. 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.

(1) All LED light fixtures, except for obstruction lighting, shall be warranted by the manufacturer for a minimum of 4 years after date of installation, final acceptance testing by the Engineer, and Owner's beneficial use of the equipment, inclusive of all electronics. Refer to FAA Engineering Brief No. 67D for additional requirements.

h. After approval of submitted equipment, the Contractor shall supply the following Operation and Maintenance Manual documentation to the Owner. Two (2) complete sets of documentation shall be

supplied for each model of equipment. The documentation shall be securely bound in heavy-duty 3-ring binders. The information for each piece of equipment shall be indexed using typewritten label tabs. The spine of each binder shall have a typewritten label, which indicates the included equipment types. The documentation shall include:

(1) Approved Submittals and Shop Drawings
(2) Cable Splicer Qualifications, Type and Voltage
(3) State Contractors License with Electrical Classification
(4) Master, Journeyman and Apprentice Electrician Licenses and Certifications
(5) Lockout/Tagout Program
(6) Installation Manuals
(7) Operation Manuals
(8) Maintenance Manuals
(9) Parts Lists, including recommended spare parts. Recommended spare parts shall be furnished with the respective equipment.
(10) Ground Rod Impedance Test Reports
(11) Cable Pulling Tension Value Logs
(12) Insulation Resistance Test Reports
(13) Regulator Load and Calibration Reports for testing, checking and adjusting all regulators in the electrical vault
(14) Bolt torque requirement shop drawings and calculations

i. After approval of the O&M Manuals, the Contractor shall provide three (3) complete electronic copies of all documentation in Adobe PDF file format on CD-R (non-rewriteable) discs storage media. The electronic files shall contain searchable text and include a hyperlink index for ease in locating information with the PDF file.

j. All requirements herein Item SS-300 shall be applicable to all referenced sections in these contract documents and applicable to all sections, which reference Item SS-300.

k. Electronic PDF copies of the O&M manuals shall be saved within a “specific job number and project name” folder on the ALCMS computer system.

l. The Contractor is the single source of responsibility for the installation and integration of the airport’s lighting, power, and control systems. New airport lighting equipment and materials shall be fully compatible with all other new and existing airport lighting equipment and systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-2.3 Operation and maintenance data.

Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment. Provide bound hard copies and electronic copies as noted in section 300-2.2.

a. Certificate of Substantial Completion, Release and Contractor’s Affidavit, executed copies.

b. Final approved equipment submittals, including product data sheets and shop drawings, clearly labeled.

c. Installation manuals: Description of function, installation and calibration manuals, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

d. Operations manuals: Manufacturer's printed operating instructions and procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions; and all programming and equipment settings.

e. Maintenance manuals: Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.

f. Service manuals: Servicing instructions and lubrication charts and schedules, including the names and telephone numbers of personnel to contact for both routine periodic and warranty service for equipment and materials provided under this Specification.

g. Final test reports, clearly labeled, including but not limited to, insulation resistance test reports, ground rod impedance test reports, cable pulling tension values logs, and equipment certification tests.

h. Final certified calibration sheets for all equipment and instruments.

i. Preventive maintenance programs for the visual aid facilities and equipment installed in this project, including the applicable equipment sections within Chapter 5 “Preventive Maintenance” from AC 150/5340-26 (latest edition) “Maintenance of Airport Visual Aid Facilities”.

300-2.4 Switches. Main disconnect switches 600 volt or less shall be UL service entrance rated, industrial circuit breaker type, pad-lockable, heavy duty type with neutral and ground kits and poles and ratings as indicated on the drawings and suitable for the application indicated. Exterior switches shall be NEMA 3R rated.

300-2.5 Overcurrent protective devices.

a. Circuit Breakers: Circuit breakers shall be the molded-case type, as indicated, with each pole equipped with inverse time and instantaneous overcurrent tripping devices. Circuit breakers shall be UL listed. Single pole breakers shall be full module size; two poles shall not be installed in a single module. Multi-pole breakers shall be of the common-trip type having a single operating handle, and for sizes of 50 amperes or less may consist of single pole breakers permanently assembled at the factory into a multi-pole unit. Circuit breakers used for motor disconnects and not in sight of the motor controller shall be capable of being locked in the open position. Minimum interrupting rating shall be as shown.

b. Fuses: All fuses shall be Bussman; Gould-Shawmut, or equal. Plug fuses are not acceptable. Cartridge fuses shall be rated at 250 or 600 volts, as applicable, and shall conform to the requirements of UL 198 and NEMA Standard FU-1. 600 volts or less fuses shall be rated at 200,000 Amperes Interrupting Capacity.

300-2.6 Panelboards. Furnish and install panelboards as indicated on the Drawings. Breakers shall be bolted type and have available fault current interrupting capacity as scheduled. Single pole breakers shall be full module size; two poles shall not be installed in a single module. All multi-pole breakers shall be common trip.

a. Panels shall be fully rated; series rated panels are not acceptable.

b. The panels shall be load balanced by measuring the loads and making circuit changes. Record the load readings before and after changes and submit test records. Differences exceeding 20 percent between phase loads, within a panelboard, are not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

c. The panel shall be UL listed, service entrance rated, and fully bussed with copper bussing, copper neutral bussing, and copper ground bar. All bolts used to connect current carrying parts together shall be front accessible. The panel shall have a securely attached metal nameplate listing the manufacturer, shop order number, panel type, voltage, ampacity and short circuit withstand rating. An individual terminal or lug shall be provided for each neutral allowing one wire per terminal.

d. The panel shall be surface mounted with semi-flush locking doors and matching keys. The Contractor shall provide a typed directory and install the same in the holder behind the transparent protective covering in the panels. Provide an exterior nameplate with panel and name, mounted at the top of the panel above the door. Doors shall match enclosures. Indoor surface mounted enclosures shall have pre-punched knockouts. The panels shall be General Electric, Square D, Cutler Hammer, or approved equal.

e. Panelboards and breakers shall conform to the requirements of Fed. Spec. W-P-115.

300-2.7 Control and timing relays. All relays shall be plug-in type relays and shall be furnished with socket base and all required mounting accessories; provide Allen-Bradley Bulletin 700 Type or approved equal. Provide relays with contacts meeting the ampacity rating requirements as indicated in the plans and as required for the equipment load to be connected and controlled.

300-2.8 Wire.
Unless otherwise indicated, conductors No. 10 AWG and smaller shall be solid, and conductors No. 8 AWG and larger shall be stranded.

For electrical work of 600 volts or less, all conductors, terminations, terminal blocks, lugs, connectors, devices and equipment shall be listed, marked, and rated 75 degrees C minimum unless otherwise noted.

Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway. Pull ropes and pull wires shall have sufficient tensile strength for the cable(s) to be pulled and installed. Damaged cable or raceway shall be replaced at no additional cost to the Owner. Calculate and do not exceed the maximum allowable pulling tension or maximum allowable sidewall bearing pressure for all conductors and cables.

Install pull wires in empty raceways. Use a polypropylene plastic line with not less than 200-pound tensile strength. Secure and leave at least 12 inches of slack at each end of pull wire to prevent it from slipping back into the conduit. Cap spare raceways with removable tapered plugs, designed for this purpose.

300-2.9 Concrete. Concrete shall conform to Item P-610, Concrete for Miscellaneous Structures, with a minimum 28-day compressive strength of 4000 PSI (unless otherwise noted) using 1-inch (25-mm) maximum size coarse aggregate, as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

300-2.10 Transformer dry type. Dry type transformers shall be installed as indicated.

Dry-Type Distribution Transformers (45 kVA and above): Provide energy-efficient, factory-assembled, shielded, general-purpose, ventilated, dry-type distribution transformers where shown; of sizes, characteristics, and rated capacities indicated; 3-phase, 60-hertz, 4.00% nominal impedance; with voltage ratings as shown on the drawings. For three-phase transformers provide primary windings with 6 taps; 2, 2-1/2% increments above full-rated voltage and 4, 2-1/2% increments below full-rated voltage for de-energized tap-changing operation. Insulate with Class 220 insulation. Rate transformer for continuous overload of 115% of rated kVA; limit transformer surface temperature rise to maximum of 65 degrees Celsius. Provide terminal enclosure, with hinged cover, to accommodate primary and secondary coil wiring connections and electrical supply raceway terminal connector. Provide terminal board with clamp type connectors. Limit terminal compartment temperature to 75 degrees Celsius when transformer is operating continuously at rated load with ambient temperature of 40 degrees Celsius. Provide wiring connections

suitable for copper or aluminum wiring. Integrally mount vibration isolation supports between core and coil assembly and transformer enclosure such that the vibration isolation system provides a solid and permanent fastening; electrically ground core and coils to transformer enclosure by means of flexible metal grounding strap. Do not exceed maximum sound-level rating of 50 dB as determined in accordance with ANSI/NEMA standards. Provide transformers with heavy gauge sheet steel ventilated enclosures and lifting lugs. Apply manufacturer's standard light gray outdoor enamel over cleaned and phosphatized steel enclosure. Provide floor mounting and install and secure the transformer to the concrete housekeeping pad.

300-2.11 Constant current regulators. Constant current regulators shall be:

a. L-829, constant current regulator with integral control, monitoring, and meggering, Ferroresonant type for runway regulators and Thyristor type for taxiway regulators.
b. Class 1, (6.6 amps)
c. Style 1, (3 brightness steps) or Style 2, (5 brightness steps) as indicated in the Plans
d. 240 VAC, 1-phase, 60 Hz
e. Remote S-1 Cutout
f. Integral distributed control and monitoring system including current voltage module (output power monitoring of the current, voltage, apparent power in VA, true power in Watts, and power factor), and insulation resistance monitoring module

The output power rating of the regulators shall be as noted on plans and meet the criteria set forth in the most current version of AC 150/5345-10, Specification for Constant Current Regulators and Regulator Monitors. The output power rating of all existing and new regulators within the electrical vault shall be tested, checked and adjusted to meet the AC criteria prior to placing the airfield lighting circuits into service.

Regulators with output winding power taps shall have a dedicated separate nameplate on the front of the regulator indicating the power tap setting and this setting shall also be recorded in the as-built drawings. Power taps shall be set as shown on the plans or as indicated by the Engineer to provide the highest operation efficiency for the specified lighting load.

Each regulator shall be equipped with the following options:

a. Internal 120 VAC control power transformer
b. Remote/Local and Intensity control selector switches
c. Output ammeter
d. Input and output current surge limitation
e. Circuit isolation
f. Open circuit protection
g. Overcurrent protection
h. Lightning arresters across the output terminals

The regulators shall be supplied with all features and accessories required for a complete installation as defined in these Specifications and as shown on the plans.

The trip rating of all circuit breakers which are used to protect constant current lighting circuit regulators shall be coordinated with the approved regulator manufacturer. The manufacturer's recommended circuit breaker size shall be submitted to the Engineer for approval.

The Contractor shall submit his initial regulator load test reports prior to any work on the electrical system. The Contractor shall test all regulators within the electrical vault and submit these reports to the Engineer prior to Contractor proceeding with his work.

The Contractor shall calibrate all new and existing regulators following construction and prior to final acceptance testing in accordance with FAA AC 150/5340-26 “Maintenance of Airport Visual Aid Facilities” and manufacturer’s recommendations. Contractor shall submit calibration report to Engineer.

After final acceptance testing has been completed, the Contractor shall complete and submit his final regulator load test reports to the Engineer for all regulators and insert copies of the final regulator load test reports in the Operation and Maintenance Manuals.

Consult with the regulator and REIL system manufacturers prior to installation, since the REIL systems will be powered by the regulator series circuit via a power adapter. Make all final connections as required.

CONSTRUCTION METHODS

300-3.1 Lockout/tagout program. The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.

The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.

Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.

300-3.2 Safety program. The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.

Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

All work involved in the preparation and implementation of the safety program will not be measured for separate payment but will be considered subsidiary to the lockout/tagout bid item.

300-3.3 Preconstruction meeting.

A preconstruction meeting will be held with the Airport, FAA, Engineer and Contractor, prior to any work. Complete submittals and shop drawings will be submitted at this time for review. An equipment procurement schedule will be provided by the Contractor with an anticipated field construction start date. The progress construction schedule will be submitted for review each week and shall outline all installation, testing and demolition work.

300-3.4 General.

The Contractor shall be responsible for coordinating all electrical work with the Utility. The Contractor shall provide temporary service conductors and raceway system. The Contractor shall then provide and connect permanent service conductors and raceway system after the completion.

All secondary conductors and controls, signaling and lighting shown in or on buildings are included in this project. Electrical service shall be extended from the service equipment as indicated.

In general, the various electrical equipment and material to be installed by the various trades under this specification shall be run as indicated, as specified herein, as required by particular conditions at the site, and as required to conform to the generally accepted standards to complete the work in a neat and satisfactory manner. The following is a general outline concerning the running of various systems and is to be expected where the drawings or conditions at the buildings necessitate deviating from these standards.

The drawings and specifications are complementary; any work required by one, but not by the other, shall be performed as though required by both.

The Contractor shall maintain copies of all equipment installation manuals on site during construction.

All conduits shall be run exposed in the equipment rooms or run concealed as indicated.

The construction details of the building are illustrated on the drawings. Each Contractor shall thoroughly acquaint himself with the details before submitting his bid as no allowances will be made because of the Contractor's unfamiliarity with these details.

The electrical plans do not give exact locations, etc., and do not show all the offsets, control lines, junction boxes, and other installation details. Each Contractor shall carefully lay out his work at the site to conform to the job conditions, to conform to details of installation supplied by the manufacturers of the equipment to be installed, and thereby to provide complete operating systems.

The electrical plans show diagrammatically the locations of the various electrical outlets and apparatus and the method of circulating and controlling them. Exact locations of these outlets and apparatus shall be determined by reference to the general plans and to all detail drawings, etc., by measurements at the buildings, and in cooperation with other crafts, and in all cases shall be subject to the approval of the Engineer. The Engineer reserves the right to make any reasonable change in location of any outlet or apparatus before installation, without additional cost to the Owner.

These Specifications and the accompanying Drawings are intended to cover systems which will not interfere with the structure of the buildings, which will fit into the several available spaces, and which will insure complete and satisfactory systems. Each bidder shall be responsible for the proper fitting of his material and apparatus into the buildings.

Should the particular equipment which any bidder proposes to install require other space conditions than those indicated on the Drawings, he shall arrange for such space with the Engineer before submitting his bid. Should changes become necessary because of failure to comply with this clause, the Contractor shall make such changes at the Contractor's expense.

Should the particular equipment which any bidder proposes to install require other installation methods, such as larger light base junction structures, etc., he shall include all such equipment and appurtenances in his bid. Should changes become necessary because of failure to coordinate equipment requirements and comply with this clause, the Contractor shall make such changes at the Contractor’s expense.

The Contractor shall be responsible to see that each party furnishes electrical equipment which meets the electrical requirements specified herein and that all systems work together to produce the specified operation.

Where two or more units of the same kind or class of equipment are required, these shall be products of a single manufacturer; however, the component parts need not be the products of one manufacturer.

Each Contractor shall submit working scale drawings of all his apparatus and equipment which in any way varies from these Specifications and Plans, which shall be checked by the Engineer and approved before

the work is started, and interferences with the structural conditions shall be corrected by the Contractor before the work proceeds.

Electrical equipment, such as switchgear, switchboards, panelboards, load centers and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

All electrical equipment shall be securely mounted as indicated in the plans, as required by the contract specifications, as required by guidelines and codes, and as required by the manufacturer using hardware compliant with the environmental conditions.

Interior components of electrical enclosures shall be securely mounted using appropriate hardware within the enclosure. Adhesives or adhesive tapes/strips are not allowed and are prohibited.

Electrical components, including but not limited to, relays, circuit boards, electronics, etc., shall be installed within approved enclosures.

The Contractor shall keep ends of conduits, including those extending through roofs, equipment and fixtures covered or closed with caps or plugs to prevent foreign material from entering during construction.

Where portions of raceways are known to be subjected to different temperatures, where condensation is a problem, and where passing from interior to exterior of a building, the portion of raceway or sleeve shall be filled with an approved material to prevent the circulation of air, prevent condensation, and prevent moisture entry. Sealing of raceways shall not occur until after the conductors and cables have been installed, tested and accepted by the Engineer.

The Contractor shall install any temporary lines and connections required to maintain electric services and safely remove and dispose of them when complete.

All temporary wiring shall conform to OSHA standards. Remove temporary services when work is complete. Any damage to electrical equipment caused by the Contractor shall be repaired at no cost to the Owner.

All non-current carrying parts and neutrals shall be grounded as indicated on the Drawings or as required by the Codes.

White and/or gray outer finish conductors may only be used as grounded conductors or neutral conductors in accordance with NEC.

Install insulated green equipment grounding conductors with all feeder and branch circuits.

Provide separate insulated equipment grounding conductors from grounding system to each electrical equipment, telecommunication equipment, other special electrical system equipment, and appurtenance item location in accordance with NFPA 70 and other applicable standard requirements.

The bidder shall inspect the site, thoroughly acquaint himself with conditions to be met and work to be accomplished. Failure to comply with this shall not constitute grounds for any additional payments.

Where electrical equipment is installed that causes electrical noise interference with other systems either existing or installed under this contract, the offending equipment shall be equipped with isolating transformers, filters, reactors, shielding, or any other means as required for the satisfactory suppression of the interferences, as determined by the Engineer.

All junction boxes, expansion joints, flexible connections, instruments and similar items requiring servicing or repairs shall be installed in an accessible location.

All salvage and equipment removed by the work shall remain the property of the Owner. Material removed from the project shall be stored on the project site where and as directed. Debris shall be removed from the job site and disposed of by the Contractor.

The Contractor shall maintain his work area clean and orderly at all times. Debris shall be removed promptly. The electrical system shall be thoroughly cleaned inside and outside of all enclosures to remove all metal shavings or other work debris, dust, concrete splatter, plaster, paint and lint.

The Contractor shall do all excavating and backfilling made necessary by electrical work and shall remove all surplus or supply any earth required to establish the proper finished grade.

The Contractor shall do all cutting and patching made necessary by electrical work, but in no case shall he cut through or into any structural member without written permission of the Engineer.

All steel conduits, supports, channels, fittings, nuts, bolts, etc. shall be galvanized, corrosion-resistant type unless otherwise noted.

An approved anti-seize compound shall be used on all threads to prevent equipment and thread damage.

Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes to be properly sealed, fire proofed and waterproofed. Any water leaks arising from project construction will be immediately corrected to the satisfaction of the Owner and the Engineer.

300-3.5 Power supply equipment. Electrical equipment, such as switchgear, switchboards, panelboards, load centers, and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

If shown in the plans, the power supply equipment shall be set on concrete housekeeping pads to provide a minimum space of 3-1/2 inches between the equipment and the floor. All equipment shall be secured to the floor or wall in accordance with the manufacturer's recommendations and these contract document requirements.

300-3.6 Duct and conduit. Conduits shall be galvanized rigid steel unless otherwise indicated or specified. Refer to one-line diagram conduit notes for specific requirements.

Conduit runs shall be one trade size continuously with no reducers allowed. Changing of conduit size is only permitted at manholes, handholes, and boxes and conduit bodies used as outlet, device, junction, or pull boxes, including approved, listed fittings with removable covers.

Use an approved, listed adapter/coupling to convert to other types of conduit. Reducer couplings are not allowed.

For underground service entrance, feeder and branch circuit raceways, offsets and bends over 30 degrees and elbows in Schedule 40 PVC conduit runs shall be Schedule 80 PVC conduit. Underground service entrance PVC conduits shall be concrete encased unless otherwise noted. Underground PVC conduits shall be concrete encased under driveways, roadways, parking lots and other paved areas.

Non-encased conduits shall convert to concrete encased ducts under all paved areas and shall extend at least 3 feet beyond the edges of the pavement unless otherwise noted.

The Contractor shall provide a staked centerline or offset for the duct and manhole system - utilizing the drawings and a site inspection of the existing grounds, grades and utility crossings. The Owner and Engineer shall approve the staking plan that shall be indicated on a drawing submitted for approval before starting any excavation for the ducts. The staking plan shall indicate the proposed location, elevation and dimensions of manholes and handholes. The Engineer reserves the right to adjust duct, manhole and handhole locations and elevations before installation at no additional cost to the Owner.

The bottom surface of trenches shall be essentially smooth and free from coarse aggregate.

Install grounding-and-bonding type bushings and bonding jumpers on all service entrance conduits and on all feeder and branch circuit conduits.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

When EMT is allowed, utilize only steel compression fittings. Die-cast and set-screw fittings shall not be used.

Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing lock nuts shall not be used.

Grounding continuity to rigid metal conduit shall be accomplished by grounding bushings/adapters with lugs for connection to grounding counterpoise and/or grounding electrode conductor as defined by NEC.

All exposed wiring shall be run in not less than 1/2 inch (12 mm) galvanized rigid steel conduit. All conduits shall be installed to provide for drainage. Conduit shall be attached to wooden structures with galvanized pipe straps and fastened with galvanized wood screws not less than No. 8 nor less than 1-1/4 inches (31 mm) long. There shall be at least two fastenings for each 10-foot (3 m) length.

Existing ducts may require clearing before use. It is the responsibility of the Contractor to locate the existing ducts, identify empty or partially empty conduits and clear the conduits as required. Where new cable is to be installed in existing duct, the full length of the duct shall be cleared of debris by mechanical means before the installation of the new cable. Acceptable methods of clearing existing ducts include "hydro-jetting" and "roto-rooting." All existing cables in each re-used duct shall be replaced for the length of the duct and properly spliced in a method approved by the Engineer. Clearing of existing duct banks or conduits is incidental to the cable pay item.

Dedicated ground rods shall be installed and exothermically welded to the counterpoise wire at each end of a duct bank crossing under pavement.

For concrete markers, the impression of letters shall be done in a manner, approved by the Engineer, to affect a neat, professional appearance. The letters shall be stenciled neatly. After placement, all markers shall be given one coat of high-visibility aviation orange paint, as approved by the Engineer.

Existing concrete markers or survey pins for runway thresholds, duct/conduit/cable/splice markings, utility line markings, taxiway points of tangency markings, or other similar items shall be removed and reinstalled or replaced, depending on the project work requirements, as required by a registered professional surveyor to the satisfaction of the Owner and the Engineer.

300-3.7 Junction boxes.

Junction cans shall have both internal and external ground lugs. Size (diameter) and depth shall be as specified in the plans.

In-pavement light bases shall be Class 1A for areas not subject to deicing fluid, or Class 1B stainless steel type, having been subjected to corrosion testing and found resistant to deicing fluids containing potassium acetate.

Galvanized cans shall have an external ground lug for mechanical connection/bolting ground clamps bonding. Stainless steel cans shall have an external stainless-steel rod for exothermic weld bonding.

300-3.8 Concrete structures.

For concrete structures, each cover and frame shall be galvanized and have a spring assisted, latching mechanism allowing one individual to open the manhole hinged cover(s) using the recessed lifting handles. Covers shall be secured by stainless steel [penta-head] bolts.

For manholes and handholes, cables shall be well supported on the walls using heavy-duty non-metallic cable racks with multiple arms per stanchion and wide type wire ties for securing the cables. Handholes shall have at least one stanchion on each wall and manholes shall have at least two stanchions on each wall. Adjustable arms shall lock into the stanchion. Stanchion and arm lengths shall be appropriate for the manhole or handhole size and the amount of cables to be supported. At least one spare unused arm stall be installed at each stanchion position. Stainless steel hardware shall be used to securely mount and secure the cable racks to the walls.

Manhole and handhole covers shall have custom legends. Coordinate exact text with the Engineer during product submittal reviews.

300-3.9 Backfill, compaction, and restoration. Refer to the backfill, compaction and restoration requirements within Item P-152 where other compaction requirements are specified (under pavements, embankments, etc.)

Trenches shall be backfilled and compacted in 6” layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer or Construction Observer. The Contractor shall ensure all trenches are inspected prior to being covered and prior to encasement. Any uninspected trenches which are prematurely covered shall be exposed for inspection at the Engineer and Owner’s convenience at no additional cost to the Owner. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

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.

All concrete/asphalt pavement removal and repair work shall be installed as separate pay items in accordance with Specification P-101 Preparation/Removal of Existing Pavements.

300-3.10 Cable and utility coordination. The existing and the proposed locations of lighting cable are approximate. The Contractor shall be responsible for field locating and identifying the existing lighting circuits to determine their exact routing. The Contractor shall also be responsible for maintaining the lighting systems in a working condition until the new lighting circuits have been installed and tested. The Contractor shall proactively and expeditiously accomplish this cable identification work prior to performing any modifications to the lighting circuits. Coordinate identification work with the Owner and Engineer and make all corrections, additions, etc. on the as-built drawings.

Underground cable and utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these cables and utilities on the Plans. All existing cable and utilities may not be shown on the Plans and the location of the cables and utilities shown may vary from the location shown on the Plans. Prior to beginning of any type of excavation, the Contractor shall contact the utilities, the airport maintenance staff, FAA field personnel and other organizations as required and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the cable and utility location markings until they are no longer required.

The Contractor shall replace or repair any underground cable or utility that has been damaged by the Contractor during excavation to the satisfaction of the owner of the cable or utility at no additional cost to the Owner.

The Contractor shall be responsible for all coordination work associated with existing and new utilities, their marking, their identification, proposed outages/shutoffs, connections, cutovers, etc.

300-3.11 Wiring. The Contractor shall furnish all labor and materials and shall make complete electrical connections in accordance with the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Provide color-coding for phase identification.

Colors for 240/120V Circuits:

a. Phase A: Black
b. Phase B: Red
c. Neutral: White

All new electrical cable shall be marked using color-coded plastic electrical tape, which is specifically designed for application on polyethylene-jacketed cable. The tape shall be applied as detailed on the Plans. Marking tape shall be Scotch 35 Vinyl Plastic tape or approved equal.

300-3.12 Marking and labeling. Properly identify all electrical equipment.

Wire/Cable Designation Tape Markers:

a. Indoor Dry Locations: UL Recognized Materials, vinyl or vinyl-cloth, self-adhesive, wraparound, self-laminating, cable/conductor markers with computer printer-generated numbers and letters, minimum 1” width. Provide Brady B-427 with thermal transfer print type or approved equal.

b. Outdoor Locations and Indoor Wet and Damp Locations: White polyolefin, non-adhesive, full circle, heat-shrinkable sleeve, cable/conductor markers with computer printer-generated numbers and letters, minimum 1” width. Provide Brady B-342 with thermal transfer print type or approved equal.

Properly identify all electrical equipment, including but not limited to the following:

a. Switchgear, switchboards, and control panels.
b. Main distribution panel and individual devices within it.
c. Panelboards and individual devices within it.
d. Safety switches and disconnects.
e. Contactors and lighting control center, including all branch circuits.
f. Individually mounted circuit breakers.
g. Starters and relays.
h. Transformers.
i. Generators and automatic transfer switches.

Use permanently attached black phenolic plates with 3/8” white engraved lettering on the face of each, attached with minimum two sheet metal screws. Starters and relays connected under this Specification shall be identified whether furnished under this Specification or under other Specifications of this contract. Plates shall be indoor or outdoor rated as required by installation location.

Panelboard identification plates shall indicate panel by identification name, voltage system, ampacity rating and type, AIC rating, and feeder source description.

Identify each receptacle, light switch, junction box, etc. with panelboard identification and circuit number. For all wiring device covers, use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

Identify fire alarm junction boxes with red covers and mechanical control junction boxes with blue covers.

Install all identification as required by current adopted editions of the NFPA 70 - National Electrical Code and NFPA 70E - Standard for Electrical Safety in the Workplace.

300-3.13 Removal and relocation of existing equipment. The Contractor shall carefully remove all salvageable equipment as indicated on the Plans. Any equipment which is damaged during the removal operation shall be subject to a reduction in payment for removal of the equipment. All equipment which is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

The Contractor shall carefully relocate existing equipment as indicated in the Plans. Any equipment that is damaged during the relocation operation shall be replaced at no additional cost to the Owner.

Any existing electrical equipment, conduit, cables, etc. that is damaged during construction shall be replaced at no additional cost to the Owner to the satisfaction of the Owner and the Engineer.

300-3.14 Electrical vault conduit and wiring. Electrical work within the electrical vault shall be installed in accordance with specific FAA Advisory Circular requirements, including but not limited to the following:

Install all conduit and wiring in the electrical vault or shelter in accordance with NEC and local electrical code requirements.

Install all power and control cables in conduit or enclosed wire ways. The standard L-824 airfield lighting primary series circuit cable does not comply with NEC for installation in open cable trays. High voltage conductors (exceeding 600 volts) shall be installed within rigid steel galvanized conduit, intermediate metal conduit, flexible metal conduit, liquid tight flexible metal conduit, metal wire ways, or PVC conduit. Low voltage feeders and control wires shall be installed within rigid steel galvanized conduit, intermediate metal conduit, or electrical metallic tubing (EMT) when run on the walls or ceiling; and in cable trays supported from the ceiling or walls when there are many cables and the possibility of future expansion. Do not install conduit in concrete slabs on grade.

Install the primary series cables from the regulators and various other feeders out of the vault in coated rigid steel galvanized conduit or PVC conduit, a minimum of 2 feet below grade.

Do not use PVC above the ground-level slab of buildings, vaults or shelters. PVC shall convert to coated galvanized rigid steel conduit prior to its emergence; no PVC shall emerge from the ground or concrete slab or encasement. Use manufactured sweep bend, coated galvanized rigid steel conduit elbows for stub-up risers. Coated galvanized rigid steel conduit shall transition to non-coated galvanized rigid steel conduit no sooner than 3” above finished grade.

300-3.15 Certification and performance. Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport

Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-3.16 As-built drawings. The Contractor shall keep one (1) full-sized set of prints for As-Built Drawings at the site, in good order, and annotated to show all changes made during the construction process.

The Contractor shall locate all underground and concealed work, identifying all equipment, conduit, circuit numbers, motors, feeders, breakers, switches, and starters. The Contractor will certify accuracy by endorsement. As-Built drawings shall be correct in every detail, so Owner can properly operate, maintain, and repair exposed and concealed work.

The As-Built drawings shall indicate all control system labeling and marking.

The Contractor shall store the As-Built drawings on the site. Drawings shall not be rolled. Make corrections, additions, etc., with pencil, with date and authorization of change.

As-Built drawings must be submitted to Engineer before project will be accepted.

Minor deviations from the Plans and Specifications shall be as approved by the Engineer.

Upon completion of the installation, the Contractor shall adjust the systems to the satisfaction of the Engineer.

300-3.17 Testing.

General Electrical Testing: Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification and certify compliance with test parameters. Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest. Perform infrared scan tests and inspections of service and power distribution equipment at the respective buildings and provide reports. Electrical equipment will be considered defective if it does not pass tests and inspections. Reports shall include notations of deficiencies, remedial action taken and observations after remedial action.

System and Equipment Testing: All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Test equipment and instruments utilized by the Contractor shall have been calibrated following the manufacturer's recommended schedule to verify their accuracy prior to performing the testing work. The Contractor shall provide instrument calibration certificates on test equipment when requested by the Engineer. Retesting work due to inaccurate or defective instruments shall be performed by the Contractor to the satisfaction of the Engineer at no additional cost to the Owner.

a. Regulator Calibration:

The Contractor shall check and calibrate both new and existing regulators utilizing the enclosed “Constant Current Regulator Calibration Report”. Refer to the material section on constant current regulators for additional requirements.

New regulators are calibrated at the factory prior to shipping, while existing regulators typically need checks and calibrations on a routine basis so that they do not get out of tolerance. The intent is to check and/or calibrate these regulators using a high accuracy meter prior to energizing and placing the airfield lighting system in service.

Utilize a high accuracy true RMS ammeter with high accuracy clamp-on current probe when making these measurements (use round type probes, accuracy + or – 2% required, sized per the cable diameter and circuit ampacity to achieve the best accuracy). Adjust regulators per manufacturer’s instructions to meet the output currents on each brightness step as listed in Tables 5-2 and 5-3 in AC 150/5340-26.

b. Megger Testing:

The Contractor shall perform megger testing on each existing regulator circuit prior to any work on the electrical system. This information shall be recorded and documented by the Contractor and submitted to the Engineer. The Contractor shall perform megger tests on each regulator circuit after the acceptance test period. This acceptance test information shall be recorded and documented by the Contractor and submitted to the Engineer. Megger test shall be performed in accordance with the requirements of Item L-108.

The Contractor shall submit his initial megger test reports on the enclosed “Insulation-Resistance Test Report” form prior to any work on the electrical system. This report shall be submitted to the Engineer and approved by the Owner prior to Contractor proceeding with his work.

After final acceptance testing has been completed, the Contractor shall complete and submit his final megger test reports to the Engineer and insert copies of the initial and final megger test reports in the Operation and Maintenance Manuals.

Megger testing shall be performed using an insulation meter, such as a Fluke 1507 Insulation Resistance Multimeter, Ideal 61-797 Digital Insulation Meter, or approved equal having an insulation test range up to 10 Gigohms or greater.

Insulation resistance testers for 5kV series circuits shall utilize the 1000V DC source output for testing. The test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

The Contractor shall be responsible to maintain an insulation resistance equal to minimum 80% of the initial testing value through the end of the contract warranty period. This requirement is based on AC 150/5340-26C which states that resistance values inevitably decline over the service life of the circuit and that a 10-20 percent decline per year is considered normal. Note that AC 150/5340-26C cancels AC 150/5340-26B; thus, refer to the current edition of the maintenance AC for requirements in this project.

For existing circuit insulation resistance requirements, refer to “Existing Circuits” section of Item L-108.

The insulation resistance to ground for 600V rated cables shall be not less than 100 Megohms when measured per NETA standards.

The installations shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings in accordance with manufacturer's requirements. Testing equipment shall be furnished by the Contractor.

c. Ground Rod Impedance Testing:

The enclosed "Ground Rod Impedance Test Report" form shall be used, and testing shall be performed in the presence of the Engineer.

As-Built drawings shall indicate the location of all installed ground rods. Each ground rod shall have a unique identifier that corresponds with its submitted ground impedance test report.

Three-pole fall-of-potential testers that can measure the ground resistance of a ground rod using auxiliary electrodes (staked testing), such as a Fluke 1621 Earth Ground Tester, shall be used for testing individual dedicated equipment ground rods at fixtures and equipment, or for testing isolated counterpoise ground rods not yet connected to the counterpoise wire.

Clamp-on testers that can measure the ground resistance of a ground rod without using auxiliary ground rods (stakeless testing), such as a Fluke 1630 Earth Ground Clamp Meter or approved equal, shall be used for testing counterpoise ground rods which have already been connected to the counterpoise wire, or ground ring ground rods which have already been connected to the established ground ring system.

Ground impedance test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

If the ground rod's impedance exceeds 25 ohms, an additional rod shall be driven in a location suitable and approved by the Engineer. However, the additional rod must satisfy the requirements of NEC 250.53 and not be less than 6 feet away from any other ground rod electrode. Additional ground rods shall not be measured for separate payment but shall be considered subsidiary to the counterpoise or respective equipment pay item.

The Contractor shall perform additional tests if required and requested by the Engineer at no additional cost.

The Contractor shall coordinate with the resident Engineer to approve tests daily before proceeding. The Contractor shall fill out a separate test report for each date. Test reports shall be submitted weekly to the Engineer.

d. Cable Pulling Tension Values Log:

The enclosed "Cable Pulling Tension Values Log" form shall be used for monitoring cable pull tension values in the presence of the Engineer.

Airport lighting equipment and special systems shall be tested in accordance with applicable FAA Advisory Circular requirements and the manufacturer's installation instructions. These tests shall also include those system requirements listed within AC 150/5340-26 Maintenance of Airport Visual Aid Facilities.

300-3.18 Inspection fees and permits. The Contractor shall obtain and pay for all necessary construction permits, licenses, government charges, and inspection fees necessary for prosecution of the Work. Unless otherwise noted, the Contractor shall pay all charges of utility owners for connections for providing

permanent service to the Work, ready for subsequent utility account transfer to the Owner after final acceptance.

300-3.19 Work supervision.
The Contractor shall provide a complete list of qualified and licensed Master Electricians to work on this project to MNAA prior to the pre-construction meeting and coordinate a meeting with MNAA personnel and all listed Master Electricians prior to the start of construction. A master electrician from this list must supervise all electrical work on this project as required in specification section S-300. This work includes, but is not limited to all testing, cable pulls, terminations, splices, counterpoise installation or connections, ground rod installation or testing, equipment connections, lockout/tagout work, and any trenching work. Any electrical work completed without required supervision may be rejected and required to be removed and completed with appropriate supervision. No additional compensation or time allowances will be made for failure to supervise electrical work.

Qualified persons must have appropriate electrical testing and protective equipment available to them at all times when on project site.

The contractor shall be responsible for ensuring that all work is inspected by MNAA representatives prior to covering or completion. Inspection may include a visual inspection, or materials or electrical testing as deemed necessary by the owner or engineer.

Any work covered up prior to MNAA approval shall be uncovered for inspection at the contractor's expense, and no additional time shall be allowed for the contractor's failure to comply.

Inspection requirements apply to all work items, including, but not limited to: trenching and conduit, cable, and counterpoise installation; light fixture and light base installation; sign installation; RGL installation; and equipment removal for return to owner or reinstallation (including inspection and verification of acceptable storage practices).

State of Texas: The electrical contractor (whether the general contractor or a subcontractor) shall be a licensed contractor in the state of Texas having an electrical classification suitable for performing the work required in these contract documents.

The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be a master electrician as defined by the Texas Electrical Safety and Advisory Board. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the Engineer.

All master and journeyman electricians shall be licensed in accordance with Texas Board Requirements. The website located at https://tdlr.texas.gov publishes the text of this statutory requirement. No unlicensed electrical workers shall perform electrical work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the State of Texas.

300-3.20 Training. The training classes shall be coordinated with the Owner and Engineer in advance of the final acceptance testing. Comprehensive operational and maintenance training materials shall be provided by the equipment manufacturer and the Contractor (see section 2.3 OPERATION AND MAINTENANCE DATA).

Schedule the training with the Owner at least 10 days in advance and notify the Engineer.

Provide hands-on demonstrations and training of equipment components and functions, including adjusting, operating and maintaining the lighting equipment and systems. Coordinate the training schedule with the Owner in advance, so that the Owner may record the training if desired. Provide 4 hours training for the operational personnel and 4-hours training for the maintenance personnel.
All training sessions shall be recorded, and documentation of training shall be turned over to the Owner as part of the O&M materials at project completion.

METHOD OF MEASUREMENT

300-4.1 The quantity of lockout/tagout and constant current regulator calibration procedures to be paid for shall consist of all lockout/tagout procedure work and all constant current regulator calibration work completed in place, accepted and ready for operation. This item does not include measurement for constant current regulator equipment.

300-4.2 The quantity of electrical vault modifications to be paid for under this item shall consist of all electrical vault modifications work, constructed in place and accepted as a complete and functional unit. This work consists of all work in the vicinity of the electrical vault which is not paid separately by other items, including but not limited to all electrical power distribution work including all supporting structures and apparatuses, HVAC components, conduits, wires, switches, breakers, panelboards, connections, connectors, grounding, power system modifications / additions, testing and methods required to complete the work to the satisfaction of the Owner and the Engineer.

300-4.3 The quantity of regulators to be paid for shall be the number of regulators, installed as completed units, in place, accepted and ready for operation. The quantity of regulators to be paid for shall be the number of regulators, removed and stored as completed units, in place, and accepted.

300-4.4 Measurement for the installation of the generator and transfer switch system shall be lump sum for a completed and accepted installation for a complete and tested standby power system. This item shall consist of all equipment installed, connected, and accepted as a complete unit ready for operation. This works consists of the generator, weatherproof enclosure, exhaust silencer, subbase tank, batteries, charger, foundation, bypass isolation type automatic transfer switch, remote control disconnect station with accessories, remote annunciator panel, fuel for testing, completely filled tank after acceptance testing, electrical power distribution work including all supporting structures and apparatuses, concrete, conduits, wires, cables, breakers, controllers, transformers, connections, connectors, grounding, control systems, communication systems, surge protective devices for control and signal lines, junction boxes, testing and methods required to complete the work to the satisfaction of the Owner and the Engineer. This item shall include complete startup and testing services, including load bank testing at full load for 2 hours, and one-year warranty and service maintenance agreement from the installer. Refer to the technical specification on the generator and transfer switch system for additional requirements.

300-4.5 The quantity of ALCMS control equipment modifications to be paid as an allowance under this item shall consist of all ALCMS control equipment installations and modifications work, constructed in place and accepted as a complete and functional unit. This work consists of all work in the vicinity of the electrical vaults and air traffic control tower, which is not paid separately by other items, including but not limited to all control equipment installation work including all supporting structures and apparatuses, conduits, wires, connections, connectors, grounding, control system modifications / additions, testing and methods required to complete the work to the satisfaction of the Owner and the Engineer.

BASIS OF PAYMENT

300-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all

preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures – per Lump Sum
Item SS-300-5.2	Electrical Vault Modifications -- per Lump Sum
Item SS-300-5.3	Existing Lighting Regulator, Removed -- per Each
Item SS-300-5.4	L-829, 10 kW, Lighting Regulator, Installed -- per Each
Item SS-300-5.5	L-829, 7.5 kW, Lighting Regulator, Installed -- per Each
Item SS-300-5.6	Generator and Transfer Switch System, Installed -- per Lump Sum
Item SS-300-5.7	ALCMS Modifications – Allowance

MATERIAL REQUIREMENTS

Commercial Item Description A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid
Fed. Spec. W-P-115	Panel, Power Distribution
Fed. Std. 595	Colors
Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters Laboratories Standard 514	Fittings for Conduit and Outlet Boxes
Underwriters Laboratories Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)
Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
CFR 1910	Occupational Safety and Health Regulations
CFR 1926	Safety and Health Regulations for Construction
ANSI/IEEE C2	National Electrical Safety Code
NFPA 70	National Electrical Code (NEC)

NFPA 70E	Standard for Electrical Safety in the Workplace
NFPA 101	Life Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1926	Safety and Health Regulations for Construction
Jaquith Industries, Inc.	The Design, Installation, and Maintenance of In-Pavement Airport Lighting

FAA ADVISORY CIRCULARS

AC 150/5300-13	Airport Design
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 150/5345-3	Specification for L-821 Panels for Control of Airport Lighting
AC 150/5345-5	Specifications for Airport Lighting Circuit Selector Switch
AC 150/5345-7	Specification for L-824 for Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Base and Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Taxiway and Runway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	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

END OF ITEM SS-300

CONSTANT CURRENT REGULATOR CALIBRATION REPORT

Standard Requirements: FAA AC 150/5340-26 (latest edition) Maintenance of Airport Visual Aid Facilities

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport:_____ Contractor: _____

Project Title: _____ Garver Project Number:_____

Vault ID / Location: _____ Date: _____

Weather / Site Conditions: _____ Last Two Weeks of Rain: _____inches

Constant Current Regulator #: _____ Serves: _____

	Completed	Comments
1. Check all control equipment for proper operation.	☐	_____
2. Perform short-circuit test. Record results and recalibrate if necessary.	☐	_____
3. Perform open-circuit test on regulators with open circuit protection. Open circuit protective device should de-energize the regulator. Record results.	☐	_____
4. Check and record regulator input voltage and current. Input Voltage: _____ Input Current: _____	☐	_____
5. Check and record regulator output load. (ONLY if regulator has monitoring package) Volt-Amperes: _____	☐	_____
6. Check and record output current on each brightness step. If output current is outside of the allowable range, adjust the regulator's on-board potentiometer to re-calibrate the output current within the allowable range. Re-record the new output current on this form.	☐	_____

3-Step CCR 5-Step CCR

B10: _____ B30: _____ B100: _____ 1: _____ 2: _____ 3: _____ 4: _____ 5: _____

Nominal: 4.8A 5.5A 6.6A 2.8A 3.4A 4.1A 5.2A 6.6A

Tested By: _____ (Signature and Date)

Test Equipment: _____ (Manufacturer and Model No.)

Engineer Witness: _____ (Signature and Date)

Owner / Sponsor Witness: _____ (Signature and Date)

INSULATION RESISTANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC_____

Airport:_____ Contractor: _____

Project Title: _____ Garver Project Number:_____

Vault ID / Location: _____ Date Initial / Final Tests: _____

Weather / Site Conditions (Initial Test): _____ Last Two Weeks of Rain:_____inches

Weather / Site Conditions (Final Test): _____ Last Two Weeks of Rain:_____inches

		Initial Test Results		Final Test Results	
	Circuit Designation and Color Code	Regulator Size (kW)	Megger Reading Before Field Work (Megohms)	Regulator Size (kW)	Megger Reading After Field Work (Megohms)
1					
2					
3					
4					
5					
6					
Tested By:					
Test Equipment:					
Engineer Witness:					
Owner/Sponsor Witness:					

Provide signature/date and manufacturer/model no. as required in the fields above.

Initial Test Record – Owner Disposition

Owner / Sponsor: _____ (Signature and Date)

Check one only: ☐ Proceed with Installation ☐ Hold

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC_____

Airport:_____ Contractor: _____

Project Title: _____ Garver Project Number:_____

Date: _____ Weather / Site Conditions: _____

Fall-of-Potential Style Tester (F):
Manufacturer: _____ Model #: _____

Clamp-On Style Tester (C):
Manufacturer: _____ Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)

Tested By:	
Engineer Witness:	

Provide signature/date in the fields above.

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CABLE PULLING TENSION VALUES LOG

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Date: _____ Weather / Site Conditions: _____

Dynamometer Manufacturer/Model #: _____ Cable / Wire Manufacturer: _____

From / To Locations	Wire/Cable Size	Length of Pull	Pull Method	Maximum Value	Measured Value
Tested By:					
Engineer Witness:					

Provide signature/date in the fields above.

Page _____ of _____

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ITEM SS-301 ELECTRICAL DEMOLITION WORK

DESCRIPTION

301-1.1 This item shall consist of the removal and satisfactory disposal of existing runway and taxiway edge lights, in-pavement lights, guidance signs, markers, manholes, handholes, junction structures, racks, pads, equipment, poles, towers, shelters, and other incidentals, all of which are not designated or permitted to remain, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. This work shall include the removal of indicated equipment, materials, and incidentals necessary for a complete item removal, including all restoration work, as a completed unit to the satisfaction of the Engineer.

301-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

301-1.3 Additional details pertaining to the lighting system covered in this item are contained in the advisory circular, AC 150/5340-30, Design and Installation Details for Airport Visual Aids. Additional details pertaining to the PAPI system covered in this item are contained in the advisory circular, AC 150/5345-28, Standard for Precision Approach Path Indicator (PAPI) Systems. Additional details pertaining to the REIL system covered in this item are contained in the advisory circular, AC 150/5345-51, Specification for Discharge-Type Flasher Equipment.

MATERIALS

301-2.1 All backfill and repair materials used in electrical demolition, repair and restoration work shall comply with the referenced specifications and be approved by the Engineer.

Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and Item L-125.

For pre-cast or prefabricated concrete encased light base installations, the Contractor shall submit and coordinate the construction of the proposed pre-cast units with the Engineer onsite to review and approve the construction process. The Contractor shall submit his proposed installation process for review and approval by the Engineer. The Contractor shall provide additional items and work if required and requested by the Engineer for the construction and installation of the pre-cast units at no additional cost to the Owner.

CONSTRUCTION METHODS

301-3.1 General. No demolition shall be started until the removal and/or relocation work has been laid out and approved by the Engineer. All material shall be disposed of off-site. All hauling and disposal will be considered a necessary and incidental part of the work. Hauling cost shall be considered by the Contractor and included 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.

Equipment removal shall typically include removing the equipment and its accessories, removing foundations/pads, removing existing conduits, conductors and appurtenances, removal of conduit to below grade, and removal of existing circuits back to source. The work shall include restoring the area to match existing, including filling and tamping all holes with earth, and clearing and leveling the site.

The Contractor shall remove all existing underground cable, which is unused or rendered unusable by this project, when such is exposed or made accessible during this work. All such wiring removed shall become property of the Contractor and shall be immediately removed from the project. Wiring in conduit shall be

removed as indicated or if new wiring is shown to be installed in its place. Existing wiring shall not be reused or reinstalled.

Wiring not exposed shall be abandoned in place, if a reasonable effort will not remove it. No measurement or payment will be made for this cable removal work. Damage to turf or other systems will not be permitted to salvage or retrieve existing cable.

Any damage to electrical equipment, systems, structures, conduits, cables, and accessories or other utilities, designated to remain in place, shall be repaired or replaced expeditiously at no additional cost to the Owner and to the satisfaction of the Owner and Engineer.

Holes, ditches, or other abrupt changes in elevation caused by the removal operations that could obstruct drainage or be considered hazardous or unsightly shall be backfilled, compacted, and left in a workmanlike condition.

Trenches or voids resulting from the removal or demolition of existing electrical equipment or other structures shall be filled with approved material placed in layers in accordance with Item P-152.

Concrete foundations and pads to be removed shall be obliterated full depth.

301-3.2 Removal and/or relocation of light fixtures and equipment. Light fixtures and other equipment which are to be removed shall be carefully excavated. All concrete bases and concrete anchors shall be removed by the Contractor. The removed lights, guidance signs, isolation transformers and wiring harnesses shall then be given to the Owner, or properly disposed of if so directed by the Owner. The ground around the removed lighting equipment shall be backfilled and properly compacted. Light fixtures and equipment which are to be relocated shall be stored on site and reinstalled with new lamps, new transformers, and all other new required accessories as indicated in the plans.

301-3.3 Removal of existing equipment. The Contractor shall carefully remove all salvageable equipment as indicated in the plans. Any equipment that is damaged during the removal and/or relocation operation shall be subject to a reduction in payment for removal and/or relocation of the equipment. All equipment that is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

301-3.4 Relocation of existing equipment. Existing equipment that is to be relocated shall be carefully disconnected from the existing electrical system. The equipment shall be stored on site in an enclosed area protected from the weather as directed by the Owner and Engineer. The Contractor shall remove existing concrete bases and shall backfill and compact these areas to match existing. The electrical power circuit shall be field located and extended to the new installation location unless otherwise noted in the Plans. Coordinate the extension of the electrical service with the extension of the electrical duct serving the equipment and install duct, splice and cable markers to mark the new complete route.

Refer to the plans for additional installation requirements concerning the relocation of existing lights, signs, systems and incidentals.

301-3.5 Clearing of existing duct banks or conduits. Where new cable is to be installed in an existing duct bank or conduit, the full length of the duct bank or conduit shall be cleared of debris by mechanical means before installation of the new cable. Acceptable means of clearing existing duct banks or conduits may include using a mandrel, “hydro-jetting” method, or “roto-rooting” method as approved by the Engineer.

Where existing cables are being removed from an existing duct bank or conduit and replaced with new cables, the Contractor shall use the existing cable to clear the conduit and to pull in the new cable. No separate payment will be made for clearing these duct banks or conduits or for the existing cable removal. Clearing of these existing duct banks or conduits is incidental to the cable pay item unless otherwise noted.

METHOD OF MEASUREMENT

301-4.1 The quantity of existing duct bank or conduit, cleared, to be measured under this item, shall be the linear foot of duct bank or conduit cleared using a mandrel or other approved method to remove debris, including swabbing and clearing of each conduit in a duct bank, and installation of pull wires in spare conduits. Separate measurement shall be made for the various types and sizes of duct bank or conduit. Partial payment will not be made for duct bank or conduit that cannot be cleared using a method acceptable to the Engineer. Separate payment will not be made for existing cable removal.

301-4.2 The quantity of existing lights or guidance signs, removed, to be measured under this item shall be the number of each complete unit removed, and accepted by the Engineer.

This item shall include removing and storing the existing equipment as directed by the Engineer.

Where the light base and concrete structure are indicated to be removed or demolished, the item shall include restoring the area to match existing, including removing the complete concrete item, filling and tamping all holes with earth (brought from off-site if necessary), and clearing and leveling the site.

Where the light base and concrete structure are to remain, a new blank cover shall be installed for protecting the light base during the construction work. Blank covers shall be removed when the existing equipment is reinstalled and given to the Owner after completion of construction work in the respective area.

301-4.3 Measurement for the removal of the REIL system shall be the number of each removed for a completed and accepted removal of a complete REIL system. Equipment shall be carefully removed and stored as directed by the Engineer and Owner. Concrete bases and appurtenances shall be demolished and removed. The area shall be restored to match existing including seeding and topsoiling. This item shall also include modifications to the current REIL power feeder, including new circuit breaker, labeling, waterproof cast splicing, splice marker and all required appurtenances to reconnect the power feeder to only serve the existing REIL equipment to the satisfaction of the Engineer.

301-4.4 Measurement for the removal of the Beacon Fixture shall be the number of each removed for a completed and accepted removal of a complete Beacon Fixture. Equipment shall be carefully removed and stored as directed by the Engineer and Owner.

BASIS OF PAYMENT

301-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and removal of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-301-5.1	Existing Base Mounted Runway Edge Light, Removed -- per Each
Item SS-301-5.2	Existing Flush In-Pavement Runway Edge Light, Removed, Blank Cover Installed -- per Each
Item SS-301-5.3	Existing Base Mounted Guidance Sign, Removed -- per Each
Item SS-301-5.4	Existing Base Mounted Guidance Sign, Removed, Base to Remain -- per Each
Item SS-301-5.5	Existing Base Mounted Taxiway Edge Light, Removed, Base to Remain -- per Each

Item SS-301-5.6	Existing Base Mounted Taxiway Edge Light, Removed -- per Each
Item SS-301-5.7	Existing Runway End Identification Light System, Removed -- per Each
Item SS-301-5.8	Existing Base Mounted Runway Threshold Lights, Removed -- per Each
Item SS-301-5.9	Existing Base Mounted Runway Threshold Lights with Base to Remain, Removed – per Each
Item SS-301-5.10	Existing Generator and Transfer Switch, Removed – per Lump Sum
Item SS-301-5.11	Existing Airport Rotating Beacon Fixture, Removed - per Lump Sum
Item SS-301-5.12	Existing Based Mounted Runway Edge Light with Base to Remain, Removed – per Each
Item SS-301-5.13	Conduit or Duct Bank, Cleared – per Linear Foot
Item SS-301-5.14	Abandoned Sign Base, Removed – per Each

END OF ITEM SS-301

ITEM SS-305 DIRECTIONAL BORING

DESCRIPTION

305-1.1 This item shall consist of furnishing and installing conduits via directional boring methods, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The borings shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. It shall also include all trenching, backfilling, mandreling installation of drag wires and duct markers, capping, and the testing of the installation as a completed duct system ready for installation of conduit and/or cables, to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

305-2.1 General. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

All equipment and materials covered by these specifications shall be new and meet applicable manufacturer's standards.

Polyethylene conduits shall conform to SDR 11 type.

The Contractor shall submit a statement of qualifications including previous similar jobs experience in directional boring for the last three (3) years. Previous job description work shall include length, pipe type, pipe size(s) and soil type,

The Contractor shall submit complete shop drawings outlining his directional boring method (including drilling fluids, additives and mixtures), drill rod, bore size, materials, equipment and safety requirements to be utilized on this specific project, for review and approval by the Engineer.

All materials shall be inspected at the job site for damage. Defective materials shall be removed from the job site and replaced with new materials prior to the work.

CONSTRUCTION METHODS

305-3.1 General. Boring shall be done by pilot hole method using fluid as a lubricant only and shall not undermine the surrounding ground. Jetting will not be permitted. The Contractor shall use a guidance system to assure knowledge of the bore location while making the bore. The Contractor will not be paid for unusable sections.

Locate and clearly mark all utilities prior to start of excavation or drilling. The Contractor will be responsible for damage to pavements, utilities, or other structures caused by his activity. The Contractor shall repair, at his own expense, any damaged pavement, utility, or other structure as directed by the Engineer or the owner of the utility or structure. The Contractor shall not excavate to find a bored casing without specific approval and definitions of limits. No payments will be made for excavation and repair except as shown on drawings.

The Contractor shall inspect the locations where the encasement structures are to be installed and familiarize himself with the conditions under which the work will be performed and with all necessary details for orderly prosecution of the work. The omission of any details in the Plans and herein for the satisfactory installation of the easement in its entirety shall not relieve the Contractor of full responsibility for the installation.

Directional bores shall be a minimum 48” below the existing base. For this project, the existing pavement shall be considered 12” in depth and the existing base shall be considered 12” in depth. Therefore, the overall depth shall be a minimum 72” below the surface of the pavement. The Contractor shall utilize a beacon or other depth-reading instrument to verify the depth below the runway.

The bore size shall be the minimum size for the work required. Upsizing the bore will not be allowed.

The Contractor shall utilize a walkover guidance and tracking system to assure the orientation and depth of the bore path. Depth and orientation confirmation shall occur at a minimum of every five feet of lateral distance covered.

The Contractor shall perform all excavation required to complete the work regardless of the material encountered. Excavation from the access shafts (bore pits) more than the required to backfill the access shafts and open ditch portion of the line shall be disposed of by the Contractor off Airport Property.

Pits and trenches shall be constructed and maintained in accordance with the current edition of the OSHA Standard for Excavating and Trench Safety Systems. Restore ground to original conditions after work completion including seeding and topsoiling.

The access shafts (bore pits) for encasement installation shall be rectangular in plan view with the longest dimension being constructed with the direction of the pipe. The access shafts shall be constructed at a location shown on the plans.

Use a high-quality drilling fluid to ensure hole stability, cuttings transport, bit and electronics cooling, and hole lubrication to reduce drag on the drill pipe and the product pipe. Use only fluid with a composition that complies with all federal, state and local environmental regulations. Mix the drilling fluid with potable water (of proper pH) to ensure no contamination is introduced into the soil during the drilling, reaming, or pipe installation process. The Contractor is responsible for any required pH adjustments.

Disposal of the drilling fluids is the responsibility of the Contractor. Conduct disposal in accordance with all relative environmental regulations and permit requirements. No excess drilling fluids shall remain in the bore access pit or receiving pit. Immediately clean up any drilling fluid spills or overflows from these pits. All excess drilling fluids and mud shall be disposed of off Airport Property on a daily basis. Bore pits and trenches shall be backfilled and compacted in 6” layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Assemble the entire pipe to be installed via directional boring prior to starting pull back operations. Support the pipe to enable it to move freely and prevent damage. Install the pipe in one continuous pull. Maximum allowable tensile force imposed on the pull section is not to exceed 90 percent of the pipe manufacturer’s safe pull strength. If multiple pipe sizes or materials, the lowest safe strength shall govern. Damaged pipes shall be replaced at no additional cost to the Owner.

Extend and connect pipes to junction structures as indicated. When pipe is used as a sleeve, install interior conduits as indicated and terminate the conduits with end bells as shown in the plans or as required.

Upon completion of the work, immediately remove all debris from the job site and restore the areas to original condition acceptable to the Engineer.

In the event of failure to install the directional bore pipe or conduit, the Contractor shall remove the pipe or conduit from the bore and remove it from the job site. The bore hole shall be completely filled with a flowable fill conforming to Item P-153, Controlled Low Strength Material, to prevent future problems. If the pipe or conduit cannot be removed, then it shall be cut off minimum 3 feet below the ground and the pipe/conduit and surrounding space filled with flowable fill. This remedial work shall be performed at no

additional cost to the Owner. Any failure event shall be immediately coordinated with the Engineer and Owner prior to the Contractor taking remedial action.

The Contractor shall record and document all drilling logs that provide drill bit locations, both horizontally and vertically. These records shall be submitted to the Engineer and included in the O&M manual for the project.

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.

METHOD OF MEASUREMENT

305-4.1 The quantity of directional boring to be paid for under this item shall be the number of linear feet of conduit and directional boring installed with backfill, compaction, turf restoration, and appurtenances, measured in place, completed and accepted to the satisfaction of the Engineer.

BASIS OF PAYMENT

305-5.1 Payment will be made at the contract unit price per linear foot for each type and size of directional boring completed by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-305-5.1	Directional Boring, 1-Way 2”C Polyethylene Conduits – per Linear Foot
Item SS-305-5.2	Directional Boring, 2-Way 2”C Polyethylene Conduits – per Linear Foot

END OF ITEM SS-305

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ITEM SS-310 AIRPORT LIGHTING SYSTEMS

DESCRIPTION

310-1.1 This item shall consist of furnishing and installing airport runway and taxiway edge lighting systems, retroreflective markers, guidance signs, runway centerline and touchdown zone lighting systems, other taxiway lighting systems, and other approach lighting aid systems, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The system shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. This work shall include the furnishing of all equipment, materials, services and incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the Engineer.

310-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

310-1.3 Additional details pertaining to the lighting system covered in this item are contained in the advisory circular, AC 150/5340-30, Design and Installation Details for Airport Visual Aids. Additional details pertaining to the REIL system covered in this item are contained in the advisory circular, AC 150/5345-51, Specification for Discharge-Type Flasher Equipment.

310-1.4 This item shall consist of furnishing and installing Runway End Identification Lights (REIL) in accordance with these specifications. This work shall include the mounting, leveling, wiring, and testing of the lighting equipment and all materials and incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the Engineer. This item shall include mounting accessories, controls, relays, circuit breakers, transformers, inter-unit wiring, disconnect switches and concrete pads specified in the plans.

EQUIPMENT AND MATERIALS

310-2.1 General.

a. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and the applicable Item L Series Specifications.

b. For pre-cast or prefabricated concrete encased light base installations, the Contractor shall submit and coordinate the construction of the proposed pre-cast units with the Engineer onsite to review and approve the construction process. The Contractor shall submit his proposed installation process for review and approval by the Engineer. The Contractor shall provide additional items and work if required and requested by the Engineer for the construction and installation of the pre-cast units at no additional cost to the Owner.

Pre-cast or prefabricated concrete encased light bases may only be assembled at the Contactor's staging area at the airport to allow the Engineer to check and approve all such construction items. Pre-cast bases assembled offsite will not be allowed.

c. For in-pavement fixture installations, the Contractor shall submit his proposed installation method and technique for correct placement and alignment of all lights for review and approval prior to any work.

In-pavement lighting systems will require an experienced electrical supervisor and experienced installation team, including licensed surveyor. This includes the complete installation, layout, and coordination with paving joints and paving work.

d. The REIL system shall be powered by the runway regulator using isolation transformers. The REIL system shall be limited to 660 watts total load per 2-light system, or 330 watts per beacon. The intent of this requirement is to obtain certified equipment that can utilize the regulator's spare capacity. Provide ADB Airfield Solutions equipment or approved equal meeting this maximum loading requirement.

310-2.2 REIL. The Runway End Identification Lights (REIL) shall be furnished in accordance with AC 150/5345-51, Specification for Discharge-Type Flashing Light Equipment. The REIL lights shall flash simultaneously on both sides of the runway.

The Contractor shall obtain complete installation instructions including wiring diagrams and schematics from the manufacturer prior to any work and maintain copies of these manuals on site for use during installation work. The unit shall be mounted on a frangible support system as detailed on the plans.

The equipment shall operate at 240 volts, 60 Hertz, 1-phase. The equipment shall be powered from the runway series lighting circuit with built-in current sensing transformer. Consult with the regulator and REIL system manufacturers prior to installation, since the REIL systems will be powered by the regulator series circuit.

The REIL units shall be furnished with factory-installed remote current sensing to facilitate operation when the runway lighting circuit is energized at the appropriate brightness step. This sensing shall be accomplished by the installation of a new L-830 isolation transformer in the runway series circuit and associated conductors and termination required for a complete and functional system. The amount of sensed current required to operate the REILs shall be adjustable using a precision potentiometer. One step is required (On/Off).

The manufacturer shall furnish his recommended spare parts, instruction manual, and input voltage surge protection. The system shall be warranted for one year from acceptance of the project. Any failure which occurs in the warranty period shall be replaced by new factory tested assemblies at no additional cost to the Owner. At the end of the warranty period, the Contractor shall replace all the REIL lamps and return useable lamps to the Owner.

The Contractor shall conduct an operating test for a one week of continuous duty before acceptance. Failure will be judged by the absence of a synchronous flash at the correct brilliance and frequency. Failure to complete the test will require restarting the test without use of any spare parts. Two failures will be reason to reject the entire REIL system at no cost to the Owner.

310-2.3 Light fixtures. Airfield lights shall be supplied with all features and accessories including isolation transformers, light bases, base covers, safety ground rods, concrete pads and incidentals required for a complete installation as defined in these Specifications and as shown on the plans.

310-2.4 Lamps. Lamps for elevated edge lights shall be LED type as specified.

310-2.5 Spare equipment including fixtures and spare sign replacement components. Provide 10 percent (rounded up to the next whole number) spare fixtures of each type installed for the taxiway and runway edge and runway threshold lights. Provide 10 percent (rounded up to the next whole number) spare sign replacement components of each type installed for signs. Spare fixtures and spare sign replacement components shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

a. A spare elevated LED fixture unit shall be one complete, ready-to-install fixture, including the coupling, column, head housing assembly, cordset, LED power supply assembly, LED assembly, and lens assembly.
b. A spare in-pavement LED fixture unit shall be one complete, ready-to-install fixture, including the top cover assembly, bottom pan assembly, cordset, LED power supply assembly, and LED assembly.
c. A spare sign replacement component unit shall include the LED light tube assembly and LED

power supply assembly.

Spare fixtures and sign replacement components shall be on-site and available for use by the Contractor prior to the final acceptance testing. Any fixtures or sign components installed new in this project and replaced as part of the final acceptance testing shall be shipped back to the manufacturer for repair or replacement, and then delivered back to the Owner at no additional cost.

The spare fixtures and spare sign replacement components shall be delivered and stored as directed by the Owner, with transmittal receipt signed by Owner's representative. A signed copy shall be forwarded to the Engineer with an additional signed copy placed in the O&M manuals.

Provide one complete spare lamp set for each REIL system. REIL spare lamps shall not be measured for separate payment but shall be considered subsidiary to the respective system pay items.

310-2.6 Guidance signs. Guidance signs shall be L-858(L), meeting the criteria set forth in AC 150/5345-44, Specification for Taxiway and Runway Signs, and suitable for base mounting. Each unit shall be furnished with the required panels, mounting assemblies, frangible couplings, transformer, intensity control, identification tag, metal tethers, fasteners and safety ground rods.

Style 2 and Style 3 signs shall meet the luminance requirements in AC 150/5345-44 throughout the current ranges of the associated series circuit.

Guidance signs shall have an integral on/off switch for airport maintenance use.

Signs shall be furnished with permanent type nameplates that are both weather and sunlight resistant. Nameplates which are completed with ink markers or similar methods will not be accepted.

Refer to the guidance sign index in the Plans for information on each sign's size, style, class and mode.

The complete sign installation shall be designed to withstand a 200-mph wind load.

310-2.7 Isolation transformers. New isolation transformers shall be Type L-830 and have a wattage rating suitable for the wattage of the fixture and sign lamps. The transformer shall be listed in FAA Circular AC 150/5345-47.

Provide 10 percent spare isolation transformers of each type installed for lights, signs and other equipment. Spare transformers shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

310-2.8 Field lightning arrestor. New series circuit field lightning arrestors shall be installed on the airfield series circuits to reduce the risk of lightning damage to the circuits, including cables, isolation transformers and field/vault lighting equipment. The arrestor assembly shall consist of a NEMA 6P rated metal enclosure, using MOV components, rated for 5,000 volts continuous operating voltage with 25,000 A peak surge current, having a minimum 2 giga-ohm insulation resistance, with L-823 connectors. The arrestors shall be designed specifically for protecting 5 kV airfield series circuits and shall be manufactured by ADB, Astronics or Liberty Airport Systems.

Provide 10 percent spare lightning arrestor units, minimum quantity of 2. Spare arrestors shall not be measured for separate payment but shall be considered subsidiary to the respective arrestor pay items.

CONSTRUCTION METHODS

310-3.1 General. The installation and testing details for the lighting system shall be as specified in the applicable advisory circulars.

The Contractor is responsible for all surveying and measurement which is required to accurately position and aim airfield lighting systems and equipment.

Airfield lighting systems and equipment that are improperly installed shall be removed and re-installed correctly as directed by the Engineer. No payment will be made for the removal and reinstallation of airfield lighting systems and equipment improperly installed. All remedial work shall be to the satisfaction of the Engineer.

310-3.2 Lighting layout plans. The Contractor shall stake the airfield lighting systems, prior to installation of any trench, cable or lighting apparatus. The intent is to stake the installation at the locations indicated, noting any deviation from plan dimensions to the Engineer prior to installation. The Contractor shall obtain the services of an experienced and licensed surveyor to perform this work.

The Engineer shall provide electronic CADD files to the Contractor for this staking work. The Contractor shall stake the items and his surveyor shall provide a CADD file submittal back to the Engineer. Based upon this submittal, the Engineer shall coordinate and provide directions on any adjustments necessary to meet existing field condition requirements and comply with FAA Advisory Circular requirements on the layout and spacing of equipment.

The Contractor and his surveyor shall then make any electronic CADD file spacing adjustments and/or field staking adjustments prior to installation at no additional cost to the Owner.

Refer to General Provisions Section 50 Control of Work for additional construction layout and staking requirements.

310-3.3 Placing the equipment. The REIL and associated equipment shall be mounted on concrete pads as shown in the plans. Secure the equipment and make all final connections.

310-3.4 Mounting, leveling, and aiming. The concrete support to which the equipment is fastened shall be accurately leveled before mounting the equipment. The REIL units shall be properly aimed, as recommended by the manufacturer of the supplied equipment. This adjustment shall be accomplished using factory-approved aiming devices and techniques.

REIL units shall be aimed using aiming devices and integral electronic inclinometers where applicable. The light housing units shall be aimed and checked prior to the FAA flight check. The Contractor shall coordinate with the Engineer and the FAA for making any required adjustments as directed by the FAA flight inspection team. All aiming values and dates of work shall be recorded by permanent marker within each light housing unit, by written record document of the field inspection work, and by written document placed within the O&M manuals for each respective system.

The Engineer will obtain copy of the flight inspection report processing system (FIRPS) document from the FAA and forward to the Contractor, who shall put this report in both the electronic and hard copies of the O&M manuals.

310-3.5 Placing lights. All equipment shall be installed at locations indicated in the plans. Lights shall be laid out by locating the two control points by station as indicated on the plans and measuring the indicated individual separation distances. Light bases shall be located within 1 inch +/- longitudinally and 0.5 inches +/- transversely of the location indicated unless deviation is approved by the Engineer. Excavation for installation of light bases shall be backfilled with at least 4 inches of granular leveling course, as approved by the Engineer. Fixture height shall be as indicated on the Drawings.

For pre-cast or prefabricated concrete encased light base installations, a leveling course of sand shall be placed in the bottom of the excavated hole, sufficient for accurately installing, leveling and placing the lights in accordance with the requirements in this specification and AC 150/5340-30. Concrete encased light bases

shall be allowed to cure a minimum of 7 days prior to installation.

Utilize a bubble level device to level all light fixtures in the horizontal light plane during the day, and then check at night to ensure uniformity in light output.

Provide factory-approved alignment tools and aiming devices to properly level and align fixtures as required by the FAA Advisory Circulars and manufacturer's installation instructions. After all light fixture installations are completed and accepted by the Engineer, these alignment tools and aiming devices shall become property of the Owner and shall be delivered and stored as directed by the Owner.

310-3.6 Placing signs. All signs shall be installed at the approximate location indicated in the plans. The specific requirements for sign location are specified in AC 150/5340-18, Standards for Airport Sign Systems. Specific requirements of this AC are also shown on the Plans. Signs shall be located within 1 inch +/- longitudinally or 0.5 inches +/- transversely of the required location unless deviation is approved by the Engineer. The locations for the signs shall be staked by the Contractor and approved by the Engineer before installation begins.

Provide single module signs with one tether. Provide multiple module signs with a tether at both ends.

310-3.7 Placing field lightning arrestors. All field lighting arrestors shall be installed at locations indicated in the plans, typically about every 2,000 feet around the series circuit. The arrestors shall be installed in base cans or handholes as noted on the plans. Provide a minimum #4 AWG copper ground wire to connect the arrestor ground lug to dedicated ground rod outside the base can or handhole on the pavement side of the equipment. This ground rod shall be connected to the counterpoise system using exothermic welds only. Provide a permanent type marker at each arrestor listing the date it was placed in service.

310-3.8 Transformer installation. The transformer for base mounted fixtures shall be placed inside the base. The transformer for stake mounted fixtures shall be located uniformly as shown on the plans. The primary cable connections shall be made with L-823 connectors as described in Item L-108 and have 3 feet of slack cable. The secondary leads connected to the lamp leads by means of a disconnecting plug and receptacle provided with the unit, and this joint shall not be taped. The secondary joint shall be fastened with a holding ring provided for this purpose.

310-3.9 Unit assembly. All electrical equipment, including edge lights, guidance signs and other visual aid units shall be assembled in accordance with the manufacturer's installation procedures. Anti-seize compound shall be used on all screws, nuts, and threads, including frangible coupling threads. If coated bolts are used (ceramic metallic/fluoropolymer coating), then do not apply anti-seize compound.

Provide and install all spacers, shims, and gaskets as required, and verify they are in place before installing the light fixture on the base.

Bolts and washers for new and existing bases shall be new. Do not reuse existing hardware.

The minimum thread engagement into top flange of the base shall be 0.5 inches. For in-pavement light fixture assemblies, the bolt protrusion requirement shall be minimum 0.75 inch; maximum 1 inch.

For in-pavement light fixtures, provide Nord-Lock NL 3/8 stainless steel 2-part locking washers or approved equal, as required by the manufacturer.

Coordinate recommended torque values with the light fixture manufacturer, light base can manufacturer, stainless steel bolts and hardware used, and exact anti-seize compound used, to prevent light base thread damage. Utilize a dial-type torque wrench for accuracy and to prevent over-tightening bolts. Never use impact wrenches/drills when removing or installing bolts.

The Contractor shall submit complete installation method shop drawings and calculations to determine the

proper torque requirements for review and approval by the Engineer prior to any field removal or installation work for in-pavement light fixtures.

When installing new or existing light fixtures on existing bases, the following work shall be performed for the removal and reinstallation work:

a. Remove all bolts including any that are frozen or broken. If necessary, drill out and tap for new bolt. If the can threads are galled but usable, clean threads with a tap.
b. Remove the light, base plate, transformer, and any foreign object that may be inside the can.
c. Remove the old cable, mandrel the conduits, and shop-vacuum out the can clean.
d. Install the new cable, connectors, transformer, gasket, bolts, and other required appurtenances per the fixture type and its location in accordance with FAA Advisory Circular requirements and manufacturer's requirements.
e. Never use impact wrenches/drills when removing or installing bolts.

The Contractor shall obtain complete installation manuals for the new airfield lighting equipment and the existing equipment to be reinstalled prior to any removal or installation work. Copies of these manuals shall be maintained in 3-ring binders within the Contractor's onsite field office.

The Contractor shall provide equipment inventory rehabilitation forms to document the fixture and sign rehabilitation efforts required prior to reinstallation. These forms shall be approved by the Engineer.

Existing in-pavement fixtures shall be rehabilitated with new prisms/lens and gaskets, then pressure tested to ensure they have been reassembled correctly and are ready for installation. To ensure this work is correctly performed, the Contractor, Engineer, Owner and equipment manufacturer shall attend a workshop onsite to review the work required to replace prisms/lens and gaskets and how to pressure test the equipment properly in accordance with the manufacturer's installation requirements and FAA AC requirements. Demonstration spare units will be provided by the Airport for hands on work review. The work shall only be performed by the Contractor's specific personnel who attend the workshop and are approved by the Engineer and Owner to perform the work. Tests reports shall be kept by the Contractor to record the work performed, including signature and date of those employees performing the work. The Contractor may only perform this work in a conditioned space environment.

In-pavement light fixtures that are installed too high will require their complete removal and reinstallation at no additional cost to the Owner. In-pavement fixtures shall be provided with all spacers, shims, gaskets and other appurtenances for complete installations that comply with FAA Advisory Circular requirements and manufacturer's installation instructions. All assemblies and work shall be to the satisfaction of the Engineer.

310-3.10 Identification numbers. An identifying number shall be assigned to each light and sign in accordance with the plans or as approved by the Engineer and Owner. This number shall be imprinted with reflective black with 1/2" letters on a non-corrosive metal disc 2" minimum diameter and attached to the pavement side of the fixture with a metal screw.

310-3.11 Temporary airfield lighting. Refer to the Airfield Lighting Phasing Plans and Details for additional requirements. Existing lighting circuits shall remain operational by use of temporary circuits. New lighting circuits shall also be connected and remain operational by use of temporary circuits. This item shall include all work to maintain the existing and new lighting circuits during construction and allow all taxiways and runways in operation to remain lighted, including that portion through the construction area, as indicated in the Phasing Plans and as directed by the Engineer.

The Contractor shall perform initial field work including location and verification of existing circuits and submit plans for the temporary airfield lighting required in each work phase, for review and approval by the Engineer and Owner, prior to starting work of that phase. This work shall include megger testing of circuits and circuit segments before and after installation and connection of jumpers.

The Contractor shall install couplings and other required fittings/appurtenances in conduit systems at last pavement joint within each phase for connecting to conduit systems in the next phase, or for connecting to existing conduit systems to remain.

310-3.12 Testing. The installation shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings as outlined in Item SS-300 and Item L-108. Testing equipment shall be furnished by the Contractor. Refer to Item L-108 for additional test requirements.

Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction.

All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers, and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

310-3.13 FAA flight inspection commissioning. The Contractor shall be present on site during any FAA flight check(s) of all electrical systems and pavement markings. The Contractor shall be able to adjust REIL aiming, fixture lenses, radio performance, and other parameters while on site during the flight check to the satisfaction of the FAA Flight Services personnel, Owner, and Engineer. All tools and manuals necessary to perform adjustments shall be present. Failure to attend all required flight check(s) will result in reduction of payment.

METHOD OF MEASUREMENT

310-4.1 Airfield lighting equipment will be measured for payment under specification L-125.

310-4.2 Mobilization for the Contractor to return to the site to be present during the FAA's flight check shall be measured per each complete item, including all equipment and man-hours needed to complete the item. In the event the lighting system fails the FAA's flight check, the Contractor will not be compensated for the next mobilization to the site for the flight check of the lighting systems. In addition, the Contractor will be responsible for compensating the FAA for costs associated with additional flight checks. In the event the FAA cancels the flight check, the Contractor will be allowed an additional mobilization charge and shall not be responsible for the flight check cost.

310-4.3 Temporary airfield lighting shall be measured as a lump sum complete item [per each respective phase work area], including all work completed in place and ready for operation, and including the installation, protection, and removal of all temporary cables, conduits, lighting, grounding, marking, and associated items and appurtenances, as indicated in the Drawings and as directed by the Engineer.

BASIS OF PAYMENT

310-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

310-5.2 Payment will be made at the contract lump sum price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-310-5.1	Flight Check Mobilization -- per Lump Sum
Item SS-310-5.2	Temporary Airfield Lighting – per Lump Sum

END OF ITEM SS-310

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 5 percent of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4.1 Engineer/RPR field office. *The building for the temporary field office shall be for the exclusive use by the Engineer as a field office and shall conform to the requirements listed below. The dimensions and other requirements specified herein are minimums and the building may be built by the Contractor for the specific purposes noted herein. It is not intended, however, to prohibit the use of commercially built trailers or prefabricated buildings which may deviate in minor dimension or detail from the requirements listed herein but may in some features exceed the listed requirements and in all major respects be entirely suitable for the purpose intended. The Engineer will determine the suitability of any building furnished. It shall be the responsibility of the Contractor to coordinate and obtain also necessary permits and install all required temporary facilities to provide a complete and usable temporary field office.*

Minimum requirements for offices:

a. The building may be portable or other suitable type with 7-ft minimum ceiling height; must be floored, weatherproof and reasonably dustproof; must have at least two glazed sliding windows provided with window latches; must have at least one door provided with a substantial lock and all keys placed in the possession of the Engineer. Doors and windows shall be screened. The building need not be new but the facility furnished under this item shall be neat, clean, sound and usable for the purpose intended.

b. The building shall be provided with electric lights and power outlets arranged as directed by the Engineer. The building shall be provided with equipment in good working order. In cold weather the building shall be provided with adequate vented space heating facilities and fuel for heating. In hot weather the building shall be equipped with adequate air conditioning units. Heating and cooling and telephone utility service will be furnished at no cost to the Owner or Engineer.

c. The building for the field office shall provide not less than 240 sq. ft. of floor space. At least two tables each suitable for desk and drafting table work shall be provided with approximate dimensions of 30" x 48". These tables may be movable, attached to a wall, or built-in. Each table will be provided with at least two drawers (minimum dimensions: 8" deep x 12" wide by 24" long) or equivalent cabinet or shelf space for storing field books and records.

d. The building shall be provided with internet access with a minimum download speed of 24 megabits per second. This service shall be provided for the length of the contract or construction project, whichever is greater. Contractor shall make a good faith effort to provide the required internet access. The RPR may adjust internet requirements based on locally available service providers.

105-4.2 Contractor's access / haul routes. *The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. Prior to beginning construction, the contractor shall document the existing conditions of any proposed haul routes. Documentation methods shall be approved by the Engineer. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the*

layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the Contractor. Temporary pipe culverts will not be measured for separate payment, but will be considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.

105-4.3 Contractor's Staging Area. *The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization."*

105-4.4 Instrument Control. *The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Mobilization".*

105-4.5 Location of Underground Utilities. *Prior to performing excavations, the Contactor shall be responsible for performing such spot digging or "potholing" as necessary to verify the location and depth of existing underground utilities. This work shall be in addition to requirements included the General Provisions and plan notes. Spot digging or "potholing" will not be paid separately, but shall be considered subsidiary to the bid item "Mobilization."*

105-4.6 Clean-Up. *From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.*

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

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 (Maximum 5% of Total Bid) – per Lump Sum

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.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

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ITEM P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1.1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

101-1.2 *Limits of pavement removal, paint and rubber removal, and cold milling are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.*

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Not used.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. If the material is to be wasted on the airport site, it shall be broken to a maximum size of 3 inches.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

d. Disposal. *All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Not used.

101-3.3 Removal of Foreign Substances/contaminates prior to remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, rotary grinding, or sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair. Not used.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Not used.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Not used.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Not used.

101-3.10 Removal of Pipe and other Buried Structures. Not used.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

101-4.2 Pavement Marking Removal. The unit of measurement for pavement marking removal shall be the square foot.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P-101-5.1	Asphalt Pavement Section Removal (9" Thick) -- per square yard
Item P-101-5.2	Pavement Marking Removal – per square foot

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 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

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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.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste *off-site* ~~areas as shown on the plans~~. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR. *Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.*

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 *the plans* ~~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 *off-site* ~~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.

Volumetric quantities were not calculated for this project.

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 described in paragraph 152-1.3* ~~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. When *the quality of material varies significantly* ~~selective grading is indicated on the plans~~, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of off the airport. The cost is incidental to this item. This excavated material shall *not* be paid for *separately*. ~~at the contract unit price per cubic yard for Unsuitable Excavation~~. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a *necessary part of Unsuitable Excavation* ~~part of the embankment~~. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will *not* be paid *separately* ~~as Unsuitable Excavation~~.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as “Unclassified Excavation.”

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 shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.~~

~~**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 **[** ___ **]**. 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. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every **500** square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 95% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. Under all areas to be paved, the embankments shall be compacted ~~to a depth of [ ] and~~ to a density of not less than 95 percent of the maximum density 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.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed in accordance with *the plans*.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

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 [12 inches] and to a~~ density of not less than 100 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 [12 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 (19.0 mm) sieve, follow the methods in ASTM D698. Tests for moisture content and compaction will be taken at a *rate determined by the RPR* ~~minimum of [___] 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 D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

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.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

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. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 *Earthwork items shall not be measured for separate payment but will be considered subsidiary to other contract items.* ~~Measurement for payment specified by the cubic yard shall be computed by the **[** average end areas of design cross sections **] [** the comparison of digital terrain model (DTM) surfaces **]** for computation of neat line design quantities **]**. The end area is that bound by the original ground line established by *the design survey* field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.~~

BASIS OF PAYMENT

152-4.1 *Separate payment will not be made for earthwork items but will be considered subsidiary to other contract items.* ~~**[** Unclassified excavation **] [** Rock Excavation **] [** Borrow Excavation **] [** Muck Excavation **] [** Drainage Excavation **] [** Stockpiled Material **]** payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

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/ft^3 (600 kN-m/m^3))
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 (2700 kN-m/m^3))
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

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ITEM P-605 JOINT SEALANTS FOR PAVEMENTS

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of ASTM D5893 Standard Specifications for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be 25% ± 5 % larger in diameter than the nominal width of the joint.

605-2.3 Bond breaking tapes. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 Time of application. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50°F and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

Prior to beginning the sealing operation, the Contractor shall have the sealant supplier demonstrate, to the satisfaction of the Engineer, the cleaning and installation procedures for the joint sealant to be installed on the project.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, 30 days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. Sandblasting is not allowed.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by concrete saw as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of ½ inch from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/8 inch ±1/16 inch below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall *not be measured for separate payment but shall be considered subsidiary to the respective L-110 pay item*. ~~measured by the **[** gallon **[** pound **] [** linear foot **]** of sealant in place, completed, and accepted.~~

BASIS OF PAYMENT

605-5.1 *Separate* payment for joint sealing material shall *not be measured for separate payment but shall be considered subsidiary to the respective L-110 pay item*. ~~be made at the contract unit price per **[** gallon **] [** pound **] [** linear foot **]**. The price shall be full compensation for furnishing all materials, for all~~

~~preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Payment will be made under:~~

~~Item P-605-5.1 Joint Sealing Filler, **[** per gallon **] [** per pound **] [** per linear foot **]~~

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 D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D5893	Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

Advisory Circulars (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids

END ITEM P-605

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ITEM P-606 ADHESIVE COMPOUNDS, TWO-COMPONENT FOR SEALING WIRE AND LIGHTS IN PAVEMENT

DESCRIPTION

606-1.1 This specification covers two types of material; a liquid suitable for sealing electrical wire in saw cuts in pavement and for sealing light fixtures or bases in pavement, and a paste suitable for embedding light fixtures in the pavement. Both types of material are two-component filled formulas with the characteristics specified in paragraph 606-2.4. Materials supplied for use with asphalt and/or concrete pavements must be formulated so they are compatible with the asphalt and/or concrete.

MATERIALS

606-2.1 Curing. When pre-warmed to 77°F, mixed, and placed in accordance with manufacturer's directions, the materials shall cure at temperatures of 45°F or above without the application of external heat.

606-2.2 Storage. The adhesive components shall not be stored at temperatures over 86°F, unless otherwise specified by the manufacturer.

606-2.3 Caution. Installation and use shall be in accordance with the manufacturer's recommended procedures. Avoid prolonged or repeated contact with skin. In case of contact, wash with soap and flush with water. If taken internally, call doctor. Keep away from heat or flame. Avoid vapor. Use in well-ventilated areas. Keep in cool place. Keep away from children.

606-2.4 Characteristics. When mixed and cured in accordance with the manufacturer's directions, the materials shall have the following properties shown in Table 1.

Table 1. Property Requirements

Physical or Electrical Property	Minimum	Maximum	ASTM Method
Tensile			
Portland cement concrete	1,000 psi (70 kg/sq cm)		D 638
Asphalt concrete	500 psi (35 kg/sq cm)		
Elongation			
Portland cement concrete		See note [1]	D 638
Asphalt concrete	50%		D 638
Coef. of cub. exp. cu. cm/cu. cm/°C	0.00090	0.00120	D 1168
Coef. of lin. exp. cm/cm/°C	0.000030	0.000040	D 1168
Dielectric strength, short time test	350 volts/mil.		D 149
Arc resistance	125 sec		
Pull-off			
Adhesion to steel	1,000 psi (70 kg/sq cm)		
Adhesion to Portland cement concrete	200 psi (14 kg/sq cm)		
Adhesion to asphalt concrete	No test available.		
Adhesion to aluminum	250 psi		

[1] 20% or more (without filler) for formulations to be supplied for areas subject to freezing.

SAMPLING, INSPECTION, AND TEST PROCEDURES

606-3.1 Tensile properties. Tests for tensile strength and elongation shall be conducted in accordance with ASTM D638.

606-3.2 Expansion. Tests for coefficients of linear and cubical expansion shall be conducted in accordance with, Method B, except that mercury shall be used instead of glycerine. The test specimen shall be mixed in the proportions specified by the manufacturer, and cured in a glass tub approximately 2 inch long by 3/8 inch in diameter. The interior of the tube shall be precoated with a silicone mold release agent. The hardened sample shall be removed from the tube and aged at room temperature for one (1) week before conducting the test. The test temperature range shall be from 35°F to 140°F.

606-3.3 Test for dielectric strength. Test for dielectric strength shall be conducted in accordance with ASTM D149 for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.4 Test for arc resistance. Test for arc resistance shall be conducted for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.5 Test for adhesion to steel. The ends of two smooth, clean, steel specimens of convenient size (1 inch by 1 inch by 6 inch) would be satisfactory when bonded together with adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure on a Riehle (or similar) tensile tester. The thickness of adhesive to be tested shall be 1/4 inch.

606-3.6 Adhesion to Portland cement concrete

a. Concrete test block preparation. The aggregate grading shall be as shown in Table 2.

The coarse aggregate shall consist of crushed rock having a minimum of 75% of the particles with at least one fractured face and having a water absorption of not more than 1.5%. The fine aggregate shall consist of crushed sand manufactured from the same parent rock as the coarse aggregate. The concrete shall have a water-cement ratio of 5.5 gallons of water per bag of cement, a cement factor of 6, ±0.5, bags of cement per cubic yard of concrete, and a slump of 2-1/2 inch, ±1/2 inch. The ratio of fine aggregate to total aggregate shall be approximately 40% by solid volume. The air content shall be 5.0%, ±0.5%, and it shall be obtained by the addition to the batch of an air-entraining admixture such as Vinsol® resin. The mold shall be of metal and shall be provided with a metal base plate.

Means shall be provided for securing the base plate to the mold. The assembled mold and base plate shall be watertight and shall be oiled with mineral oil before use. The inside measurement of the mold shall be such that several one inch by 2-inch by 3-inch test blocks can be cut from the specimen with a concrete saw having a diamond blade. The concrete shall be prepared and cured in accordance with ASTM C192.

Table 2. Aggregate for Bond Test Blocks

Type	Sieve Size	Percent Passing
Coarse Aggregate	3/4 inch (19.0 mm)	97 to 100
	1/2 inch (12.5 mm)	63 to 69
	3/8 inch (9.5 mm)	30 to 36
	No. 4 (4.75 mm)	0 to 3
Fine Aggregate	No. 4 (4.75 mm)	100
	No. 8 (2.36 mm)	82 to 88
	No. 16 (1.18 mm)	60 to 70
	No. 30 (600 µm)	40 to 50
	No. 50 (300 µm)	16 to 26
	No. 100 (150 µm)	5 to 9

b. Bond test. Prior to use, oven-dry the test blocks to constant weight at a temperature of 220°F to 230°F, cool to room temperature, 73.4°F ±3°F, in a desiccator, and clean the surface of the blocks of film or powder by vigorous brushing with a stiff-bristled fiber brush. Two test blocks shall be bonded together on the one inch by 3 inch sawed face with the adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure in a Riehle (or similar) tensile tester. The thickness of the adhesive to be tested shall be 1/4 inch.

606-3.7 Compatibility with asphalt mix. Test for compatibility with asphalt in accordance with ASTM D5329.

606-3.8 Adhesive compounds - Contractor's responsibility. The Contractor shall furnish the vendor's certified test reports for each batch of material delivered to the project. The report shall certify that the material meets specification requirements and is suitable for use with concrete pavements. The report shall be provided to and accepted by the Resident Project Representative (RPR) before use of the material. In addition, the Contractor shall obtain a statement from the supplier or manufacturer that guarantees the material for one year. The supplier or manufacturer shall furnish evidence that the material has performed satisfactorily on other projects.

606-3.9 Application. Adhesive shall be applied on a dry, clean surface, free of grease, dust, and other loose particles. The method of mixing and application shall be in strict accordance with the manufacturer's recommendations. When used with Item P-605, such as light can installation, Item P-605 shall not be applied until the Item P-606 has fully cured.

METHOD OF MEASUREMENT

606-4.1 The adhesive compound shall *not* be measured *for separate payment but shall be considered subsidiary to the respective L-110 pay item.* ~~by the **[pound] [gallon]** of adhesive as specified, in place, complete and accepted. When required in the installation of an in-runway lighting system or portion thereof, no measurement will be made for direct payment of adhesive, as the cost of furnishing and installing shall be considered as a subsidiary obligation in the completion of the installation.~~

BASIS OF PAYMENT

606-5.1 *Separate* payment shall *not* be made *for adhesive compound but shall be considered subsidiary to the L-110 pay item*~~, where applicable, at the contract unit price per **[pound] [gallon]** for the adhesive. This price shall be full compensation for furnishing all materials, and for all preparation, delivering, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Item P-606-5.1 Adhesive Compound - per **[pound] [gallon]**~~

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 C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM D149	Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D5329	Standard Test Methods for Sealants and Fillers, Hot-applied, for Joints and Cracks in Asphaltic and Portland Cement Concrete Pavements

END OF ITEM P-606

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

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 ½ inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

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

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150, Types I or II or ASTM C 595 Types IL.

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 or ASTM D1752.

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 conform to the table below: ~~consist of **[ ]** conforming to the requirements of **[ ]**.~~

Steel Reinforcement

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884
Welded Deformed Steel Fabric	ASTM A1064
Bar Mats	ASTM A184 or ASTM A704

610-2.11 Materials for curing concrete. Curing materials shall conform to the table below.

Materials for Curing

Waterproof paper	ASTM C171
Clear or white Polyethylene Sheeting	ASTM C171
White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	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 4,000 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 85ºF, follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

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.* ~~of concrete complete in place and accepted.~~

BASIS OF PAYMENT

610-6.1 *Concrete shall be considered incidental and no separate payment shall be made.* ~~Payment shall be made at the contract price **[** by the number of cubic yards based on batch tickets of material **] [** by the number of square yards **] [** lump sum **] [** Concrete shall be considered incidental and no separate payment shall be made. **]** This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Payment will be made under:~~

~~Item P-610-6.1~~	~~Concrete, **[** per cubic yards (cubic meters) **] [** per square yards (square meters) **] [** lump sum **] [** incidental to other work items **]~~

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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ITEM P-620 RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint[1]				Glass Beads[2]	
Type	**Color**	**Fed Std. 595 Number**	**Application Rate Maximum**	**Type**	**Application Rate Minimum**
Waterborne Type I or II	Yellow	33538 or 33655	115 ft^2/gal	Type I, Gradation A	7 lb/gal
Waterborne Type I or II	Black	37038	115 ft^2/gal	N/A	N/A

[1] See paragraph 620-2.2a

[2] See paragraph 620-2.2b

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

b. Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type I or Type II . The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as **b.**

c. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A.

Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process. *Preparation and removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.*

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufacturer's application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch in 50 feet, and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch or less	±1/2 inch
greater than 36 inch to 6 feet	±1 inch
greater than 6 feet to 60 feet	±2 inch
greater than 60 feet	±3 inch

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings. Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Minimum Retro-Reflectance Values

Material	Retro-reflectance mcd/m^2/lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than[1]	100	75	10

[1] Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of markings shall be measured by the number of square feet of painting.

620-4.2 The quantity of reflective media shall be *subsidiary to other marking pay items.*

620-4.3 *Retroreflectivity testing of markings shall be subsidiary to other marking pay items.*

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.2 Payment for markings shall be made at the contract price for by the number of square feet of painting.

620-5.3 *Payment for retroreflectivity testing shall not be paid for separately.*

Payment will be made under:

Item P-620-5.1	Taxiway Marking, Yellow (with Type III Reflective Media) – per Square Foot
Item P-620-5.2	Taxiway Marking, Black (without Reflective Media) – per Square Foot

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 D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products

ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200	Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

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ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing, and liming the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as *specified in the Standard Specifications, Section Item 164 – Seeding for Erosion Control* ~~follows:~~

~~**Seed Properties and Rate of Application**~~

~~Seed~~	~~Minimum Seed Purity (Percent)~~	~~Minimum Germination (Percent)~~	~~Rate of Application lb/acre (or lb/1,000 S.F.)~~
*	*	*	*
*	*	*	*

~~Seeding shall be performed during the period between [ ] and [ ] inclusive, unless otherwise approved by the RPR.~~

901-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 µm) mesh sieve and 50% will pass through a No. 100 (150 µm) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate *specified by the tests furnished in T-905* ~~of [ ]~~. All liming materials shall conform to the requirements of ASTM C602.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 600 lbs/acre. *Contractor may utilize another commercial fertilizer and apply at at rate equal to at least 60 lbs of nitrogen per acre.*

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches as a result of grading operations and, if immediately prior to seeding, the top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches. Clods shall be broken and the top 3 inches of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons over the entire range of the

tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 lb / sq inches. The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds of lime shall be added to and mixed with each 100 gallons of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds of these combined solids shall be added to and mixed with each 100 gallons of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches, after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of units acre measured on the ground surface, completed and accepted. *Seeding shall be measured to the nearest tenth (0.1) of an acre. Lime and fertilizer will not be measured for separate payment but will be considered subsidiary to seeding.*

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per acre or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901-5.1	Seeding – per acre

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 C602	Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC	JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

ITEM T-905 TOPSOIL

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (75 µm) sieve as determined by the wash test in accordance with ASTM C117. *Topsoil testing shall be completed and paid for by the Contractor.*

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

~~**905-4.1** Topsoil obtained on the site shall be measured by the number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

905-4.2 Topsoil obtained off the site shall be measured by the number of *square yards at the specified thickness* ~~cubic yards of topsoil~~ measured in its *final* ~~original~~ position ~~and stripped or excavated~~. ~~Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

BASIS OF PAYMENT

~~**905-5.1** Payment will be made at the contract unit price per cubic yard for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

905-5.2 Payment will be made at the contract unit price per *square yard of the specified thickness* ~~cubic yard~~ for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-905-5.1	Topsoil (8” Thickness) - per square yards

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 C117	Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

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ITEM L-101 AIRPORT ROTATING BEACONS

DESCRIPTION

101-1.1 This item shall consist of furnishing and installing new airport rotating beacons. The work shall include mounting, leveling, wiring, painting, maintaining, and testing of the beacon. In addition, this item also includes all materials and incidentals necessary to place the beacon in a serviceable condition (as a completed unit) to the satisfaction of the RPR. This item shall include a mounting platform if specified in the plans.

EQUIPMENT AND MATERIALS

101-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (ACs) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

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 RPR.

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

d. All materials and equipment used to construct this item 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. 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 mark each copy to identify the products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components or 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 accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the Contract Documents plans and specifications. The Contractor's submittals shall be in an electronic pdf file format, tabbed by specification section. The RPR 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 in 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.

101-2.2 Beacon. The beacon shall be a Type L-802A(L) Class I beacon meeting the requirements of AC 150/5345-12, Specification for Airport and Heliport Beacons.

101-2.3 Beacon installation. Installation shall be as shown on the plans. Provide two lamp sets as spares.

101-2.4 Panel boards and breakers. Panel boards and breakers shall conform to the requirements of Federal Specification W-P-115, Panel, Power Distribution.

101-2.5 Weatherproof cabinets. The weatherproof cabinets shall conform to National Electrical Manufacturers Association Standards (NEMA) and shall be constructed of steel not less than No. 16 United States Standard (USS) gauge.

101-2.6 Electrical wire. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be the type, size, number of conductors, and voltage shown in the plans or in the proposal.

101-2.7 Conduit. Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6, 514B, and 1242.

101-2.8 Paint.

a. Priming paint for non-galvanized metal surfaces shall be a high solids alkyd primer compatible with the manufacturer's recommendations for the intermediate or topcoat.

b. Priming paint for galvanized metal surfaces shall be a zinc-rich epoxy primer paint per MIL-DTL-24441/19C, Formula 159, Type III. Use MIL-24441 thinner per paint manufacturer's recommendations.

c. Orange paint for the body and the finish coats on metal and wood surfaces shall consist of a ready-mixed non-fading paint meeting the requirements of Master Painter's Institute (MPI) Reference #9 (gloss). The color shall be per Federal Standard 595, International Orange Number 12197.

d. White paint for body and finish coats on metal and wood surfaces shall be ready-mixed paint per the Master Painter's Institute, Reference #9, Exterior Alkyd, Gloss, volatile organic content (VOC) Range E2.

e. Priming paint for wood surfaces shall be mixed on the job by thinning the above-specified orange or white paint with 1/2 pint (0.24 liter (l)) of raw linseed oil to each gallon (liter).

CONSTRUCTION METHODS

101-3.1. Placing the beacon. The beacon shall be mounted as shown in the plans.

101-3.2 Hoisting and mounting. The beacon shall be hoisted to the mounting platform by using suitable slings and hoisting tackle. Before fastening the beacon to the mounting platform, the mounting holes shall be checked for correct spacing. Beacon base or mounting legs shall not be strained or forced out of position to fit incorrect spacing of mounting holes. The beacon base shall be raised first, set in position, and bolted in place. The drum shall then be raised and assembled to the base.

101-3.3 Leveling. After the beacon has been mounted, it shall be accurately leveled following the manufacturer's instructions. The leveling shall be checked in the presence of the RPR and shall be to the RPR's satisfaction.

101-3.4 Servicing. Before placing the beacon in operation, the Contractor shall check the manufacturer's manual for proper servicing requirements. Follow the manufacturer's servicing instructions for each size of beacon.

101-3.5 Beam adjustment. After the beacon has been mounted and leveled, the elevation of the beam shall be adjusted. The final beam adjustments shall be made at night so that results can be readily observed. The beams shall be adjusted to the elevation directed by the RPR or as shown in the plans. See AC 150/5340-30 for additional information about airport beacon beam adjustment.

101-3.6 Beacon mounting platform. Where the beacon is to be mounted at a location other than the beacon tower and where a special mounting platform is required, the construction of the mounting platform and any necessary lightning protection equipment shall be per the details shown in the plans.

101-3.7 Wiring. The Contractor shall furnish all necessary labor and materials and shall make complete above ground electrical connections per the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code (NEC).

If underground cable for the power feed from the transformer vault to the beacon site and duct for this cable installation is required, the cable, ground rods and duct shall be installed as shown on the plans.

If shown on the plans, the Contractor shall connect the tell-tale relay mechanism in the beacon to energize the tower obstruction light circuit when failure of the beacon service (primary) lamp occurs.

~~If lightning protection is specified in the plans, it shall be installed per Item L-103, Airport Beacon Towers, paragraph 103-2.3.~~

101-3.8 Panel and cabinet. If shown on the plans, the Contractor shall furnish and install at the top of the beacon tower or mounting platform a circuit-breaker panel consisting of four 15-ampere breakers mounted in a weather-proof cabinet to provide separate protection for the circuits to the beacon lamps, motor, obstruction lights, and other equipment. The cabinet shall be located on the side of the beacon platform as shown on the plans or as directed by the RPR.

101-3.9 Conduit. All exposed wiring shall be run in not less than 3/4 inch galvanized rigid steel conduit. Outdoor rated, liquid-tight, flexible metal conduit may be used for final connection at the beacon equipment. No conduit shall be installed on top of a beacon platform floor. All conduits shall be installed to provide for drainage. If mounted on a steel beacon tower, the conduit shall be fastened to the tower members with Wraplock® straps (or equivalent), clamps, or approved fasteners, spaced approximately 5 feet apart. The conduit shall be fastened to wooden structures with galvanized pipe straps and with galvanized wood screws not less than No. 8 or less than 1-1/4 inches long. There shall be at least two fastenings for each 10 feet length.

101-3.10 Booster transformer. Not used.

101-3.11 Photoelectric control. If shown in the plans or specified in the job specifications, the Contractor shall furnish and install an automatic control switch at the location indicated in the plans. The switch shall be a photoelectric type. It shall be a standard commercially available unit that will energize when the illumination on a vertical surface facing North decreases to 25 to 35 foot-candles. The photoelectric switch should de-energize when the illumination rises to 50 to 60 foot-candles. The photoelectronic switch shall be installed, connected, and adjusted per the manufacturer's instructions.

101-3.12 Obstruction lights. Unless otherwise specified, the Contractor shall install on the top of the beacon tower or mounting platform two L-810 obstruction lights on opposite corners. These lights shall be mounted on conduit extensions to a height of not less than 4 inches above the top of the beacon.

101-3.13 Painting. If construction of a wooden mounting platform is stipulated in the proposal as part of this item, all wooden parts of the platform shall be given one priming coat of white or aviation-orange paint after fabrication but before erection and one body and one finish coat of international-orange paint after erection. Steel mounting platforms shall be given one priming coat of corrosion-inhibiting primer before erection and one body and one finish coat of international-orange paint after erection. All equipment installed under this contract and exposed to the weather shall be given one body and one finish coat of international-orange (per Federal Standard 595, Number 12197) or white paint as required. This shall include the beacon (except glass surfaces), beacon base, breaker cabinet, all conduit, and transformer cases. It shall not include lightning protection system air terminals or obstruction light globes.

Apply the paint uniformly at the proper consistency. The finished paint shall be free from sags, holidays, and smears. Each coat of paint shall be given ample time to dry and harden before the next coat of paint is applied. A minimum of three (3) days shall be allowed for drying on wood surfaces, and a minimum of four (4) days shall be allowed for drying on metal surfaces. Painting shall not be performed in cold, damp, foggy, dusty, or frosty atmospheres, or when the air temperature is below 40°F, nor started when the weather forecast indicates such conditions for the day.

All surfaces shall be cleaned before painting. The surfaces shall be dry and free from scale, grease, rust, dust, and dirt. All knots in wood surfaces shall be covered with shellac immediately before applying the priming coat of paint. Nail holes and permissible imperfections shall be filled with putty. The ready-mixed

paint shall be thinned for the priming and body coats per the manufacturer's recommendations. In the absence of such recommendations, the following shall apply:

a. Body coats (for both wood and steel surfaces) - add 1/2 pint of turpentine to each gallon of ready-mixed paint for body coats.

b. Finish coats (for both wood and steel surfaces) the ready-mixed paint shall be used as it comes from the container for finish coats.

101-3.14 Testing. The beacon installation shall be fully tested as a completed unit prior to acceptance. These tests shall include operation of the lamp-changer and performing insulation resistance and voltage readings. The insulation resistance to ground of the beacon power supply circuit shall be not less than 100 megohms when measured ungrounded. The Contractor must furnish testing equipment. Tests shall be conducted in the presence of the RPR and shall be to the RPR's satisfaction.

METHOD OF MEASUREMENT

101-4.1 The quantity to be paid for shall be the number of beacons installed as completed units in place, accepted, and ready for operation.

BASIS OF PAYMENT

101-5.1 Payment will be made at the contract unit price for each completed and accepted job. 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.

Payment will be made under:

Item L-101-5.1	L-802A(L), Class I Airport Rotating Beacon, in Place - 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 150/5345-7	Specification for L-824 Underground Cable for Airport Lighting Circuits
AC 150/5345-12	Specification for Airport and Heliport Beacons
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program
AC 150/5390-2	Heliport Design

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)

Federal Specification (FED SPEC)

FED SPEC W-P-115	Panel, Power Distribution

Federal Standard (FED STD)

FED STD 595	Colors Used in Government Procurement

Master Painter Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)

Mil Spec

MIL-DTL-24441C/19C	Paint, Epoxy-Polyamide, Zinc Primer, Formula 159, Type III

National Fire Protection Association (NFPA)

NFPA-70	National Electric Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit – Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 1242	Electrical Intermediate Metal Conduit - Steel

END OF ITEM L-101

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ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. 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 RPR. 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.

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 RPR.

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 RPR) 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 RPR 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 RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR 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 maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

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. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 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 Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size 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 Document.

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 grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper or 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. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal *are* acceptable.

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. 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 RPR 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 shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

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 (50 mm) 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 existing circuit's insulation resistance shall be tested, in the presence of the RPR. 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 RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing 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 Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend 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. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

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. Cable shall be run without splices, from fixture to fixture.

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 RPR 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 and on both sides of slack loops where a future connector would be 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 RPR.

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 RPR 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 RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. 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 RPR, 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.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches. Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 below the required cable 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 material 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.*

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

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:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, 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 or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables; be 3 deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. This layer shall not be compacted. The second layer shall be 5 inches deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be backfill with controlled low strength material (CLSM) in accordance with P-153.

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 when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the sodding, topsoiling, and seeding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be backfill with controlled low strength material (CLSM) in accordance with P-153. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet square and 4-6 inch thick, extending approximately one inch above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word “CABLE” and directional arrows on each cable marking slab. The letters shall be approximately 4 inches high and 3 inches wide, with width

of stroke 1/2 inch and 1/4 inch deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word “SPLICE” on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

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 RPR.

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. The joint where the connectors come together shall be finished by one of the following methods: (1) 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 (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) 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. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

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. The manufacturer's recommendation for stretching tape during splicing shall be followed. 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.

e. Assembly. 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 No. 6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. – Not used

b. Isolation – Counterpoise size is shown on the plans. The isolation method is an alternate method for use only with edge lights installed in turf and stabilized soils and raceways installed parallel to and adjacent to the edge of the pavement. NFPA 780 uses 15 feet to define "adjacent to".

The counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected.

The counterpoise conductor shall be installed 8 inches minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.

c. Common Installation requirements. 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.

~~When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.~~

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

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 wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 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.

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.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

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 area of protection measured 45 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 or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, 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 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 RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. 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 RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. 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 RPR 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 RPR 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 500 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

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 megohms.

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 RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation 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** Trenching shall be measured by the linear feet of trench, including the excavation, backfill, and restoration, completed, measured as excavated, and accepted as satisfactory. When specified, separate measurement shall be made for trenches of various specified widths.~~

~~The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.~~

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall include additional quantities required for slack.

108-4.3 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. 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	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per Linear Foot
Item L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Connections/Terminations - per Linear Foot

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 150/5340-26	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-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

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

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Federal Aviation Administration Standard

FAA STD-019E	Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment

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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 and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

Refer to Item SS-301 for additional electrical demolition work requirements.

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 RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per 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, 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 RPR 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 RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR 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 mils 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. In lieu

of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

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 and Schedule 80 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 be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 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.~~

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) 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 RPR 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. Under pavement, the top of the duct bank shall not be less than 18 inches below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches below finished grade.

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 recleaned 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 RPR 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, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable 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 RPR. 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 RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR 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 RPR 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 RPR, 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 RPR 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 RPR 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 RPR.

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. Flowable 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 RPR 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 RPR, 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 RPR. 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 RPR. 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 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 RPR.

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 Item 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 RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include sodding, topsoiling, and seeding shown on the plans. 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.

110-3.8 Ownership of removed cable. Removed cable shall become the property of the contractor and shall be disposed of off-site via recycling means.

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, locator tape, trenching and backfill with designated material, and restoration, 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 removal and disposal of existing duct banks and conduits as shown on the plans, 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	Non-Encased Electrical Conduit, 1W-2” - per Linear Foot
Item L-110-5.2	Concrete Encased Electrical Conduit, 1W-2” with Sawkerf Pavement Repair – per Linear Foot
Item L-110-5.3	Non-Encased Electrical Conduit, 2W-2” - per Linear Foot

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 Circular (AC)

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

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

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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 RPR. 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 RPR.

Refer to Item SS-301 for additional electrical demolition work requirements.

EQUIPMENT AND MATERIALS

115-2.1 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 so requested by the RPR.

b. 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 RPR) 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 RPR 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.

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 electronically submitted in pdf format, tabbed by specification section. The RPR 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 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. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. 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 lb. aircraft wheel 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 on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 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 L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch thickness for L-867 and 3/4-inch thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The 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 C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

115-2.7 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 250 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).

115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.12 Cable trays. Cable trays shall be of galvanized steel. Cable trays shall be located as shown on the plans.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 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, ½-inch diameter with an ultimate strength of 270,000 psi). 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.

115-2.16 Ground rods. Ground rods shall be one piece, copper or copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet long nor less than 5/8 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 RPR 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 RPR. 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 Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

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 RPR. 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 RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR 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 RPR 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 RPR 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 approval 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 RPR 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. ~~Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.~~

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 RPR may direct 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 RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR 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 RPR 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 Item 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 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.

115-3.13 Manhole elevation adjustments. ~~The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.~~

~~The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.~~

~~The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.~~

115-3.14 Duct extension to existing ducts. ~~Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.~~

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing

115-4.2 Airfield Handhole Cover Replacements shall be measured by the completed unit installed, in place, completed, and accepted. Separate measurement shall not be made for the various types and sizes.

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.

115-5.2 Payment shall be made by the contract unit price for Airfield Handhole Cover Replacement, per the type and dimension installed, complete and in-place. 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, including but not limited to, spacers, concrete, rebar, dewatering, excavating, backfill, topsoil, sodding and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

Payment will be made under:

Item L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16” Diameter by 24” Depth - Per Each
Item L-115-5.2	Electrical Junction Structure Plaza, Two -867 Class 1, Size 16” Diameter by 24” Depth Cans – Per Each
Item L-115-5.3	2’x 3’ Airfield Handhole Cover Replacement – 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.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

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 150/5345-42	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 (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

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 Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

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.

EQUIPMENT AND MATERIALS

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.

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-850C(L)	2	1	2	N/A	L-868B	W/W W/Y Y/W	L-830	N/A
L-862E(L)	2	1	N/A	4	L-867B	R/G G/R	L-830	14” Height
L-861T(L)	2	1	N/A	4	Existing	Blue	L-830	14” Height
L-862(L)	2	1	N/A	4	L-867B	W/W W/Y Y/W	L-830	14” Height

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Type	Size	Style	Class	Mode	Notes
L-85**8**(L)	5	3	2	2	N/A
L-85**8**(L)	1	3	2	2	

125-2.9 Runway End Identifier Light (REIL). The REIL fixtures shall meet the requirements of AC 150/5345-51, Type L-849I, Style A.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. ~~The circuit selector cabinet shall meet the requirements of AC 150/5345-5, Type L-847, [one][two][three][four] circuit control [as indicated], Class [A, indoor][B, outdoor], Rating [1, for 6.6 amperes][2, for 20 amperes].~~

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 or L-868, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

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.

METHOD OF MEASUREMENT

125-4.1 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR. Guidance signs 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. Runway End Identifier Lights shall be measured by each system *lump sum* installed as a completed unit in place, ready for operation, and accepted by the RPR.

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 runway end identification light 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	L-849A(L) Runway End Identification Lights System, Installed on Runway 16 -- per Lump Sum
Item L-125-5.2	L-849A(L) Runway End Identification Lights System, Installed on Runway 34 -- per Lump Sum
Item L-125-5.3	L-849A(L) Runway End Identification Lights System, Installed on Runway 30 -- per Lump Sum
Item L-125-5.4	L-850C(L) Low Profile Base Mounted In-pavement Runway Edge Light, Installed in Existing Full Strength Pavement -- per Each

Item L-125-5.5	L-862(L) Base Mounted Runway Edge Light, Installed -- per Each
Item L-125-5.6	L-862(L) Base Mounted Runway Edge Light, Installed on Existing Base – per Each
Item L-125-5.7	L-861T(L) Base Mounted Taxiway Edge Light, Installed – per Each
Item L-125-5.8	L-861T(L) Base Mounted Taxiway Edge Light, Installed on Existing Base – per Each
Item L-125-5.9	L-862E(L) Base Mounted Runway Threshold Light, Installed -- per Each
Item L-125-5.10	L-862E(L) Base Mounted Runway Threshold Light, Installed on Existing Base -- per Each
Item L-125-5.11	L-858 Base Mounted, 1-Module Guidance Sign, Installed -- per Each
Item L-125-5.12	L-858 Base Mounted, 1-Module Guidance Sign, Installed on Existing Base -- per Each
Item L-125-5.13	L-858 Base Mounted, 2-Module Guidance Sign, Installed on Existing Base -- per Each
Item L-125-5.14	L-858 Base Mounted, 3-Module Guidance Sign, Installed on Existing Base -- per Each
Item L-125-5.15	L-858 Base Mounted, 4-Module Guidance Sign, Installed on Existing Base -- 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

END OF ITEM L-125

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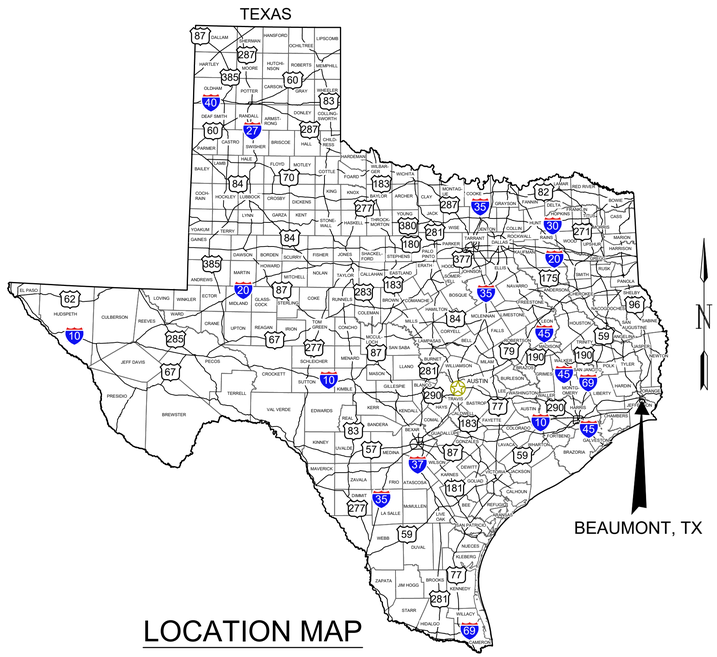
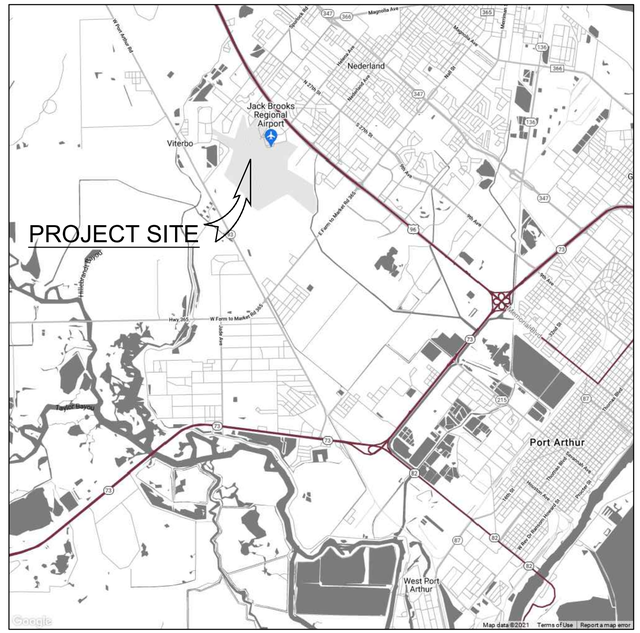
AIRFIELD LIGHTING REHABILITATION
ISSUE FOR BID
JACK BROOKS REGIONAL AIRPORT
BEAUMONT/PORT ARTHUR, TEXAS



LOCATION MAP

JACK BROOKS REGIONAL AIRPORT
(FORMERLY SOUTHEAST TEXAS REGIONAL AIRPORT)



VICINITY MAP
NO SCALE

GARVER PROJECT NO. 2400880
APRIL 2026

GARVER

21 Waterway Ave
Suite 300, Office 348
The Woodlands, TX 77380
713-491-8333

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REGISTRATION NO.
F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

COVER SHEET

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
GI001

SHEET NUMBER **1**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 1:55 PM Plotter used: AutoCAD PDF (General Documentation).pc3

SHEET INDEX

SHEET NO.	DRAWING NO.	SHEET TITLE
		GENERAL
1	GI001	COVER SHEET
2	GI002	SHEET INDEX
3	GI101	PROJECT LAYOUT PLAN
4	GC001	CONSTRUCTION SAFETY & PHASING NOTES 1
5	GC002	CONSTRUCTION SAFETY & PHASING NOTES 2
6	GC100	CONSTRUCTION SAFETY & PHASING PLAN - OVERVIEW
7	GC101	CSPP - PHASE 1
8	GC102	CSPP - PHASE 1B
9	GC103	CSPP - PHASE 2
10	GC104	CSPP - PHASE 3
11	GC501	CONSTRUCTION SAFETY DETAILS 1
12	GC502	CONSTRUCTION SAFETY DETAILS 2
13	GC503	CONSTRUCTION SAFETY DETAILS 3
		CIVIL
14	CD101	DEMOLITION PLAN 1
15	CD102	DEMOLITION PLAN 2
16	CD501	DEMOLITION DETAILS
17	CM101	PAVEMENT MARKING PLAN 1
18	CM101A	PAVEMENT MARKING PLAN 1 - ADD ALT.
19	CM102	PAVEMENT MARKING PLAN 2
20	CM501	PAVEMENT MARKING DETAILS
		ELECTRICAL
21	EN001	ELECTRICAL LEGEND AND NOTES
22	ED101	LIGHTING DEMOLITION PLAN 1
23	ED102	LIGHTING DEMOLITION PLAN 2
24	ED103	LIGHTING DEMOLITION PLAN 3
25	ED104	LIGHTING DEMOLITION PLAN 4
26	ED105	LIGHTING DEMOLITION PLAN 5
27	ED106	LIGHTING DEMOLITION PLAN 6
28	ED107	LIGHTING DEMOLITION PLAN 7
29	ED201	ELECTRICAL VAULT DEMO PLAN
30	ED501	LIGHTING DEMOLITION DETAILS 1
31	ED502	LIGHTING DEMOLITION DETAILS 2
32	EL101	LIGHTING INSTALLATION PLAN 1 - BASE BID
33	EL101A	LIGHTING INSTALLATION PLAN 1 - ADD ALT.
34	EL102	LIGHTING INSTALLATION PLAN 2
35	EL103	LIGHTING INSTALLATION PLAN 3 - BASE BID
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37	EL104	LIGHTING INSTALLATION PLAN 4 - BASE BID
38	EL104A	LIGHTING INSTALLATION PLAN 4 - ADD ALT.
39	EL105	LIGHTING INSTALLATION PLAN 5
40	EL106	LIGHTING INSTALLATION PLAN 6
41	EL107	LIGHTING INSTALLATION PLAN 7
42	EL201	ELECTRICAL VAULT INSTALLATION PLAN
43	EL501	LIGHTING INSTALLATION DETAILS 1
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45	EL503	LIGHTING INSTALLATION DETAILS 3
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54	EL512	LIGHTING INSTALLATION DETAILS 12
55	EL513	LIGHTING INSTALLATION DETAILS 13
56	EL514	LIGHTING INSTALLATION DETAILS 14
57	EL601	ELECTRICAL VAULT ONE-LINE DIAGRAM

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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

SHEET INDEX

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BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
GI002

SHEET NUMBER **2**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 1:55 PM Plotter used: AutoCAD PDF (General Documentation).pc3

NOTES:

1. ALIGNMENTS ARE BASED ON PUBLISHED RUNWAY END POINTS. CONTRACTOR MUST VERIFY RUNWAY END POINT LOCATIONS IN THE FIELD.

LINE TABLE: PAVEMENT ALIGNMENTS

LINE NO.	ALIGNMENT	START STATION	START POINT	END STATION	END POINT
L1	RUNWAY 16-34	99+00.00	N 13924418.72, E 3544781.80	151+70.51	N 13929472.78, E 3543286.84
L2	RUNWAY 12-30	199+00.00	N 13928418.62, E 3542496.89	268+49.96	N 13925100.11, E 3548603.39
L3	TAXIWAY F	299+00.00	N 13924412.73, E 3544845.27	323+23.04	N 13926542.15, E 3546001.43

AIRFIELD MONUMENTS

NO.	TYPE	DESIGNATION	LATITUDE	LONGITUDE
1	PACS	BPT E	29° 57' 23.70" N	94° 01' 34.72" W
2	SACS	BPT C	29° 57' 01.78" N	94° 01' 13.02" W
3	SACS	BPT D	29° 56' 47.14" N	94° 00' 32.28" W

ALL COORDINATES AND ELEVATIONS HORIZONTAL NAD 83, VERTICAL NAVD 88

ITEMS OF WORK

BASE BID: RUNWAY 16-34, RUNWAY 12-30, TAXIWAY D, AND TAXIWAY F LIGHTING AND SIGNAGE REPLACEMENT, TAXIWAY E LIGHTING AND SIGNAGE REMOVAL, REPLACEMENT OF REILS, REHABILITATION OF EXISTING AIRFIELD LIGHTING VAULT WITHIN JERRY WARE TERMINAL INCLUDING NEW REGULATORS, AND REPLACEMENT OF EXISTING AIRFIELD GENERATOR WITH NEW GENERATOR.

ADDITIVE ALTERNATE 1: TAXIWAY E PAVEMENT REMOVAL AND LIGHTING AND SIGNAGE REMOVAL.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

PROJECT LAYOUT AND SURVEY CONTROL PLAN

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER **GI101**

SHEET NUMBER **3**

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Last plotted by: LeMay, Matthew. C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 1:56 PM Plotter used: AutoCAD PDF (General Documentation).pc3

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) - PAGE 1 OF 2

1. COORDINATION

   A. CONTRACTOR PROGRESS MEETINGS - THE OWNER, ENGINEER AND CONTRACTOR WILL HOLD PROGRESS MEETINGS ON A COORDINATED SCHEDULE DURING CONSTRUCTION. OPERATIONAL SAFETY WILL BE A STANDING AGENDA ITEM IN SUCH MEETINGS.

   B. SCOPE OR SCHEDULE CHANGES - THE OWNER AND/OR ENGINEER WILL CALL SUCH COORDINATION CONFERENCES AS MAY SEEM EXPEDIENT TO HIM FOR THE PURPOSE OF ASSURING COORDINATION OF THE WORK COVERED BY THIS CONTRACT AND/OR SCOPE OR SCHEDULE CHANGES. THE CONTRACTOR SHALL ATTEND ALL SUCH CONFERENCES.

   C. FAA ATO COORDINATION - COORDINATION WITH THE FAA ATO FOR THE REQUIRED SHUTDOWN OF FAA FACILITIES FOR THIS PROJECT HAS BEEN COMPLETED. THE FAA ATO CONTACT FOR THIS PROJECT IS TBD.

2. PHASING

   DURING PERFORMANCE OF THIS PROJECT, THE AIRPORT RUNWAYS, TAXIWAYS, AND AIRCRAFT PARKING APRONS SHALL REMAIN IN USE BY AIRCRAFT TO THE MAXIMUM EXTENT POSSIBLE. THE PROJECT SHALL BE PHASED TO REDUCE OPERATIONAL IMPACTS AT THE AIRPORT.

   A. PHASE ELEMENTS - IF NECESSARY FOR A GIVEN PHASE, EACH PHASE OF THE CONSTRUCTION SAFETY DRAWINGS SHALL DETAIL THE AREAS CLOSED TO AIRCRAFT OPERATIONS, ESTIMATED DURATION OF CLOSURES, TAXI ROUTES, ARFF ACCESS ROUTES, CONSTRUCTION STAGING AREAS, CONSTRUCTION ACCESS AND HAUL ROUTES, NAVAID IMPACTS, LIGHTING AND MARKING CHANGES, AVAILABLE RUNWAY LENGTH, DECLARED DISTANCES, HAZARD MARKING AND LIGHTING, AND REQUIRED LEAD TIME FOR NOTAMS.

   B. CONSTRUCTION SAFETY AND PHASING DRAWINGS - SEE SHEET GC100 THROUGH GC503 FOR CONSTRUCTION SAFETY AND PHASING DRAWINGS.

3. AREAS OF OPERATIONS AFFECTED BY CONSTRUCTION ACTIVITY

   A. IDENTIFICATION OF AFFECTED AREAS - SEE "AIRFIELD AREAS OF OPERATION AFFECTED BY CONSTRUCTION" TABLE AND CONSTRUCTION SAFETY DRAWINGS FOR AIRFIELD AREAS OF OPERATIONS AFFECTED BY CONSTRUCTION.

   B. MITIGATION EFFORTS - SEE TABLE ON SHEET GC002 OF THE DRAWINGS FOR MITIGATION EFFORTS OF OPERATIONS AFFECTED BY CONSTRUCTION.

4. PROTECTION OF NAVIGATION AIDS (NAVAIDS)

   THE CONTRACTOR MUST NOT CONDUCT ANY CONSTRUCTION ACTIVITY WITHIN NAVIGATIONAL AID RESTRICTED AREAS WITHOUT PRIOR APPROVAL FROM THE LOCAL FAA AIRWAY FACILITIES SECTOR REPRESENTATIVE. NAVIGATIONAL AIDS INCLUDE INSTRUMENT LANDING SYSTEM COMPONENTS, VERY HIGH-FREQUENCY OMNI-DIRECTIONAL RANGE STATIONS, AND AIRPORT SURVEILLANCE RADAR. SUCH RESTRICTED AREAS ARE DEPICTED ON CONSTRUCTION PLANS. PLANNED CONSTRUCTION ACTIVITIES WILL IMPACTS ON THE FUNCTIONALITY AND SERVICEABILITY OF THE NAVAIDS.

5. CONTRACTOR ACCESS

   A. LOCATION OF STOCKPILED MATERIALS - THE CONTRACTOR SHALL INSTALL A TEMPORARY FENCE AROUND HIS CONSTRUCTION STAGING AREA TO SEPARATE HIS MATERIAL STOCKPILE, EQUIPMENT STORAGE, AND PARKING AREAS FROM THE PUBLIC. NO PERSONAL VEHICLES OF CONTRACTOR'S EMPLOYEES WILL BE ALLOWED INSIDE THE SECURED AREA OF THE AIRPORT. ALL MATERIAL DELIVERIES SHALL BE RECEIVED IN THE STAGING AREA RESERVED BY THE CONTRACTOR. NO DELIVERY TRUCKS WILL BE ALLOWED ACCESS TO A SECURED AREA OF THE AIRPORT BEYOND THIS STAGING AREA. STOCKPILED MATERIALS AND EQUIPMENT ARE NOT PERMITTED WITHIN THE ACTIVE RUNWAY SAFETY AREA AND OBSTACLE FREE ZONE. THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE ENGINEER AND FAA AIR SPACING OFFICE PRIOR TO LOCATING STOCKPILES OR EQUIPMENT WITHIN THE OBJECT FREE AREA, SAFETY AREA, OR OBSTACLE FREE ZONE. NO STOCKPILE SHALL BE GREATER THAN 15-FT IN HEIGHT.

   B. VEHICLE AND PEDESTRIAN OPERATIONS - SEE THE CONSTRUCTION SAFETY DRAWINGS FOR CONSTRUCTION SITE PARKING, EQUIPMENT STORAGE AREAS, AND ACCESS AND HAUL ROUTES. VEHICULAR TRAFFIC SHALL ALWAYS YIELD TO AIRCRAFT TRAFFIC.

      WHEN ANY VEHICLE, OTHER THAN ONE THAT HAS PRIOR APPROVAL FROM THE AIRPORT OPERATOR, MUST TRAVEL OVER ANY PORTION OF AN AIRCRAFT MOVEMENT AREA, IT WILL BE ESCORTED AND PROPERLY IDENTIFIED. TO OPERATE IN THOSE AREAS DURING DAYLIGHT HOURS, THE VEHICLE MUST HAVE A FLAG OR BEACON ATTACHED TO IT. ANY VEHICLE OPERATING ON THE MOVEMENT AREAS DURING HOURS OF DARKNESS OR REDUCED VISIBILITY MUST BE EQUIPPED WITH A FLASHING DOME-TYPE LIGHT, THE COLOR OF WHICH IS IN ACCORDANCE WITH LOCAL OR STATE CODES.

      ALL CONSTRUCTION VEHICLES SHALL BE CLEARLY IDENTIFIED FOR CONTROL PURPOSES BY PROMINENTLY DISPLAYING THE COMPANY NAME ON EACH SIDE OF THE VEHICLE. THE IDENTIFICATION SYMBOLS SHOULD BE A MINIMUM 8-INCH BLOCK-TYPE CHARACTERS OF A CONTRASTING COLOR AND EASY TO READ. THEY MAY BE APPLIED EITHER BY USING TAPE OR A WATER-SOLUBLE PAINT TO FACILITATE REMOVAL. MAGNETIC SIGNS ARE ALSO ACCEPTABLE. IN ADDITION, VEHICLES MUST DISPLAY IDENTIFICATION MEDIA.

      AT 14 CFR PART 139 CERTIFIED AND TOWERED AIRPORTS, ALL VEHICLE OPERATORS HAVING ACCESS TO THE MOVEMENT AREA SHALL FOLLOW AIRPORT PROCEDURES FOR THE OPERATION OF GROUND VEHICLES AND THE CONSEQUENCES OF NONCOMPLIANCE OR BE ESCORTED BY SOMEONE WHO IS.

   C. CONTROL OF GATES - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SECURITY OF THE ACCESS GATES BY KEEPING THE ACCESS GATE LOCKED OR GUARDED AT ALL TIMES. SHOULD THE CONTRACTOR FAIL, AT ANY TIME, TO KEEP THE ACCESS GATE LOCKED OR GUARDED, THERE SHALL BE A FINE OF $200.00 ASSESSED TO THE CONTRACTOR, FOR EACH OCCURRENCE THAT THE CONTRACTOR FAILS TO MAINTAIN THE SECURITY OF THE ACCESS GATE. ALL FINES ASSESSED TO THE CONTRACTOR SHALL BE DEDUCTED FROM ANY MONIES DUE TO HIM/HER.

6. WILDLIFE MANAGEMENT

   IF APPLICABLE, THE CONTRACTOR SHALL REVIEW AND ADHERE TO THE CONTENTS OF THE AIRPORT OPERATOR'S WILDLIFE HAZARD MANAGEMENT PLAN. THE CONTRACTOR SHALL ALSO REVIEW AC 150/5200-33, HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS, AND CERTALERT 98-05, GRASSES ATTRACTIVE TO HAZARDOUS WILDLIFE (www.faa.gov). THE CONTRACTOR SHALL CAREFULLY CONTROL AND CONTINUOUSLY REMOVE WASTE OR LOOSE MATERIALS THAT MIGHT ATTRACT WILDLIFE. CONTRACTOR PERSONNEL MUST BE AWARE OF AND AVOID CONSTRUCTION ACTIVITIES THAT CAN CREATE WILDLIFE HAZARDS ON AIRPORTS. THE CONTRACTOR SHALL MITIGATE THE FOLLOWING ITEMS:

   A. TRASH - THE CONTRACTOR SHALL PERFORM TRASH CLEAN-UP ON A DAILY BASIS.

   B. STANDING WATER - THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE DURING CONSTRUCTION TO AVOID STANDING WATER.

   C. TALL GRASS AND SEEDS - THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SECTION T-901, SEEDING OF THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

   D. POORLY MAINTAINED FENCING AND GATES - THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DAMAGE TO GATES OR FENCES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRS TO ANY GATES OR FENCES CAUSED BY NEGLIGENCE BY THE CONTRACTOR.

   E. DISRUPTION OF EXISTING WILDLIFE HABITAT - THE CONTRACTOR SHALL NOTIFY THE AIRPORT IMMEDIATELY OF ANY WILDLIFE SIGHTINGS.

7. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

   THE CONTRACTOR SHALL ENSURE THAT THE PAVEMENT SURFACES ARE KEPT CLEAN FROM DIRT, MUD, AND OTHER DEBRIS FROM THE CONTRACTOR'S EQUIPMENT. FREQUENT CLEAN UP IN THE VICINITY OF CONTRACTOR'S WORK AREAS IS REQUIRED. SEE AC 150/5210-24, FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT (www.faa.gov) FOR FURTHER INSTRUCTION.

8. HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

   IF ANY CONSTRUCTION VEHICLE OR EQUIPMENT IS OPERATED WITHIN AIRPORT PROPERTY, THE CONTRACTOR MUST BE ADEQUATELY PREPARED TO EXPEDITIOUSLY CONTAIN AND CLEAN-UP SPILLS RESULTING FROM FUEL OR HYDRAULIC FLUID LEAKS. SPECIAL CARE MUST ALSO BE TAKEN WHEN HANDLING OR TRANSPORTING HAZARDOUS MATERIALS ON AIRPORT PROPERTY. SEE AC 150/5320-15, MANAGEMENT OF AIRPORT INDUSTRIAL WASTE (www.faa.gov), FOR FURTHER INSTRUCTION.

9. NOTIFICATION OF CONSTRUCTION ACTIVITIES

   A. LIST OF RESPONSIBLE REPRESENTATIVES - A POINT OF CONTACT LIST WILL BE COMPLETED AS PART OF THE SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) AND WILL BE DELIVERED TO ALL PARTIES PRIOR TO CONSTRUCTION.

   B. NOTICES TO AIRMEN (NOTAM) - BEFORE BEGINNING ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR MUST, THROUGH THE AIRPORT OPERATOR, GIVE NOTICE USING THE NOTAM SYSTEM OF PROPOSED LOCATION, TIME, AND DATE OF COMMENCEMENT OF CONSTRUCTION. UPON COMPLETION OF WORK AND RETURN OF ALL SUCH AREAS TO STANDARD CONDITIONS, THE CONTRACTOR MUST, THROUGH THE AIRPORT OPERATOR, VERIFY THE CANCELLATION OF ALL NOTICES ISSUED VIA THE NOTAM SYSTEM.

   C. EMERGENCY NOTIFICATION PROCEDURES - IN THE EVENT OF AN EMERGENCY, THE CONTRACTOR SHALL CALL 911, THEN NOTIFY THE ENGINEER AND AIRPORT MANAGER.

   D. COORDINATION WITH ARFF PERSONNEL - ANY DEACTIVATION OF WATER LINES OR HYDRANTS, REROUTING OF ACCESS ROUTES, OR USE OF HAZARDOUS MATERIALS ON THE AIRFIELD SHALL BE COORDINATED AND APPROVED BY THE AIRPORT'S ARFF PERSONNEL PRIOR TO EXECUTION OF SUCH ACTIVITIES.

   E. NOTIFICATION TO THE FAA - THE CONTRACTOR SHALL ENSURE, THROUGH THE ENGINEER, THAT ALL CONSTRUCTION EQUIPMENT OVER 15 FT IN HEIGHT IS AIR SPACED THROUGH THE APPROPRIATE FAA REGIONAL OR DISTRICT OFFICE PRIOR TO USING SUCH EQUIPMENT ON SITE.

   F. SHUTDOWN OF ANY NAVAID (AIRPORT OR FAA OWNED) SHALL BE COORDINATED WITH THE FAA ATO 45 DAYS PRIOR TO THE PROPOSED SHUTDOWN.THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL SEVEN DAYS ADVANCE NOTICE TO THE AIRPORT TO COORDINATE WITH THE FAA ATO TECH OPS OFFICE RESPONSIBLE FOR THE FAA FACILITIES. SHUTDOWN OF AN AIRPORT OWNED AND FAA MAINTAINED NAVAID OF 24 HOURS OR GREATER, OR MORE THAN 4 HOURS DAILY ON CONSECUTIVE DAYS, SHALL BE COORDINATED WITH THE FAA ATO A MINIMUM OF 45 DAYS PRIOR TO THE SHUTDOWN.

10. INSPECTION REQUIREMENTS

   A. DAILY INSPECTIONS - THE CONTRACTOR SHALL PERFORM DAILY SAFETY INSPECTIONS TO VERIFY ALL CONSTRUCTION OPERATIONS ARE IN CONFORMANCE WITH THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP).

   B. INTERIM INSPECTIONS - PRIOR TO OPENING ANY PORTION OF THE AIRPORT TO TRAFFIC, THE CONTRACTOR, ENGINEER, AND AIRPORT OPERATOR SHALL PERFORM A SAFETY INSPECTION OF THE AREA TO BE OPENED TO TRAFFIC TO VERIFY CONFORMANCE WITH THE CSPP AND FAA STANDARDS.

   C. FINAL INSPECTIONS - PRIOR TO OPENING ANY PORTION OF THE AIRPORT TO TRAFFIC, THE CONTRACTOR, ENGINEER, AND AIRPORT OPERATOR SHALL PERFORM A SAFETY INSPECTION OF THE AREA TO BE OPENED TO TRAFFIC TO VERIFY CONFORMANCE WITH THE CSPP AND FAA STANDARDS.

11. UNDERGROUND UTILITIES

   UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

   TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-344-8377. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.

12. PENALTIES

   FAILURE OF THE CONTRACTOR (INCLUDING EMPLOYEES) OR ANY OF HIS SUBCONTRACTORS (INCLUDING EMPLOYEES) TO COMPLY WITH ATCT INSTRUCTIONS, THE AIRPORT SAFETY PLAN, OR ANY OF THE OTHER REQUIREMENTS OF THE AIRPORT WHILE OPERATING ON AIRPORT PROPERTY, SHALL BE SUBJECT TO THE FOLLOWING:

   A. FIRST OFFENSE - THE CONTRACTOR SHALL RECEIVE A FINE OF $1,000.00, AND THE VEHICLE OPERATOR WILL RECEIVE A LOSS OF DRIVING PRIVILEGES ON THE AIRPORT. IN ADDITION, ANY FINES OR PENALTIES IMPOSED ON THE AIRPORT AS A RESULT OF THE INCIDENT WILL BE ASSESSED TO THE CONTRACTOR.

   B. SECOND OFFENSE - THE CONTRACTOR SHALL RECEIVE A FINE OF $5,000.00 TO BE DEDUCTED FROM ANY MONIES DUE HIM, AND THE VEHICLE OPERATOR WILL RECEIVE A LOSS OF DRIVING PRIVILEGES ON THE AIRPORT. IN ADDITION, ANY FINE OR PENALTIES IMPOSED ON THE AIRPORT AS A RESULT OF THE INCIDENT WILL BE ASSESSED TO THE CONTRACTOR.

   C. THIRD OFFENSE - WORK WILL BE SUSPENDED. THE CONTRACTOR (INCLUDING EMPLOYEES) AND ANY OF HIS SUBCONTRACTORS (INCLUDING EMPLOYEES) WHO WILL OPERATE GROUND VEHICLES ON THE AIRPORT SHALL SUCCESSFULLY COMPLETE, FOR A SECOND TIME, FORMALIZED AIRPORT SAFETY TRAINING, TO BE CONDUCTED BY AIRPORT STAFF. WHEN THE CONTRACTOR'S EMPLOYEES HAVE COMPLETED AIRPORT SAFETY TRAINING TO THE SATISFACTION OF THE OWNER, WORK MAY CONTINUE AT THE DISCRETION OF THE OWNER.

13. SPECIAL CONDITIONS

   FAA MORATORIUM DATES -

   - MEMORIAL DAY - MAY 21, 2026 TO MAY 26, 2026
   - INDEPENDENCE DAY - JULY 1, 2026 TO JULY 6, 2026
   - LABOR DAY - SEPTEMBER 3, 2026 TO SEPTEMBER 8, 2026
   - THANKSGIVING - NOVEMBER 22, 2026 TO DECEMBER 1, 2026
   - CHRISTMAS/NEW YEAR - DECEMBER 19, 2026 TO JANUARY 4, 2027
   - MEMORIAL DAY - MAY 20, 2027 TO MAY 25, 2027
   - INDEPENDENCE DAY - JUNE 30, 2027 TO JULY 5, 2026

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY & PHASING NOTES 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
GC001

SHEET NUMBER **4**

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) - PAGE 2 OF 2

14. RUNWAY AND TAXIWAY VISUAL AIDS

A. GENERAL - ALL AIRPORT MARKINGS, LIGHTING, SIGNS, AND VISUAL NAVAIDS THAT ARE IN OPERATION MUST BE CLEAR FROM ALL OBSTRUCTIONS. ALL TEMPORARY MARKINGS, SIGNS, LIGHTS, OR OTHER VISUAL AIDS MUST BE SECURED IN PLACE TO PREVENT DAMAGE OR DISPLACEMENT BY PROP WASH, JET BLAST, WING VORTICES, OR OTHER WIND CURRENTS.

B. MARKINGS - ALL TEMPORARY OR PERMANENT RUNWAY AND TAXIWAY VISUAL AIDS SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENT EDITION OF FAA AC 150/5340-1 (www.faa.gov). MARKINGS FOR THIS PROJECT INCLUDE THE FOLLOWING:

- TEMPORARILY CLOSED RUNWAYS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING RUNWAY CLOSURE MARKERS ON TOP OF THE RUNWAY DESIGNATION MARKERS. SEE DETAILS ON CONSTRUCTION SAFETY DRAWINGS FOR CLOSED RUNWAY MARKER DETAIL.

- PARTIALLY CLOSED RUNWAYS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING TEMPORARY MARKING AND LIGHTING FOR THE PARTIALLY CLOSED RUNWAY. SEE DETAILS ON CONSTRUCTION SAFETY DRAWINGS FOR PARTIALLY CLOSED RUNWAY DETAIL.

- TEMPORARILY CLOSED TAXIWAYS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING TAXIWAY CLOSURE MARKERS AT THE ENTRANCE TO THE CLOSED TAXIWAY FROM THE ADJACENT RUNWAY. THE TAXIWAY CLOSURE MARKERS SHALL BE INSTALLED INSIDE THE RUNWAY SAFETY AREA. THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL LOW PROFILE BARRICADES AT THE ENTRANCE TO THE CLOSED TAXIWAY FROM AN ADJACENT TAXIWAY. BARRICADES SHALL BE INSTALLED OUTSIDE ALL ACTIVE TAXIWAY SAFETY AREAS. SEE DETAILS ON CONSTRUCTION SAFETY DRAWINGS FOR CLOSED TAXIWAY MARKER AND LOW-PROFILE AIRCRAFT BARRICADE DETAILS.

C. LIGHTING AND VISUAL NAVAIDS - ALL TEMPORARY LIGHTING FOR RUNWAY AND TAXIWAY SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENT EDITION OF FAA AC 150/5340-30 AND 150/5345-50 (www.faa.gov). THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING ISOLATION TRANSFORMERS ASSOCIATED WITH ANY RUNWAY OR TAXIWAY LIGHT FIXTURES THAT ARE BEING DISCONNECTED.

ALL CONSTRUCTION, ALTERATION, OR REMOVAL OF FAA OWNED EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE APPROVED FAA REIMBURSABLE AGREEMENT. NO WORK SHALL BE COMPLETED ON FAA OWNED EQUIPMENT PRIOR TO COMPLETION OF THE FAA REIMBURSABLE AGREEMENT.

D. SIGNS - THE CONTRACTOR SHALL INSTALL ALL SIGNS IN ACCORDANCE WITH THE MOST RECENT EDITION OF FAA AC 150/5345-44 AND 150/5340-18. ANY SIGN THAT IS NOT PERFORMING ITS NORMAL FUNCTION MUST BE COVERED OR REMOVED TO PREVENT MISLEADING PILOTS.

15. MARKING AND SIGNS FOR ACCESS ROUTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL NECESSARY MARKINGS AND SIGNAGE FOR ALL ACCESS ROUTES TO AND FROM THE SITE TO BE USED BY CONTRACTOR PERSONNEL, SUBCONTRACTOR PERSONNEL, OR DELIVERY OPERATIONS. ALL SIGNAGE IN THE AIR OPERATIONS AREA SHALL BE FRANGIBLY MOUNTED.

16. HAZARD MARKING AND LIGHTING

A. PURPOSE - HAZARD MARKING AND LIGHTING PREVENTS PILOTS FROM ENTERING AREAS CLOSED TO AIRCRAFT AND PREVENTS CONTRACTOR PERSONNEL FROM ENTERING AREAS OPEN TO AIRCRAFT.

B. EQUIPMENT - THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN LOW-PROFILE BARRICADES IN HAZARDOUS AREAS INSIDE MOVEMENT AREAS. BARRICADES SHALL RESTRICT ACCESS AND MAKE HAZARDS OBVIOUS TO AIRCRAFT, PERSONNEL, AND VEHICLES. DURING PERIODS OF LOW VISIBILITY AND AT NIGHT, BARRICADES SHALL BE EQUIPPED WITH RED FLASHING OR STEADY BURNING LIGHTS. THE SPACING OF BARRICADES SHALL BE SUCH THAT A BREACH IS PHYSICALLY PREVENTED BARRING A DELIBERATE ACT. IF BARRICADES ARE INTENDED TO PREVENT PEDESTRIANS, THEN THEY SHALL BE LINKED. SEE DETAILS ON CONSTRUCTION SAFETY AND PHASING DRAWINGS FOR LOW-PROFILE AIRCRAFT BARRICADE DETAIL.

17. WORK ZONE LIGHTING FOR NIGHTTIME CONSTRUCTION

ALL WORK CONDUCTED AT NIGHT SHALL BE ACCOMPANIED BY ADEQUATE LIGHT FACILITIES TO COMPLETE THE WORK. ALL LIGHT FACILITIES SHALL BE AIMED OR SHIELDED AS NECESSARY TO AVOID IMPACTING AIRCRAFT OR ATCT OPERATIONS. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A LIGHTING PLAN SHOWING THE LOCATION AND AIMING DIRECTION OF ALL LIGHT FACILITIES PRIOR TO THE COMPLETION OF ANY NIGHT WORK.

18. PROTECTION OF SAFETY AREAS, OBJECT FREE AREAS, OBJECT FREE ZONES, AND APPROACH/DEPARTURE SURFACES.

A. RUNWAY SAFETY AREAS (RSA) - NO WORK SHALL BE PERMITTED WITHIN AN ACTIVE RUNWAY SAFETY AREA. IF REQUIRED, ADJUSTMENTS TO THE RSA DIMENSIONS THROUGH RESTRICTED OPERATIONS SHALL BE COORDINATED WITH THE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENSURE ADEQUATE DISTANCE PROTECTION FOR BLAST PROJECTION, AS NEEDED. ALL OPEN TRENCHES OR EXCAVATIONS WITHIN THE LIMITS OF THE RSA SHALL BE BACK FILLED OR COVERED PRIOR TO OPENING THE RUNWAY TO OPERATIONS. IN ADDITION, EROSION CONTROL MEASURES SHALL BE PROVIDED IN THE RSA TO PREVENT RUTS, HUMPS, OR DEPRESSIONS INSIDE THE LIMITS OF THE RSA.

B. RUNWAY OBJECT FREE AREAS (ROFA) - NO MATERIAL SHALL BE STOCKPILED INSIDE THE LIMITS OF THE ACTIVE ROFA UNLESS APPROVED BY AIR SPACING THROUGH THE APPROPRIATE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE.

C. TAXIWAY SAFETY AREAS (TSA) - NO WORK SHALL BE PERMITTED WITHIN AN ACTIVE TSA. IF REQUIRED, ADJUSTMENTS TO THE TAXIWAY TSA DIMENSIONS THROUGH RESTRICTED OPERATIONS SHALL BE COORDINATED WITH THE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE PRIOR TO CONSTRUCTION. ALL OPEN TRENCHES OR EXCAVATIONS WITHIN THE LIMITS OF THE TSA SHALL BE BACK FILLED OR COVERED PRIOR TO OPENING THE TAXIWAY TO OPERATIONS. IN ADDITION, EROSION CONTROL MEASURES SHALL BE PROVIDED IN THE TSA TO PREVENT RUTS, HUMPS, OR DEPRESSIONS INSIDE THE LIMITS OF THE TSA.

D. TAXIWAY OBJECT FREE AREAS (TOFA) - NO CONSTRUCTION SHALL BE PERMITTED INSIDE AN ACTIVE TOFA UNLESS THE TAXIWAY HAS BEEN RESTRICTED TO OPERATIONS REQUIRING A TOFA EQUAL TO THAT OF THE TOFA AVAILABLE. IF REQUIRED, CONSTRUCTION MAY BE PERMITTED INSIDE THE TOFA IF THE TAXIWAY CENTERLINE MARKINGS ARE OFFSET WITH CENTERLINE REFLECTORS OR LIGHTING, OR APPROPRIATE NOTAMS ARE ISSUED. CONSTRUCTION MAY ALSO BE PERMITTED INSIDE THE TOFA IF A FIVE FOOT WING TIP CLEARANCE IS MAINTAINED FOR ALL CONSTRUCTION EQUIPMENT AND VEHICLES. IN THIS SCENARIO, FLAGGERS AND WING WALKERS MUST BE USED TO DIRECT TRAFFIC THROUGH THE CONSTRUCTION SITE.

E. OBSTACLE FREE ZONE (OFZ) - NO PERSONNEL, MATERIAL, OR EQUIPMENT SHALL PENETRATE THE OFZ WHILE THE RUNWAY IS OPEN TO OPERATIONS. THE DIMENSIONS OF THE OFZ ARE AS DEFINED IN FAA AC 150/5300-13 (www.faa.gov).

F. APPROACH/DEPARTURE SURFACES - ALL CONTRACTOR PERSONNEL, MATERIALS, AND EQUIPMENT SHALL REMAIN CLEAR OF THE APPLICABLE THRESHOLD SITING SURFACES AS DEFINED IN CHAPTER 3 OF FAA AC 150/5300-13 (www.faa.gov). CONSTRUCTION ACTIVITIES THAT REQUIRE PENETRATION INTO THE THRESHOLD SITING SURFACE SHALL BE ACCOMPLISH THROUGH DISPLACING OR PARTIALLY CLOSING THE RUNWAY. SUCH CONSTRUCTION ACTIVITIES SHALL REQUIRE COORDINATION WITH THE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE.

19. OTHER LIMITATIONS ON CONSTRUCTION

A. PROHIBITIONS - THE USE OF TALL EQUIPMENT (I.E. CRANES, CONCRETE PUMPS) SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.

OPEN FLAME WELDING AND TORCH CUTTING OPERATIONS ARE NOT PERMITTED UNLESS ADEQUATE FIRE SAFETY PRECAUTIONS ARE PROVIDED AND THESE OPERATIONS ARE AUTHORIZED BY THE AIRPORT OPERATOR AND THE ENGINEER.

ELECTRICAL BLASTING CAPS SHALL NOT BE PERMITTED WITHIN 1,000-FT OF THE AIRPORT PROPERTY. FLARE POTS ARE NOT PERMITTED WITHIN THE AIR OPERATIONS AREA.

RESTRICTIONS - PHASE 1B AND PHASE 2 WORK SHALL BE PERFORMED DURING NIGHTTIME UNLESS OTHERWISE APPROVED BY THE AIRPORT. THE AIRPORT RESERVES THE RIGHT TO ADJUST NIGHTTIME WORK HOURS AS NECESSARY FOR OPERATIONAL NEEDS.

AIRFIELD AREAS AFFECTED BY CONSTRUCTION

OPERATIONAL REQUIREMENT	EXISTING CONDITION	PHASE 1A	PHASE 1B	PHASE 2 (DAY)	PHASE 2 (NIGHT)	PHASE 3
RUNWAY 12-30 ARC	C-III	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 16-34 ARC	B-III	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 12 DECLARED DISTANCES	TORA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
	TODA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
	ASDA: 6,508	SAME	CLOSED	SAME	CLOSED	SAME
	LDA: 6,508	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 30 DECLARED DISTANCES	TORA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
	TODA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
	ASDA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
	LDA: 6,751	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 16 DECLARED DISTANCES	TORA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	TODA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	ASDA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	LDA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 34 DECLARED DISTANCES	TORA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	TODA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	ASDA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
	LDA: 5,070	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 12 APPROACH MINIMUMS	¾ MILE	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 30 APPROACH MINIMUMS	¾ MILE	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 16 APPROACH MINIMUMS	¾ MILE	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 34 APPROACH MINIMUMS	¾ MILE	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 12 NAVAIDS	LOC, ILS, RNAV	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 30 NAVAIDS	RNAV	SAME	CLOSED	SAME	CLOSED	SAME
RUNWAY 16 NAVAIDS	RNAV	CLOSED	CLOSED	SAME	CLOSED	SAME
RUNWAY 34 NAVAIDS	VOR/DME, RNAV	CLOSED	CLOSED	SAME	CLOSED	SAME
TAXIWAY A	ADG-III / TDG-III	CLOSED	CLOSED	SAME	CLOSED	SAME
TAXIWAY B	ADG-III / TDG-III	ADG-III / TDG-III	SAME	SAME	SAME	SAME
TAXIWAY D	ADG-III / TDG-III	CLOSED TAXIWAY A TO TAXIWAY B	CLOSED WEST OF TAXIWAY B AND SOUTH OF TAXIWAY F	SAME	CLOSED WEST OF TAXIWAY B AND SOUTH OF TAXIWAY F	SAME
TAXIWAY E	CLOSED	SAME	SAME	SAME	SAME	SAME
TAXIWAY F	ADG-III / TDG-III	CLOSED SOUTH OF RUNWAY 12-30	CLOSED WEST OF TAXIWAY D	SAME	CLOSED WEST OF TAXIWAY D	SAME

RUNWAY DATA

RUNWAY END NUMBER	AIRPLANE DESIGN GROUP	AIRCRAFT APPROACH CATEGORY	MINIMUM SAFETY AREA PRIOR TO THE THRESHOLD	MINIMUM UNOBSTRUCTED APPROACH SLOPE	RSA WIDTH DIVIDED BY 2
RUNWAY 12	III	C	1,000-FT	50:1	250-FT
RUNWAY 30	III	C	1,000-FT	34:1	250-FT
RUNWAY 16	III	B	600-FT	34:1	150-FT
RUNWAY 34	III	B	600-FT	34:1	150-FT

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY & PHASING NOTES 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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GC002

SHEET NUMBER 5

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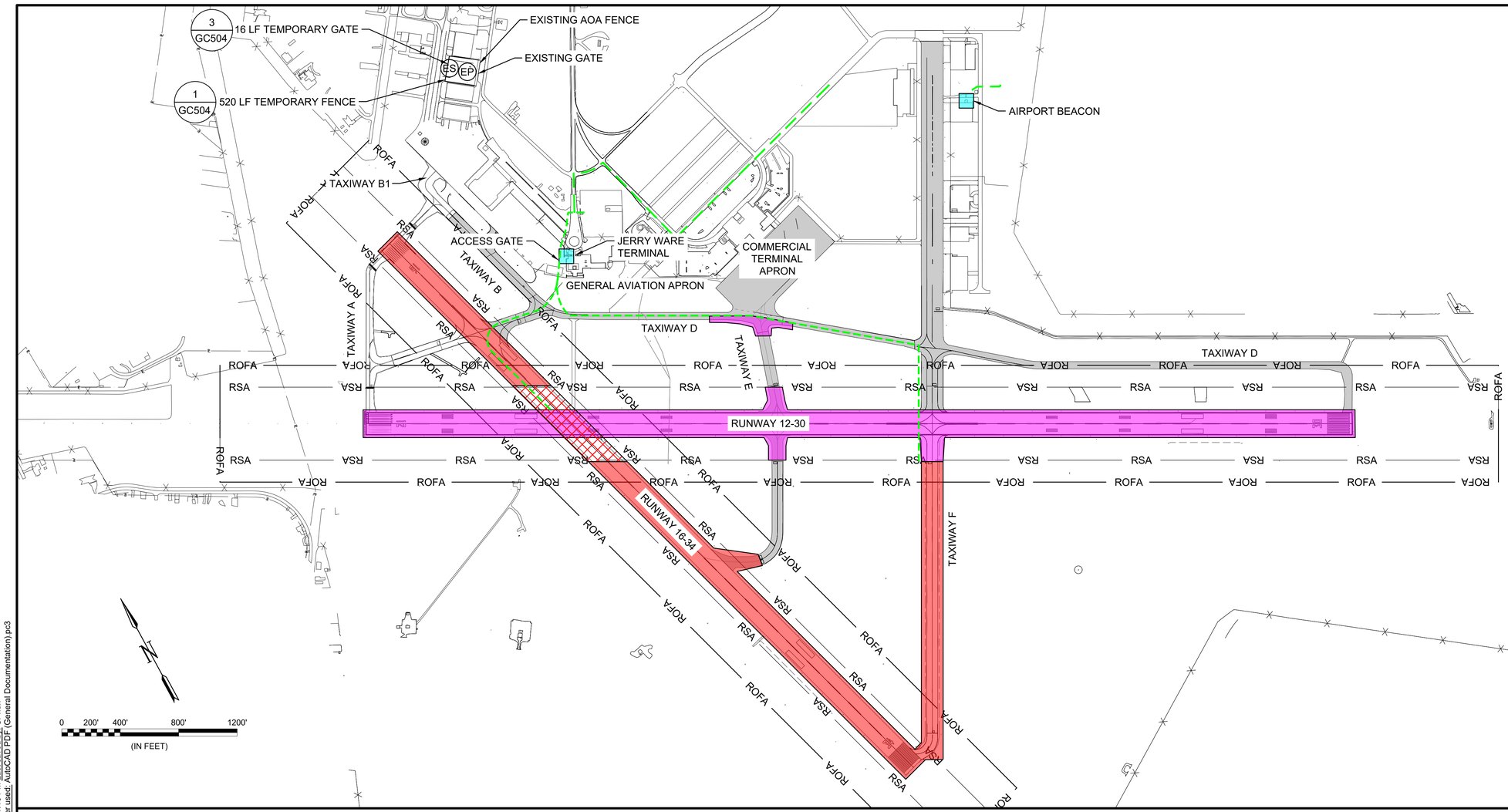


LEGEND

- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- PHASE 3 WORK AREA
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- ES — EQUIPMENT STORAGE
- EP — EMPLOYEE PARKING
- CONTRACTOR ROUTE

ITEMS OF WORK

1A — REPLACE RUNWAY 16-34 EDGE LIGHTS AND RDR SIGNS. REMOVE EXISTING FAA REIL AND SUPPORT EQUIPMENT AND INSTALL NEW AIRPORT-OWNED REIL EQUIPMENT ON RUWAY 16. REMOVE AND REPLACE EXISTING REIL ON RUNWAY 34. REMOVE TAXIWAY E PAVEMENT WITHIN RSA (PART OF ADDITIVE ALTERNATE NO. 1). REMOVE AND REPLACE TAXIWAY EDGE LIGHTS AND SIGNS ALONG TAXIWAY F THAT ARE NOT LED.

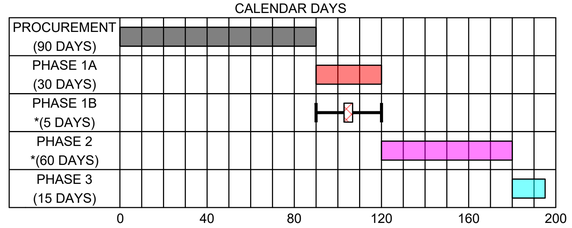
1B — REPLACE RUNWAY 16-34 EDGE LIGHTS AND SIGNS WITHIN THE RUNWAY 12-30 SAFETY AREA.

2 — REPLACE RUNWAY 12-30 EDGE LIGHTS AND RDR SIGNS. REPLACE RUNWAY 30 REIL SYSTEM. REMOVE TAXIWAY E PAVEMENT WITHIN RSA (PART OF ADDITIVE ALTERNATE NO. 1). REPLACE TW D EDGE LIGHTS.

3 — REPLACE EXISTING CONSTANT CURRENT REGULATORS (CCRS) IN EXISTING LIGHTING VAULT. INSTALL NEW EXHAUST FAN IN VAULT ROOM. INSTALL NEW ELECTRICAL INFRASTRUCTURE FOR CCRS. REPLACE EXISTING EMERGENCY GENERATOR AND AUTOMATIC TRANSFER SWITCH FOR AIRFIELD LIGHTING VAULT. REPLACE EXISTING BEACON WITH LED BEACON.

CONTRACT TIME

CALENDAR DAYS



*WORK TO BE COMPLETED DURING NIGHTTIME HOURS WITH THE RUNWAY CLOSING AT 11 PM AND THE RUNWAY REOPENING AT 5 AM.
**PHASE 1B WORK TO OCCUR CONCURRENTLY WITH PHASE 1A WORK.

1. PRINT NOTE: SHEET SHALL BE PRINTED IN COLOR.
2. SEE CONSTRUCTION SAFETY AND PHASING NOTES FOR ADDITIONAL INFORMATION.
3. LIGHTED BARRICADES SHOWN ARE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
4. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIMES. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SUFFICIENT LIGHTING TO ADEQUATELY ILLUMINATE THE WORK AREA DURING NIGHTTIME OPERATIONS. PORTABLE LIGHTING SHALL NOT BE ORIENTED IN SUCH A WAY TO NOT CAUSE IMPACT TO AIRPORT OPERATIONS.
6. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY & PHASING PLAN - OVERVIEW

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER
GC100

SHEET NUMBER **6**

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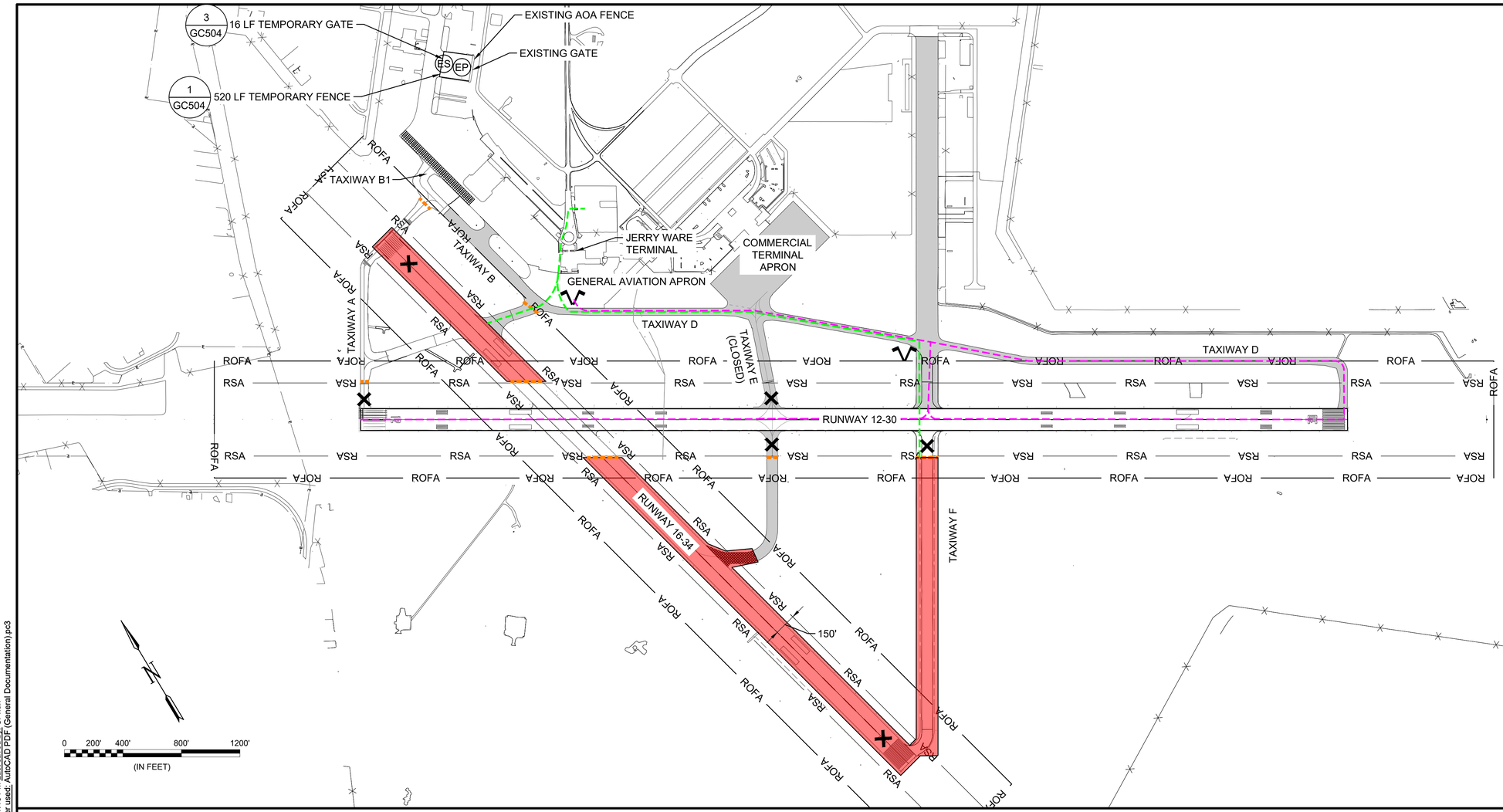


LEGEND

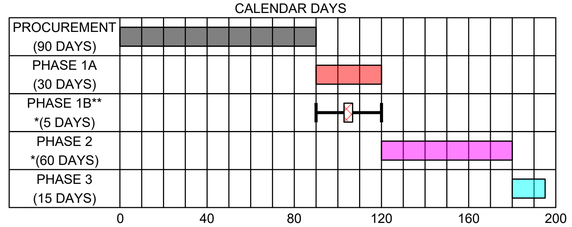
- PHASE 1 WORK AREA
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- (ES) EQUIPMENT STORAGE
- (EP) EMPLOYEE PARKING
- CONTRACTOR ROUTE
- AIRCRAFT ROUTE
- LIGHTED BARRICADE
- RUNWAY/TAXIWAY CLOSURE MARKER
- FLAGGER

ITEMS OF WORK

1A — REPLACE RUNWAY 16-34 EDGE LIGHTS AND RDR SIGNS. INSTALL NEW AIRPORT-OWNED REIL EQUIPMENT ON RUWAY 16. REPLACE EXISTING REIL ON RUNWAY 34. REMOVE TAXIWAY E PAVEMENT WITHIN THE RUNWAY 16-34 RSA. REMOVE AND REPLACE TAXIWAY EDGE LIGHTS AND SIGN ALONG TAXIWAY F THAT ARE NOT LED.

CONTRACT TIME

CALENDAR DAYS



*WORK TO BE COMPLETED DURING NIGHTTIME HOURS WITH THE RUNWAY CLOSING AT 11 PM AND THE RUNWAY REOPENING AT 5 AM.
**PHASE 1B WORK TO OCCUR CONCURRENTLY WITH PHASE 1A WORK.

1. PRINT NOTE: SHEET SHALL BE PRINTED IN COLOR.
2. SEE CONSTRUCTION SAFETY AND PHASING NOTES FOR ADDITIONAL INFORMATION.
3. LIGHTED BARRICADES SHOWN ARE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
4. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIMES. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SUFFICIENT LIGHTING TO ADEQUATELY ILLUMINATE THE WORK AREA DURING NIGHTTIME OPERATIONS. PORTABLE LIGHTING SHALL NOT BE ORIENTED IN SUCH A WAY TO NOT CAUSE IMPACT TO AIRPORT OPERATIONS.
6. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.
7. RUNWAY CLOSURE X'S SHALL BE LIGHTED CLOSURE X'S. SEE DETAIL 4, SHEET GC501.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

CSPP - PHASE 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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GC101

SHEET NUMBER **7**

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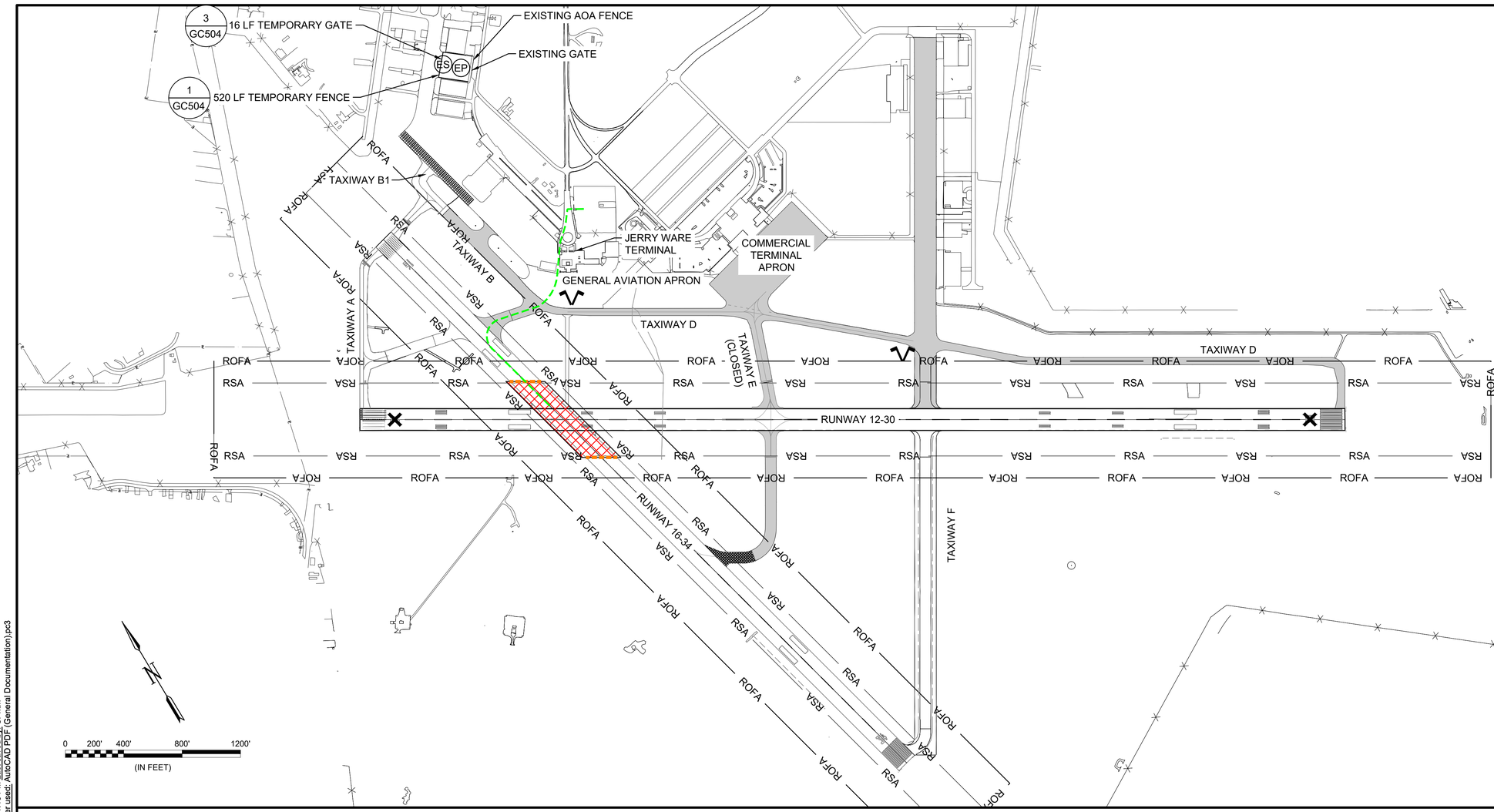


LEGEND

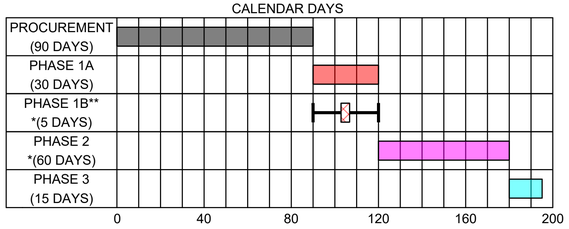
- PHASE 1 WORK AREA
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- (ES) EQUIPMENT STORAGE
- (EP) EMPLOYEE PARKING
- CONTRACTOR ROUTE
- AIRCRAFT ROUTE
- LIGHTED BARRICADE
- RUNWAY/TAXIWAY CLOSURE MARKER
- FLAGGER

ITEMS OF WORK

1B	REPLACE RUNWAY 16-34 EDGE LIGHTS AND SIGNS WITHIN THE RUNWAY 12-30 RSA.

CONTRACT TIME

CALENDAR DAYS



*WORK TO BE COMPLETED DURING NIGHTTIME HOURS WITH THE RUNWAY CLOSING AT 11 PM AND THE RUNWAY REOPENING AT 5 AM.
**PHASE 1B WORK TO OCCUR CONCURRENTLY WITH PHASE 1A WORK.

1. PRINT NOTE: SHEET SHALL BE PRINTED IN COLOR.
2. SEE CONSTRUCTION SAFETY AND PHASING NOTES FOR ADDITIONAL INFORMATION.
3. LIGHTED BARRICADES SHOWN ARE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
4. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIMES. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SUFFICIENT LIGHTING TO ADEQUATELY ILLUMINATE THE WORK AREA DURING NIGHTTIME OPERATIONS. PORTABLE LIGHTING SHALL NOT BE ORIENTED IN SUCH A WAY TO NOT CAUSE IMPACT TO AIRPORT OPERATIONS.
6. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.
7. RUNWAY CLOSURE X'S SHALL BE LIGHTED CLOSURE X'S. SEE DETAIL 4, SHEET GC501.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CSPP - PHASE 1B

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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GC102

SHEET NUMBER **8**

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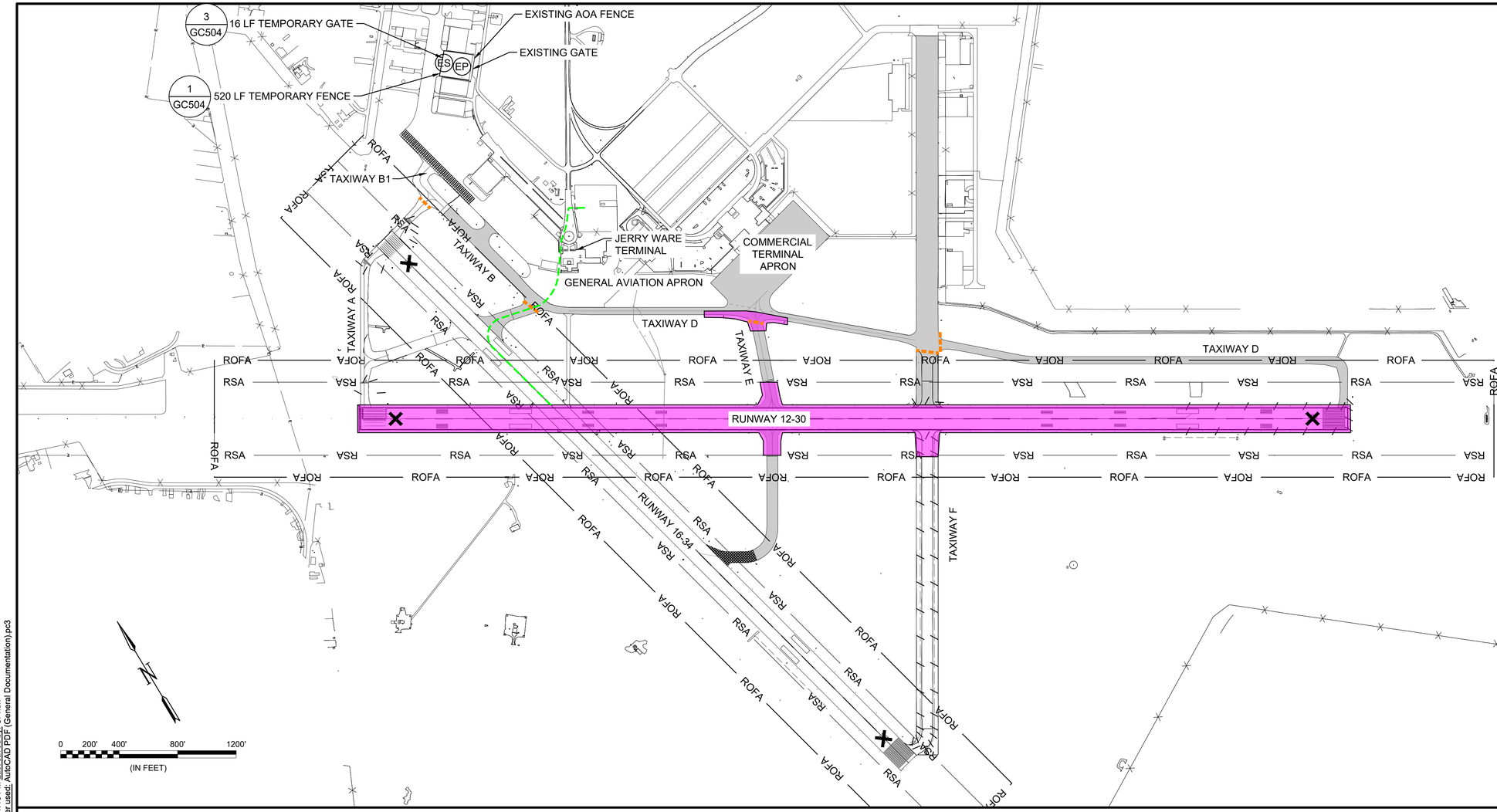


LEGEND

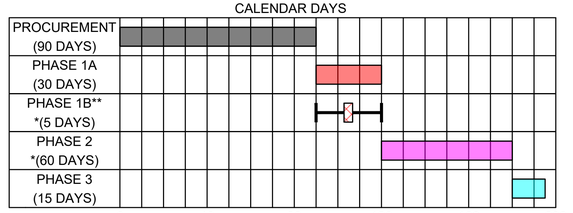
- PHASE 2 WORK AREA
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- (ES) EQUIPMENT STORAGE
- (EP) EMPLOYEE PARKING
- CONTRACTOR ROUTE
- LIGHTED BARRICADE
- ✕ RUNWAY/TAXIWAY CLOSURE MARKER

ITEMS OF WORK

2	REPLACE RUNWAY 12-30 EDGE LIGHTS AND RDR SIGNS. REPLACE RUNWAY 30 REIL SYSTEM. REMOVE TAXIWAY E PAVEMENT WITHIN THE RUNWAY 12-30 RSA.

CONTRACT TIME

CALENDAR DAYS



*WORK TO BE COMPLETED DURING NIGHTTIME HOURS WITH THE RUNWAY CLOSING AT 11 PM AND THE RUNWAY REOPENING AT 5 AM.
**PHASE 1B WORK TO OCCUR CONCURRENTLY WITH PHASE 1A WORK.

1. PRINT NOTE: SHEET SHALL BE PRINTED IN COLOR.
2. SEE CONSTRUCTION SAFETY AND PHASING NOTES FOR ADDITIONAL INFORMATION.
3. LIGHTED BARRICADES SHOWN ARE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
4. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIMES. BROOM SHALL NOT UTILIZE STEEL BRISTLES. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SUFFICIENT LIGHTING TO ADEQUATELY ILLUMINATE THE WORK AREA DURING NIGHTTIME OPERATIONS. PORTABLE LIGHTING SHALL NOT BE ORIENTED IN SUCH A WAY TO NOT CAUSE IMPACT TO AIRPORT OPERATIONS.
6. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.
7. RUNWAY CLOSURE X'S SHALL BE LIGHTED CLOSURE X'S. SEE DETAIL 4, SHEET GC501.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CSPP - PHASE 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER
GC103

SHEET NUMBER **9**

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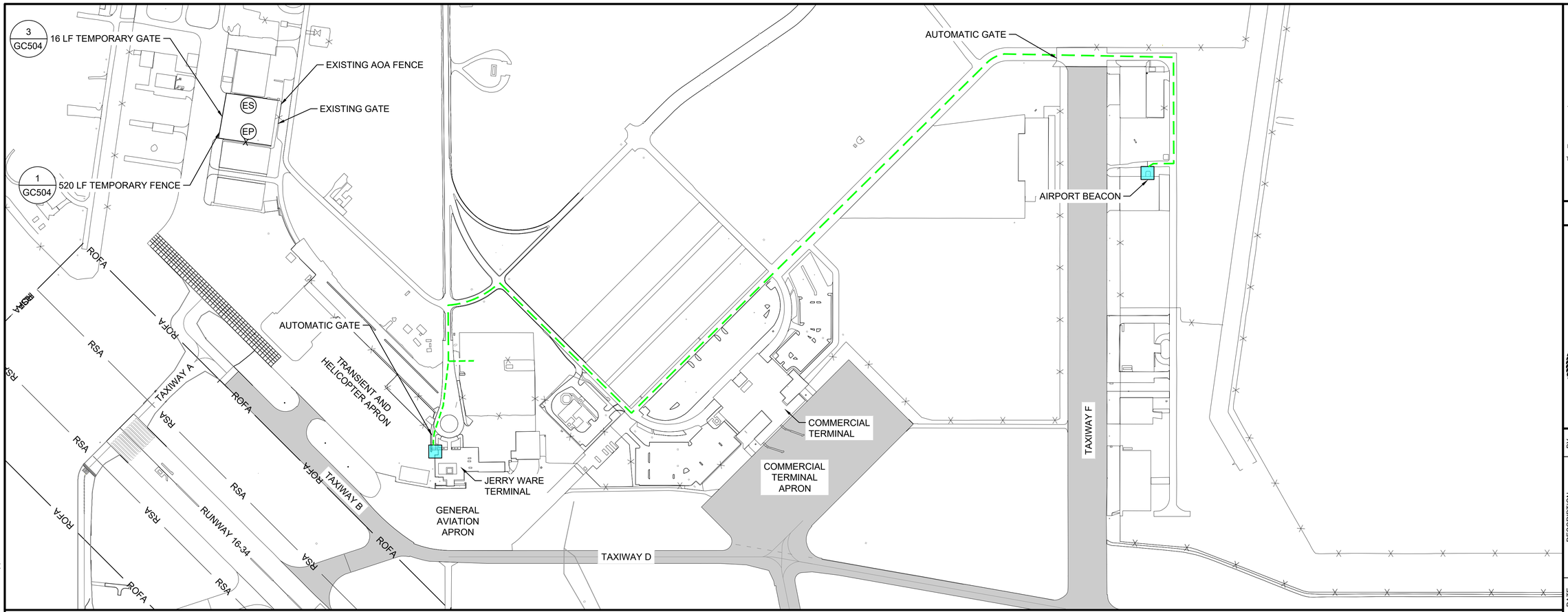
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 1:59 PM Plotter used: AutoCAD PDF (General Documentation).pc3



LEGEND

- PHASE 3 WORK AREA
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- (ES) EQUIPMENT STORAGE
- (EP) EMPLOYEE PARKING
- CONTRACTOR ROUTE

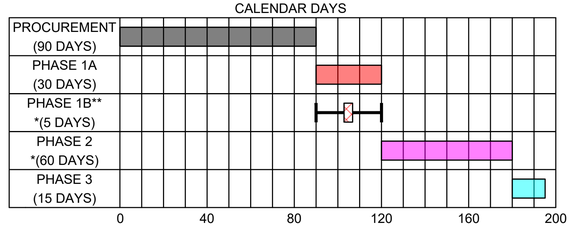
ITEMS OF WORK

3 — REPLACE EXISTING CONSTANT CURRENT REGULATORS (CCRS) IN EXISTING LIGHTING VAULT. INSTALL NEW EXHAUST FAN IN VAULT ROOM. INSTALL NEW ELECTRICAL INFRASTRUCTURE FOR CCRS. REPLACE EXISTING EMERGENCY GENERATOR AND AUTOMATIC TRANSFER SWITCH FOR AIRFIELD LIGHTING VAULT. REPLACE EXISTING BEACON WITH LED BEACON.

0 100' 200' 400' 600'
(IN FEET)

CONTRACT TIME

CALENDAR DAYS



*WORK TO BE COMPLETED DURING NIGHTTIME HOURS WITH THE RUNWAY CLOSING AT 11 PM AND THE RUNWAY REOPENING AT 5 AM.
**PHASE 1B WORK TO OCCUR CONCURRENTLY WITH PHASE 1A WORK.

1. PRINT NOTE: SHEET SHALL BE PRINTED IN COLOR.
2. SEE CONSTRUCTION SAFETY AND PHASING NOTES FOR ADDITIONAL INFORMATION.
3. LIGHTED BARRICADES SHOWN ARE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
4. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIMES. BROOM SHALL NOT UTILIZE STEEL BRISTLES. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SUFFICIENT LIGHTING TO ADEQUATELY ILLUMINATE THE WORK AREA DURING NIGHTTIME OPERATIONS. PORTABLE LIGHTING SHALL NOT BE ORIENTED IN SUCH A WAY TO NOT CAUSE IMPACT TO AIRPORT OPERATIONS.
6. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.
7. RUNWAY CLOSURE X'S SHALL BE LIGHTED CLOSURE X'S. SEE DETAIL 4, SHEET GC501.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CSPP - PHASE 3

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER
GC104

SHEET NUMBER **10**

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STAGING AREA NOTES:

1. THE CONTRACTOR'S EMPLOYEES AND VISITORS VEHICLES SHALL PARK IN THE CONTRACTOR'S EMPLOYEE PARKING AREA. ONLY OWNER APPROVED PERSONNEL WILL BE ALLOWED TO ACCESS AND/OR PARK ON AIRPORT PROPERTY.

2. ALL DELIVERIES, MATERIAL OR OTHERWISE, SHALL BE MADE TO THE DELIVERY ADDRESS OF THE CONTRACTOR'S STAGING AREA. THE NAME "JACK BROOKS REGIONAL AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS.

3. THE LOCATION AND SIZE OF THE CONTRACTOR'S STAGING AREA IS SHOWN FOR REFERENCE ONLY. THE EXACT LIMITS OF THE CONTRACTOR'S PARKING AND STAGING AREA FOR MATERIAL STOCKPILING, OFFICE TRAILERS, AND DELIVERIES SHALL BE PROPOSED BY THE CONTRACTOR FOR THE APPROVAL OF THE ENGINEER. THE CONTRACTOR STAGING PLANS SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.

4. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMIT(S) TO DEVELOP AND USE THE SITE FOR STAGING AND OTHER ACTIVITIES AS REQUIRED.

5. THE STAGING AREA SHALL BE PREPARED TO A STABLE AND DRAINABLE CONDITION. THE CONTRACTOR MAY HAVE THE OPTION OF ERECTING ADDITIONAL CHAIN-LINK SECURITY FENCING TO DELINEATE AND PROTECT THE AREA.

6. THE CONTRACTOR MAY DO SOME GRADING AND DRAINAGE WORK TO ADAPT THE AREA TO SPECIFIC NEEDS. UPON COMPLETION OF THE WORK, THE AREA WILL BE GRADED AND DRESSED TO THE SATISFACTION OF THE ENGINEER AND OWNER UPON COMPLETION OF THE CONTRACT WORK.

7. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY CONNECTIONS TO THE STAGING AREA. ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S STAGING AREA SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY AGENCY BY THE CONTRACTOR. THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE METERS AND PERMITS. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

8. NO SEPARATE PAY ITEM SHALL BE MADE FOR ANY ITEM REQUIRED FOR THE CONTRACTOR TO ENCLOSE AND DEVELOP THEIR STAGING AREA.

9. THE OWNER SHALL NOT BE RESPONSIBLE FOR ANY LOST OR STOLEN PROPERTY.

10. NO EQUIPMENT OR VEHICLES SHALL BE PARKED WITHIN 10 FEET OF ANY AIRPORT OPERATIONS AREA (AOA) PERIMETER FENCE.

CROSSING GUARD (FLAGMAN) NOTES:

1. CONTRACTOR TO PROVIDE CROSSING GUARDS (FLAGMAN) AT ACTIVE TAXIWAY CROSSINGS. THE CROSSING GUARDS SHALL BE BADGED INDIVIDUALS AND SHALL BE APPROVED BY THE OWNER AND ENGINEER.

2. THE CROSSING GUARDS SHALL BE EQUIPPED WITH AN AIRCRAFT RADIO TUNED TO THE GROUND CONTROL FREQUENCY (124.85). THE CROSSING GUARDS SHALL MONITOR THIS FREQUENCY AND BE AWARE OF ANY APPROACHING AIR TRAFFIC.

3. CONTRACTOR SHALL CONSISTENTLY CLEAN AND SWEEP THESE INTERSECTIONS DURING CONSTRUCTION TO PREVENT FOREIGN OBJECT DEBRIS (FOD).

4. IF FOD IS FOUND PRIOR TO AN AIRCRAFT CROSSING THE INTERSECTION, CONTRACTOR SHALL NOTIFY GROUND CONTROL VIA RADIO IMMEDIATELY AND REQUEST AIRCRAFT TO HOLD SHORT UNTIL CROSSING AREA IS DECLARED FOD FREE.

5. CROSSING GUARDS SHALL NOTIFY GROUND CONTROL WHEN CONSTRUCTION ACTIVITIES BEGIN AND END DURING ANY WORK PERIOD.

6. ALL CONSTRUCTION TRAFFIC MUST STOP AT ALL ACTIVE TAXIWAY INTERSECTIONS UNTIL CLEARED TO CROSS BY THE CROSSING GUARDS. AT NO TIME SHALL ANY CONSTRUCTION VEHICLES OR EQUIPMENT CROSS AN ACTIVE TAXIWAY WITHOUT PERMISSION FROM THE CROSSING GUARDS.

7. TEMPORARY LOW PROFILE STOP SIGNS SHALL BE PLACED ON BOTH SIDES OF ALL ACTIVE TAXIWAY CROSSINGS FOR CONSTRUCTION TRAFFIC. SIGNS SHALL BE FRANGIBLY MOUNTED (NOT BOLTED TO SURFACE).

8. CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY DAMAGE TO AIRCRAFT AS A RESULT OF FOD IN ANY CROSSING AREA.

BADGING AND SECURITY

1. CONTRACTOR SHALL REVIEW AND FOLLOW AIRPORT INFORMATION FOR POTENTIAL BIDDERS/CONTRACTORS REGARDING THE SECURITY AND OPERATIONS REQUIREMENTS FOR CONSTRUCTION PROJECTS AT JACK BROOKS REGIONAL AIRPORT. THIS DOCUMENT IS INCLUDED IN THE SPECIAL PROVISIONS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR AIRPORT SECURITY AT ALL TIMES WHEN IN THE AIRPORT OPERATIONS AREA (AOA).

3. CONTRACTOR SHALL FOLLOW ALL AIRPORT SECURITY POLICIES, PROCEDURES, RULES, AND REGULATIONS WHILE OPERATING VEHICLES AND EQUIPMENT ON THE AOA.THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL EMPLOYEES AND SUBCONTRACTORS MEET THE AIRPORT SECURITY REQUIREMENTS WHILE OPERATING VEHICLES AND EQUIPMENT ON THE AOA.

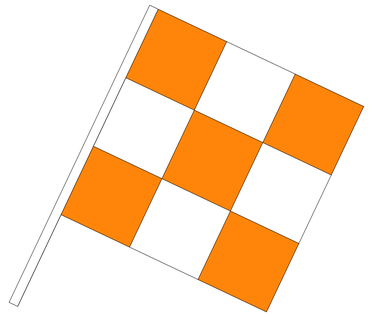
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A GATE GUARD AT ALL AOA ENTRANCES. ALL GATE GUARDS MUST OBTAIN AN AIRPORT BADGE.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINES ASSESSED TO THE AIRPORT DUE TO THE FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO FOLLOW AIRPORT SECURITY REQUIREMENTS. THE AIRPORT RESERVES THE RIGHT TO SUSPEND AND/OR REVOKE DRIVING PRIVILEGES AND/OR BADGES FOR FAILURE TO COMPLY WITH THE AIRPORT SECURITY REQUIREMENTS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY NUMBER OF BADGES TO MEET ALL SECURITY REQUIREMENTS.

7. BADGES MAY BE OBTAINED FROM THE AIRPORT'S BADGING OFFICE. REVIEW SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

8. AIRPORT BADGES SHALL BE VISIBLE AT ALL TIMES.



NOTES:

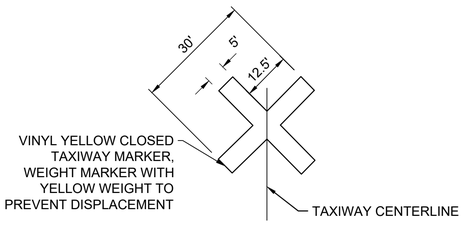
1. ALL CONSTRUCTION EQUIPMENT AND VEHICLES SHALL HAVE A FLAG OR BEACON COMPLYING TO FAA SAFETY AND PHASING REGULATIONS.

2. FLAGS AND OR BEACONS WILL BE REQUIRED ON ALL CONSTRUCTION EQUIPMENT AND VEHICLES WITHIN THE AIR OPERATIONS AREA.

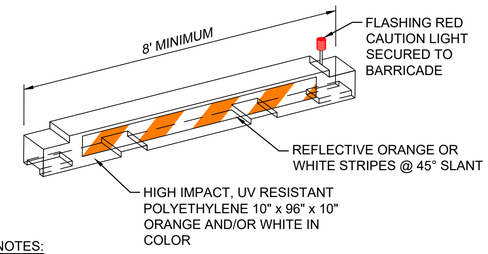
3. FOR CONSTRUCTION OPERATIONS FROM AN HOUR BEFORE DUSK TO AN HOUR AFTER DAWN, CONTRACTOR VEHICLES WILL ALSO BE REQUIRED TO HAVE A YELLOW FLASHING BEACON MOUNTED TO THE TOP/MOST PORTION OF THE VEHICLE SO THAT IS VISIBLE FROM ALL DIRECTIONS.

4. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING FLAGS AND BEACONS. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR FLAGS OR BEACONS. THE FLAGS WILL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.

2 / GC501 — VEHICLE FLAGS
SCALE: NONE



3 / GC501 — TAXIWAY CLOSURE MARKER
SCALE: NONE



NOTES:

1. BARRICADES SHALL BE FURNISHED, INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

2. BARRICADES SHALL MEET THE REQUIREMENTS OF THE CURRENT FAA ADVISORY CIRCULAR 150/5370-2 AND BE APPROVED BY THE ENGINEER.

3. CONTRACTOR SHALL WEIGH BARRICADE DOWN TO PREVENT DISPLACEMENT. THE METHOD SHALL BE APPROVED BY THE ENGINEER.

4. BARRICADES SHALL BE LOCATED AS DEFINED IN THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP).

5. UNLESS OTHERWISE NOTED, MAXIMUM BARRICADE SPACING SHALL BE 10' O.C.

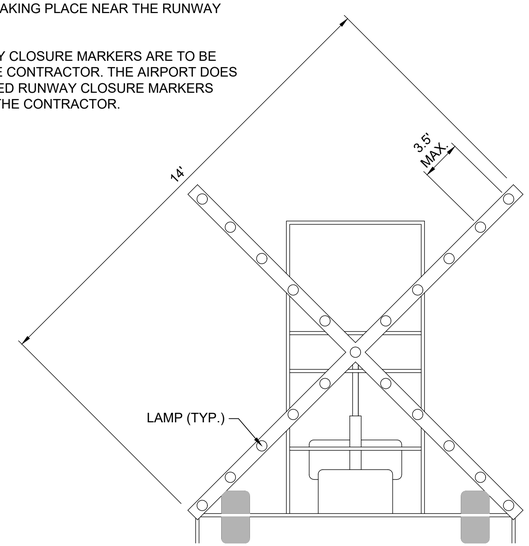
1 / GC501 — LOW PROFILE AIRCRAFT BARRICADE (MOVEMENT AREAS)
SCALE: NONE

NOTES:

1. LIGHTED RUNWAY CLOSURE MARKER SHALL CONFORM TO THE REQUIREMENTS OF FAA AC 150/5345-55A SPECIFICATION FOR L-893, LIGHTED VISUAL AID TO INDICATE TEMPORARY RUNWAY CLOSURE. DETAIL SHOWS MINIMUM LIGHT SPACING REQUIREMENTS.

2. LIGHTED RUNWAY CLOSURE MARKER SHALL BE INSTALLED ON TOP OF RUNWAY NUMERAL DESIGNATOR OR AS DIRECTED BY THE ENGINEER WHEN WORK IS TAKING PLACE NEAR THE RUNWAY NUMERALS.

3. LIGHTED RUNWAY CLOSURE MARKERS ARE TO BE SUPPLIED BY THE CONTRACTOR. THE AIRPORT DOES NOT HAVE LIGHTED RUNWAY CLOSURE MARKERS AVAILABLE FOR THE CONTRACTOR.



4 / GC501 — PORTABLE LIGHTED RUNWAY CLOSURE MARKER (LIGHTED X)
SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY DETAILS 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER **GC501**

SHEET NUMBER **11**

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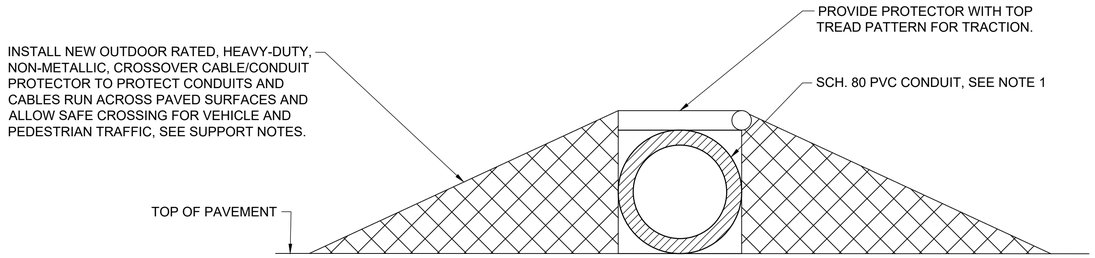
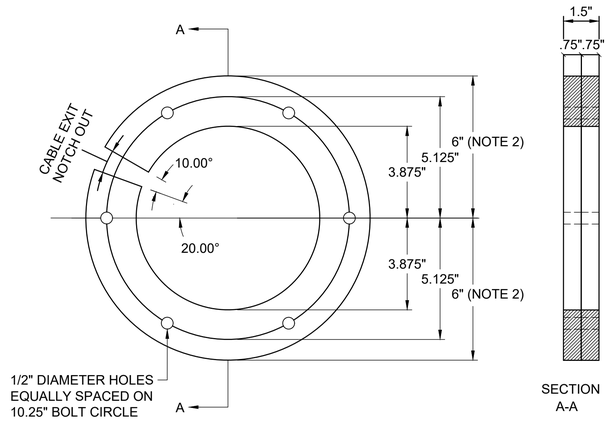


CONDUIT PROTECTOR NOTES:

1. SIZE CONDUIT PER NUMBER OF CABLES.
2. SIZE PROTECTOR PER CONDUIT NUMBER AND SIZES.
3. PROTECTOR SHALL EXTEND PARALLEL TO THE CONDUIT FOR THE ENTIRE LENGTH OF THE CONDUIT WHERE SUBJECT TO LIGHT VEHICULAR TRAFFIC.
4. BOLTS SHALL BE INSTALLED AND TORQUED PER MANUFACTURERS RECOMMENDATIONS TO SECURE AND ANCHOR THE COMPLETE PROTECTION SYSTEM.

1 / GC502 — ABOVE GROUND TEMPORARY CONDUIT PROTECTOR

SCALE: NONE

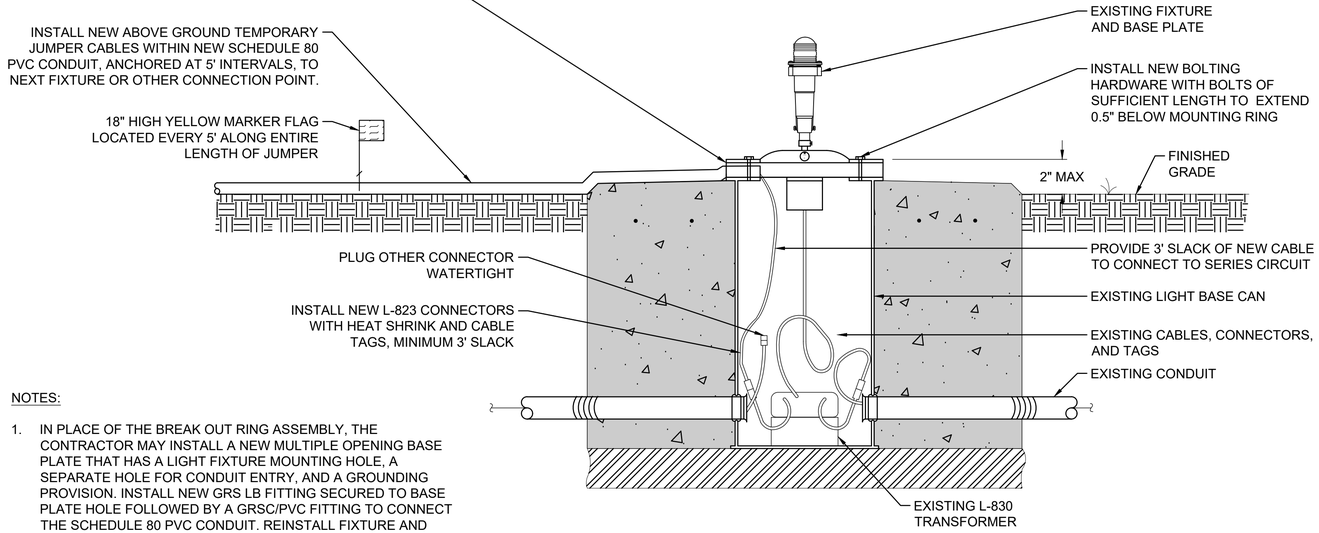


BREAK-OUT RING NOTES:

1. HOLE PATTERN SHALL MATCH EXISTING BASE CAN. PATTERN SHOWN IS FOR 12" L-867B CAN.
2. OUTSIDE DIMENSION SHALL MATCH EXISTING CAN.
3. BREAK-OUT RING SHALL BE FABRICATED FROM 3/4" MARINE GRADE A PLYWOOD WITH 10 MIL POLYURETHANE FINISH APPLIED AFTER TEMPORARY CABLE IS INSTALLED.
4. BREAK-OUT RINGS, ABOVE GROUND CONDUIT, JUMPER CABLES, LUMBER, SUPPORTS, HARDWARE, AND OTHER APPURTENANCES ARE INCIDENTAL TO THE TEMPORARY AIRFIELD LIGHTING PAY ITEM. CONTRACTOR SHALL SUPPLY SUFFICIENT QUANTITY TO SUPPORT ALL RE-WIRING ACTIVITIES.

2 / GC502 — BREAK OUT RING

SCALE: NONE



NOTES:

1. IN PLACE OF THE BREAK OUT RING ASSEMBLY, THE CONTRACTOR MAY INSTALL A NEW MULTIPLE OPENING BASE PLATE THAT HAS A LIGHT FIXTURE MOUNTING HOLE, A SEPARATE HOLE FOR CONDUIT ENTRY, AND A GROUNDING PROVISION. INSTALL NEW GRS LB FITTING SECURED TO BASE PLATE HOLE FOLLOWED BY A GRSC/PVC FITTING TO CONNECT THE SCHEDULE 80 PVC CONDUIT. REINSTALL FIXTURE AND CONNECT TO GROUND PROVISION FROM BASE PLATE TO JUNCTION BASE INTERNAL LUG.

3 / GC502 — TEMPORARY JUMPER CIRCUIT CONNECTION

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY DETAILS 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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SHEET NUMBER **12**

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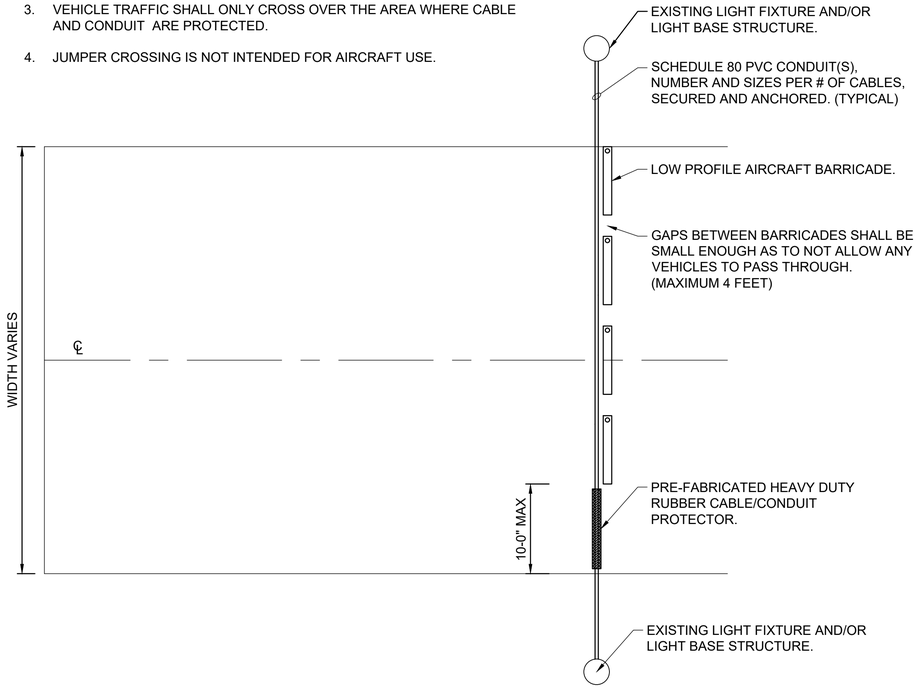
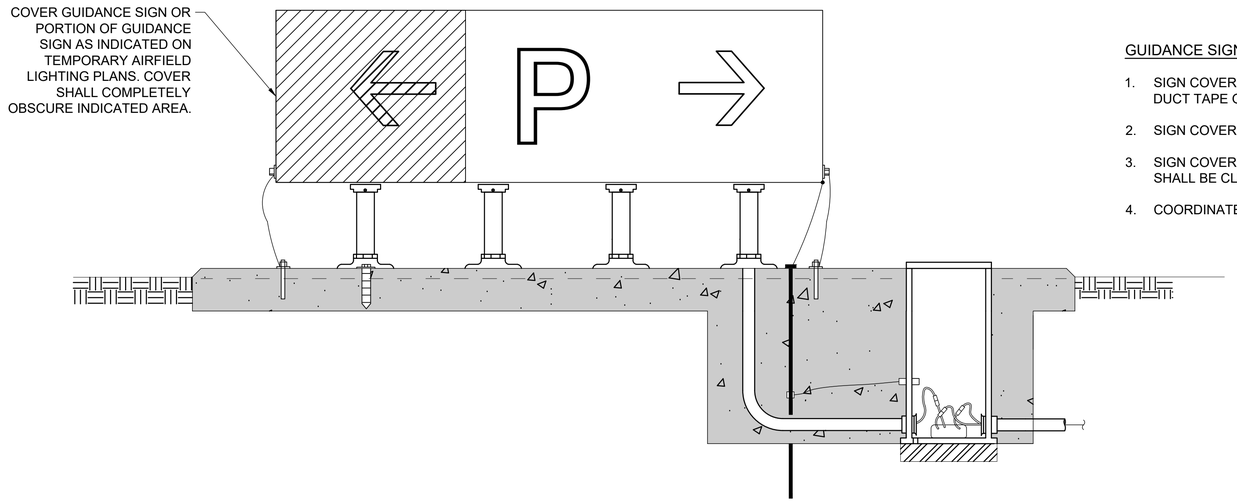
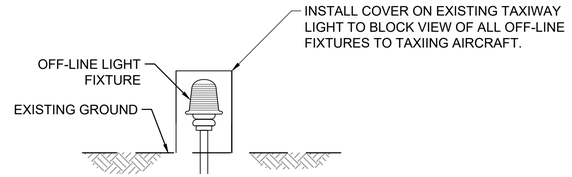
CROSSING PROTECTOR NOTES:

1. CABLE SHALL REMAIN IN CONDUIT FOR ENTIRE JUMPER LENGTH.
2. CONTRACTOR SHALL SUBMIT SUPPORT PROTECTOR PRODUCT DATA SHEETS.
3. VEHICLE TRAFFIC SHALL ONLY CROSS OVER THE AREA WHERE CABLE AND CONDUIT ARE PROTECTED.
4. JUMPER CROSSING IS NOT INTENDED FOR AIRCRAFT USE.



1 GC503 **TYPICAL PAVEMENT JUMPER CROSSING FOR TEMPORARY AIRFIELD LIGHTING**
SCALE: NONE





NOTES:

1. CONTRACTOR SHALL MAINTAIN THE FIXTURE COVERS IN ACCEPTABLE CONDITIONS AT ALL TIMES.
2. WHEN NO LONGER REQUIRED, THE FIXTURE COVERS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
3. FIXTURE COVERS SHALL BE SECURED TO PREVENT MOVEMENT BY PROP WASH, JET BLAST, OR OTHER WIND CURRENTS.
4. COST FOR PROVIDING, INSTALLING, MAINTAINING AND REMOVING PVC EDGE LIGHT MASK SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR TEMPORARY AIRFIELD LIGHTING.

2 GC503 **LIGHT FIXTURE COVER**
SCALE: NONE

GUIDANCE SIGN COVER NOTES:

1. SIGN COVER SHALL BE ATTACHED TO THE SIGN SECURELY IN A WAY THAT CAUSES NO DAMAGE TO THE GUIDANCE SIGN SUCH AS BLACK DUCT TAPE OR OTHER APPROVED METHOD.
2. SIGN COVERS SHALL BE CHECKED DAILY AND RESECURED AS NEEDED.
3. SIGN COVERS SHALL BE REMOVED AT COMPLETION OF WORK. ANY ADHESIVE RESIDUE SHALL BE COMPLETELY REMOVED AND THE SIGN SHALL BE CLEANED BEFORE PLACING IT BACK IN SERVICE.
4. COORDINATE ALL SIGN COVERS WITH THE ENGINEER AND RESIDENT PROJECT REPRESENATIVES (RPRs) PRIOR TO THE WORK.

3 GC503 **GUIDANCE SIGN COVER**
SCALE: NONE

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REGISTRATION NO. F-5713

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MATTHEW C. LEMAY
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LICENSED PROFESSIONAL ENGINEER
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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY DETAILS 3

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER **GC503**

SHEET NUMBER **13**

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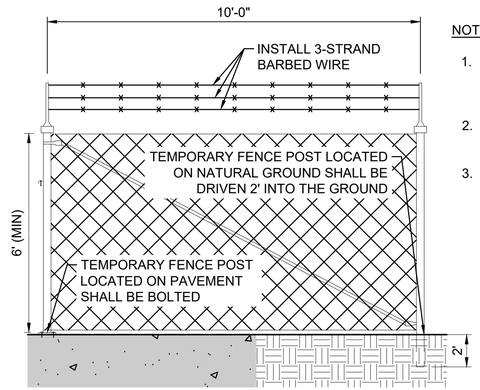
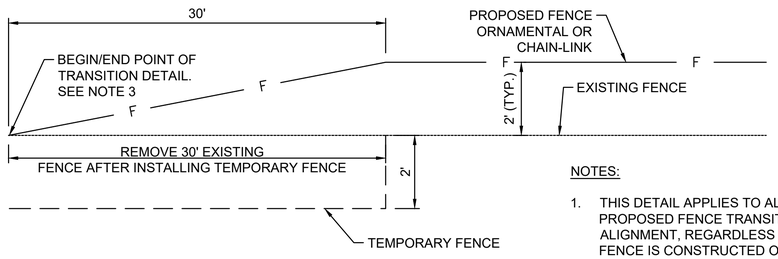


NOTES:

1. EXISTING FENCE MATERIAL IN GOOD CONDITION (AS DETERMINED BY THE RPR) IS PERMITTED TO BE USED BUT A SECURE FENCE PERIMETER MUST BE ESTABLISHED BY THE END OF EACH DAY.
2. WHEN TEMPORARY FENCE IN NATURAL GROUND IS REMOVED, POST HOLES SHALL BE FILLED WITH SOIL AND COMPACTED.
3. WHEN TEMPORARY FENCE IN PAVEMENT IS REMOVED, BOLT HOLES SHALL BE FILLED WITH EPOXY ACCORDING TO THE TEMPORARY FENCE SPECIFICATIONS.

1 GC504 — TEMPORARY FENCE DETAIL

SCALE: NONE

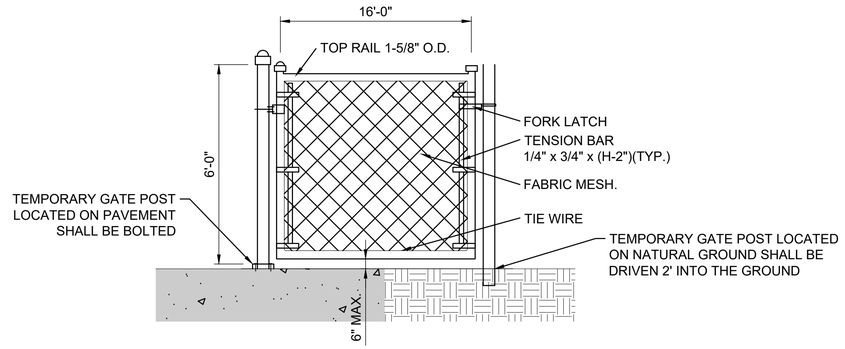


2 GC504 — INSET/OFFSET TRANSITION DETAIL

SCALE: NONE

NOTES:

1. THIS DETAIL APPLIES TO ALL INSTANCES IN WHICH PROPOSED FENCE TRANSITION FROM EXISTING ALIGNMENT, REGARDLESS IF THE PROPOSED FENCE IS CONSTRUCTED ON THE SECURE OR UNSECURE SIDE OF THE EXISTING FENCE.
2. TEMPORARY FENCE SHALL BE PAID FOR SEPARATELY.
3. PROPOSED POST SHALL BE INSTALLED A MAXIMUM 4.5" FROM THE EDGE OF THE BUILDING.



3 GC504 — TEMPORARY GATE

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

CONSTRUCTION SAFETY DETAILS 4

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
GC504

SHEET NUMBER **14**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-GC501.dwg Last Save: 4/21/2026 12:39 PM Last saved by: CPhun
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:00 PM Plotter used: AutoCAD PDF (General Documentation).pc3

TAXIWAY D

TAXIWAY E (CLOSED)

RUNWAY 12-30

2W-2°C

7B

TSA

TOFA

ROFA

RSA

REMOVE 66 LF TAXIWAY CENTERLINE MARKINGS.

REMOVE 188 LF TAXIWAY CENTERLINE MARKINGS.

STA. 227+00.62
OFF. 694.44' LT

STA. 227+15.69
OFF. 685.36' LT

REMOVE 195 SF OF PAVEMENT MARKING

CLEAN SAWCUT AT PAVEMENT EDGE

STA. 228+24.78
OFF. 272.02' LT

STA. 227+49.96
OFF. 258.90' LT

REMOVE 1968 SY ASPHALT PAVEMENT AND 6" OF CRUSHED AGGREGATE BASE PRIOR TO BRINGING IN TOPSOIL, RE-GRADING AREA AND ESTABLISHING VEGETATION (ADD. ALT. 1)

1 CD501

2 CD501

CLEAN SAWCUT AT PAVEMENT EDGE

REMOVE 331 LF TAXIWAY CENTERLINE MARKINGS.

REMOVE 343 LF TAXIWAY CENTERLINE MARKINGS.

REMOVE 338 LF TAXIWAY CENTERLINE MARKINGS.

REMOVE 346 LF TAXIWAY CENTERLINE MARKINGS.

CLEAN SAWCUT AT PAVEMENT EDGE

REMOVE 150 LF TAXIWAY CENTERLINE MARKINGS.

REMOVE 1807 SY ASPHALT PAVEMENT AND 6" OF CRUSHED AGGREGATE BASE PRIOR TO BRINGING IN TOPSOIL, RE-GRADING AREA AND ESTABLISHING VEGETATION (ADD. ALT. 1)

1 CD501

2 CD501

STA. 227+77.77
OFF. 260.00' RT

STA. 228+53.28
OFF. 260.00' RT

REMOVE 366 SF OF PAVEMENT MARKING

CLEAN SAWCUT AT PAVEMENT EDGE

221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00

0 30' 60' 120' 180'

(IN FEET)

LEGEND

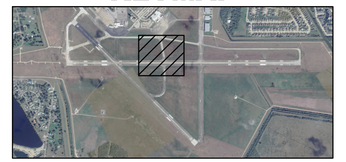
- DEMO EXISTING ASPHALT PAVEMENT, EXCACATE AGGREGATE BASE, AND RE-GRADE AREA
- EXISTING DRAINAGE STRUCTURE
- EXISTING TAXIWAY LIGHT
- XXXXXXXXX PAVEMENT MARKING REMOVAL
- SINGULAR ITEM REMOVAL

NOTES:

1. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, HANDHOLES, AIRFIELD EQUIPMENT, DRAINAGE STRUCTURES, AND BUILDINGS NOT SHOWN FOR DEMOLITION. ANY DAMAGE AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
2. SEE ED100 SERIES FOR AIRFIELD ELECTRICAL DEMOLITION EXTENTS AND DETAILS.
3. THE CONTRACTOR SHALL SAWCUT AT THE PROPOSED EDGE OF CONSTRUCTION, AND 6" INSIDE THE PROPOSED EDGE OF CONSTRUCTION TO PROVIDE A CLEAN VERTICAL EDGE OF EXISTING PAVEMENT.

Texas 811

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

DEMOLITION PLAN 1

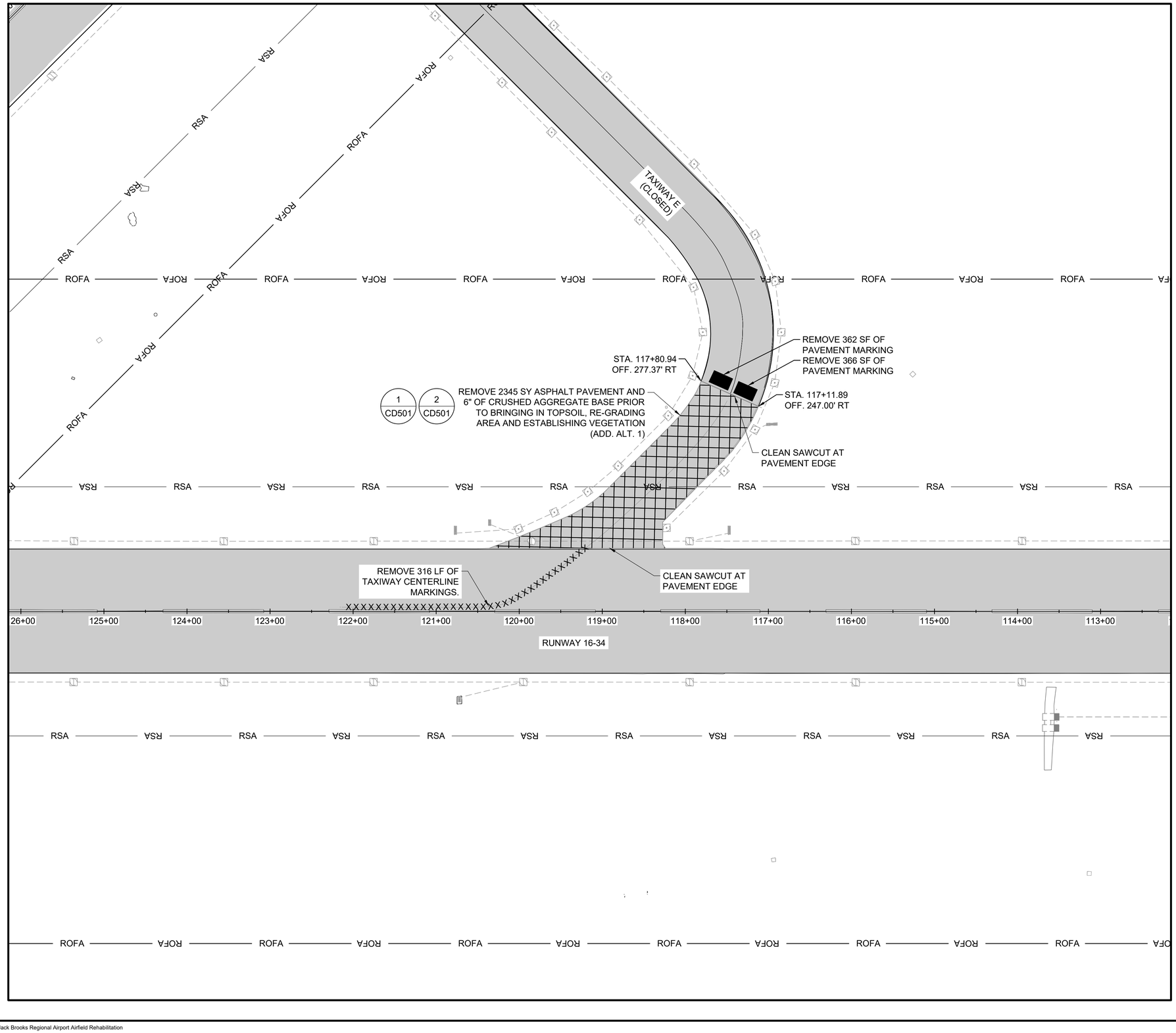
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CD101

SHEET NUMBER **15**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-CD101.dwg Last Save: 4/23/2026 3:58 PM Last saved by: CPhun
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:01 PM Plotter used: AutoCAD PDF (General Documentation).pc3



0 30' 60' 120' 180'

(IN FEET)

LEGEND

- DEMO EXISTING ASPHALT PAVEMENT, EXCACATE AGGREGATE BASE, AND RE-GRADE AREA
- EXISTING DRAINAGE STRUCTURE
- EXISTING TAXIWAY LIGHT
- XXXXXXXXX PAVEMENT MARKING REMOVAL
- SINGULAR ITEM REMOVAL

NOTES:

1. SEE SHEET CD101 FOR DEMOLITION NOTES.

KEYMAP

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REGISTRATION NO.
F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED
PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS
REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

DEMOLITION PLAN 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CD102

SHEET NUMBER **16**

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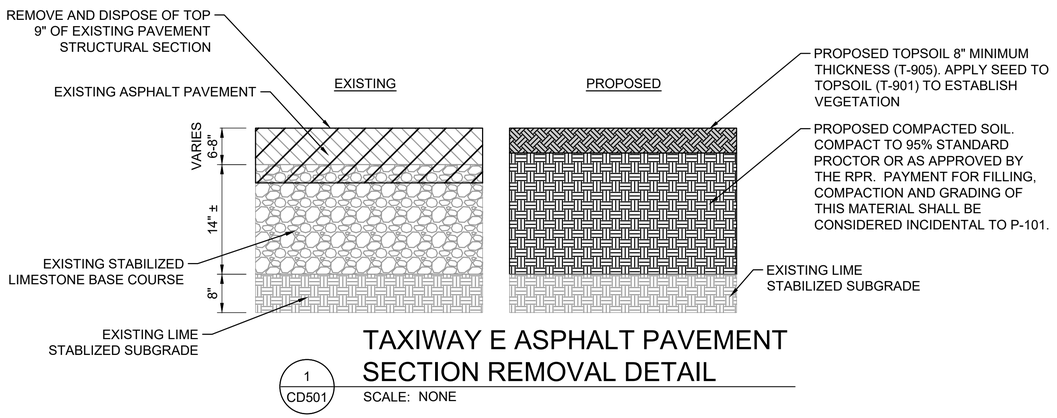
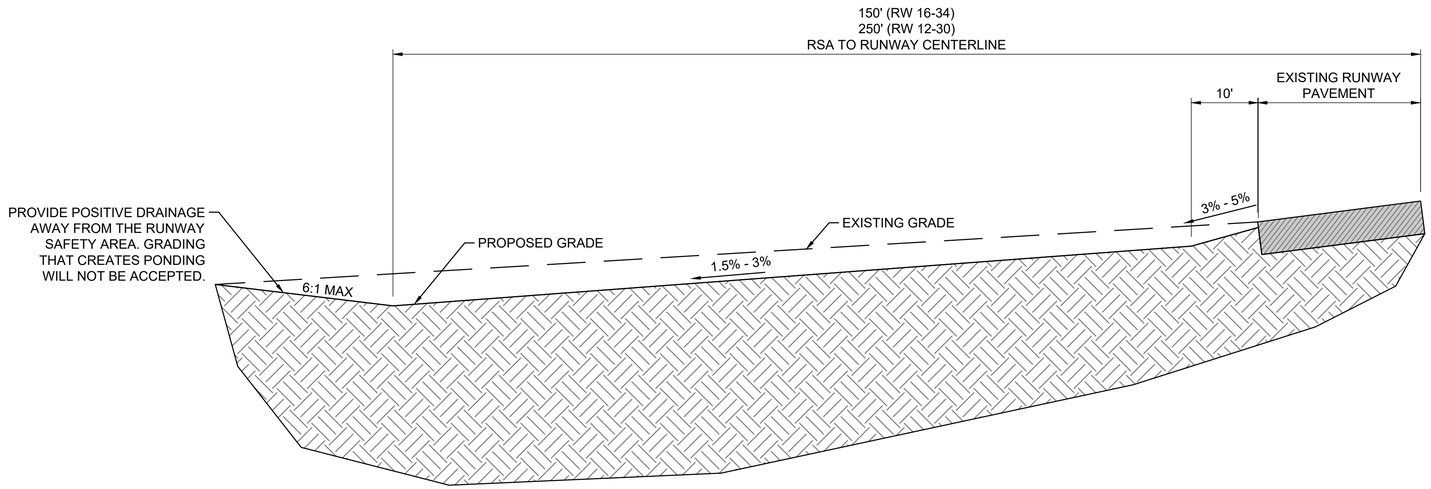


TAXIWAY E ASPHALT PAVEMENT SECTION REMOVAL DETAIL

1 / CD501

SCALE: NONE



RSA GRADING TYPICAL SECTION

2 / CD501

SCALE: NONE

PAVEMENT DEMOLITION NOTES:

1. CONTRACTOR WILL BE PAID FOR THE SQUARE YARD OF ASPHALT, BASE, AND STABILIZED SUBGRADE REMOVED UNDER P-101.

2. THE CONTRACTOR SHALL ENSURE A CLEAN AND STRUCTURALLY SOUND JOINT FACE AT THE EDGE OF ALL REMOVED PAVEMENT. ALL WORK, MATERIAL AND EQUIPMENT (SAW CUT, JOINT SPALL REPAIR, ETC.) NECESSARY TO ACHIEVE THIS WILL NOT BE MEASURED FOR SEPARATE PAYMENT BUT WILL BE CONSIDERED INCIDENTAL TO P-101.

3. THICKNESSES AND TYPES OF MATERIALS FOR ASPHALT SECTIONS ARE APPROXIMATE. VARIATIONS OF EXISTING PAVEMENT SECTIONS ON-SITE SHALL NOT BE A BASIS FOR ADDITIONAL PAYMENT.

4. ALL PAVEMENT AND BASE MATERIAL REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED AND DISPOSED OF OFF AIRPORT PROPERTY AT THE CONTRACTOR'S OWN EXPENSE.

5. CONTRACTOR SHALL PROTECT ALL UTILITIES, DRAINAGE FACILITIES, AND AIRPORT FACILITIES THAT ARE TO REMAIN DURING CONSTRUCTION. CONTRACTOR SHALL PERFORM THE WORK IN SUCH A MANNER AS NOT TO DAMAGE THE EXISTING UTILITIES. ANY DAMAGE TO THESE UTILITIES ARISING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AND AT NO COST TO THE OWNER.

6. DAMAGE TO EXISTING PAVEMENT TO REMAIN SHALL REQUIRE THE CONTRACTOR TO CUT A CLEAN VERTICAL EDGE BEYOND THE DAMAGE AND REMOVE AND REPLACE THE ADDITIONAL PAVEMENT AT NO COST TO THE OWNER. REMOVAL LIMITS SHALL BE APPROVED BY THE RPR.

UNDERGROUND UTILITIES NOTE:

7. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

   TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-344-8377. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.

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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

DEMOLITION DETAILS

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CD501

SHEET NUMBER **17**

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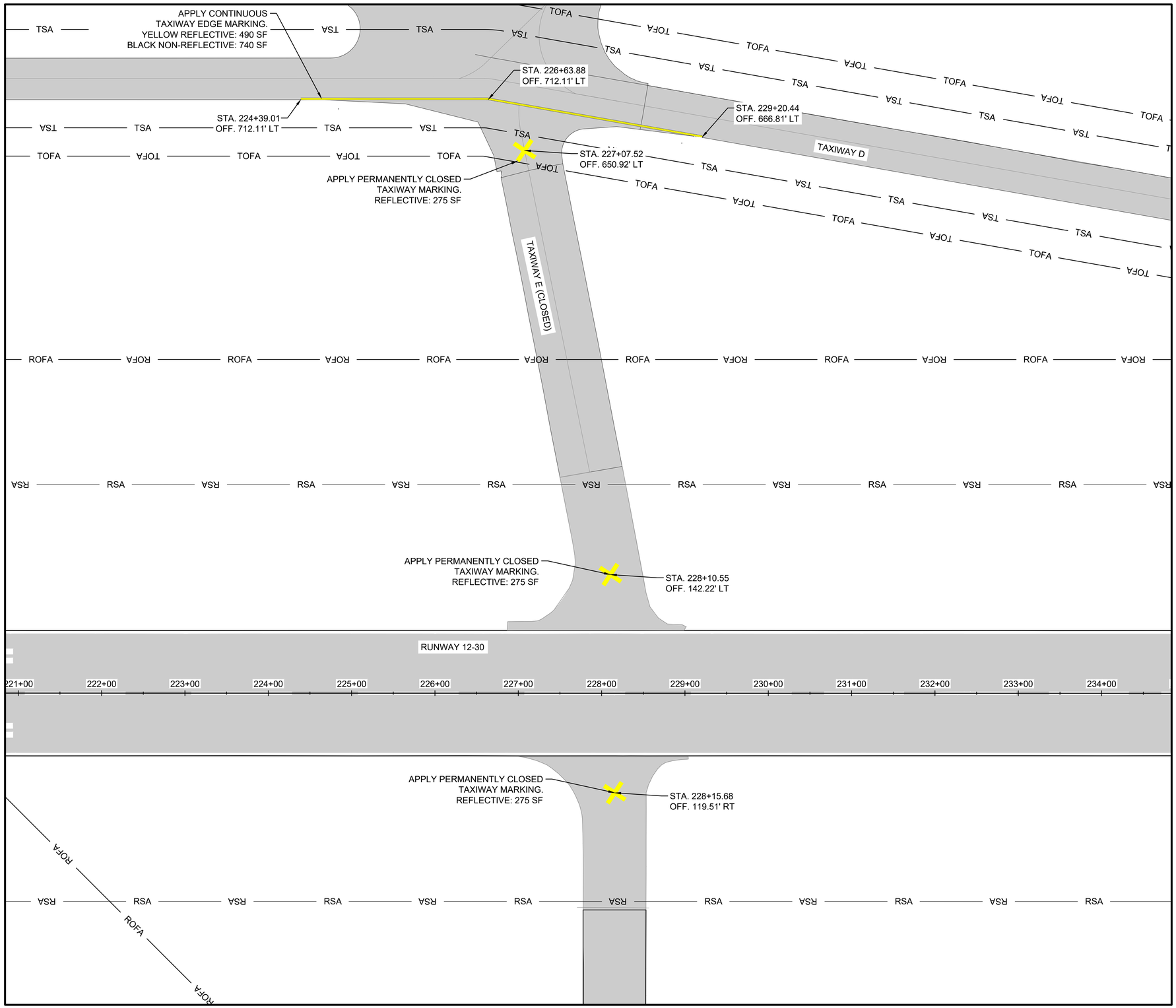
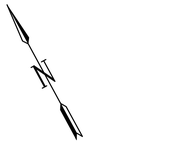




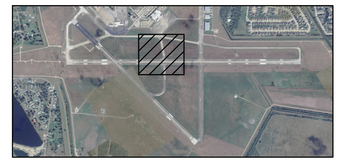
LEGEND

- EXISTING MARKINGS
- PROPOSED YELLOW MARKINGS
- RSA — RUNWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA

NOTES:

1. SHEET INTENDED TO BE PRINTED IN COLOR.
2. SEE SHEET CM501 FOR AIRFIELD MARKING DETAILS.
3. MARKINGS ON EXISTING PAVEMENT SHOWN FOR REFERENCE ONLY.
4. THE CONTRACTOR WILL BE REQUIRED TO REPAINT ANY MARKINGS THAT ARE OUTSIDE OF THE PROJECT LIMITS WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS. REPAINTING OF DAMAGED AREAS WILL BE AT THE CONTRACTOR'S EXPENSE.
5. ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL STRIPING PRESENT IN THE FIELD SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO MARKING REMOVAL OR INSTALLATION OPERATIONS.
6. MARKINGS TO BE REPAINTED SHALL BE CLEANED AND HAVE ANY LOOSE MATERIAL REMOVED PRIOR TO THE NEW APPLICATION.
7. BLACK PAINT SHALL NOT RECEIVE REFLECTIVE MEDIA.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

PAVEMENT MARKING PLAN 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CM101

SHEET NUMBER **18**

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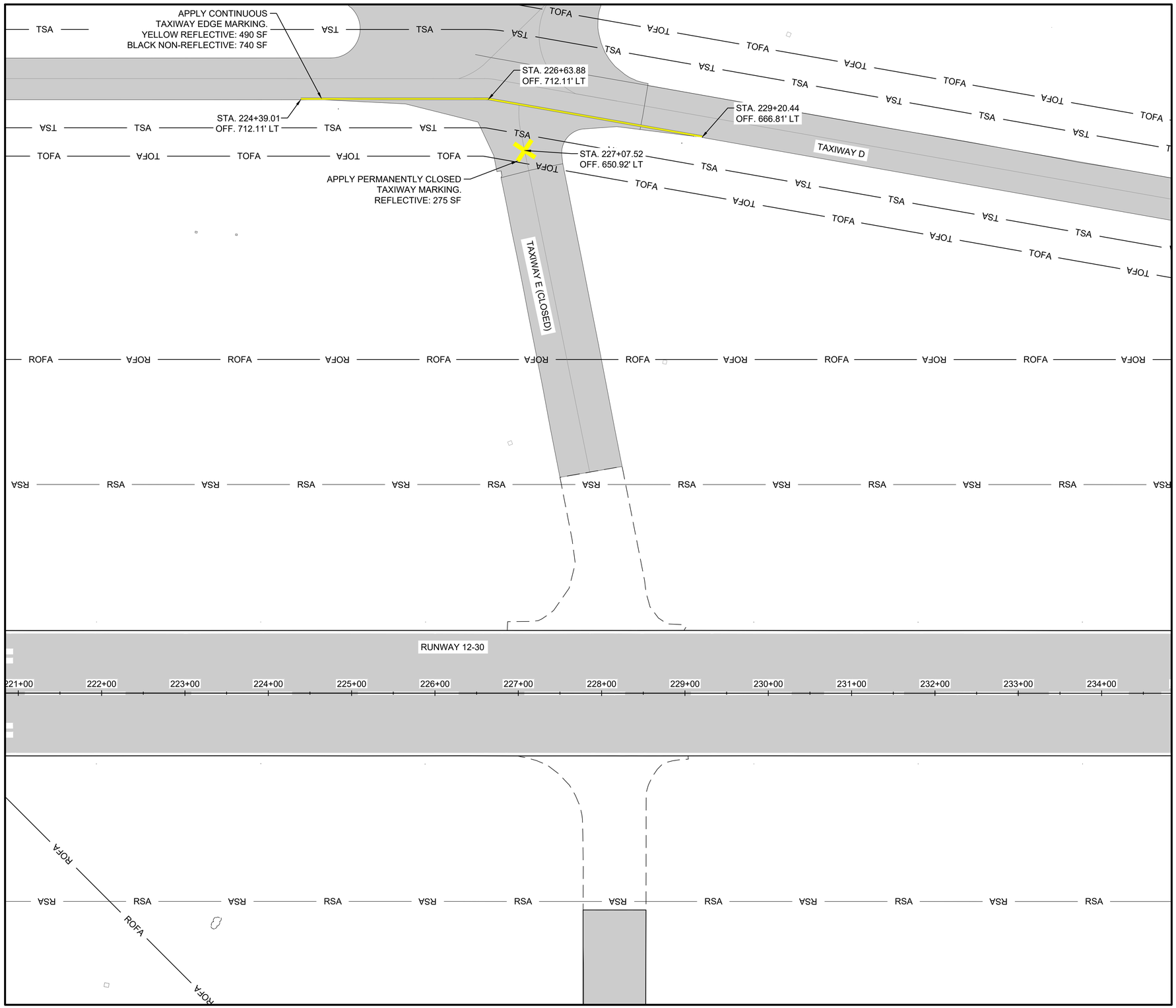

0 30' 60' 120' 180'

(IN FEET)

LEGEND

- EXISTING MARKINGS
- PROPOSED YELLOW MARKINGS
- RSA — RUNWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA

NOTES:

1. SHEET INTENDED TO BE PRINTED IN COLOR.
2. SEE SHEET CM501 FOR AIRFIELD MARKING DETAILS.
3. MARKINGS ON EXISTING PAVEMENT SHOWN FOR REFERENCE ONLY.
4. THE CONTRACTOR WILL BE REQUIRED TO REPAINT ANY MARKINGS THAT ARE OUTSIDE OF THE PROJECT LIMITS WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS. REPAINTING OF DAMAGED AREAS WILL BE AT THE CONTRACTOR'S EXPENSE.
5. ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL STRIPING PRESENT IN THE FIELD SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO MARKING REMOVAL OR INSTALLATION OPERATIONS.
6. MARKINGS TO BE REPAINTED SHALL BE CLEANED AND HAVE ANY LOOSE MATERIAL REMOVED PRIOR TO THE NEW APPLICATION.
7. BLACK PAINT SHALL NOT RECEIVE REFLECTIVE MEDIA.

KEYMAP

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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

PAVEMENT MARKING
PLAN 1 - ADD ALT.

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CM101A

SHEET NUMBER **19**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-CM101.dwg Last Save: 4/23/2026 7:41 PM Last saved by: CPhun
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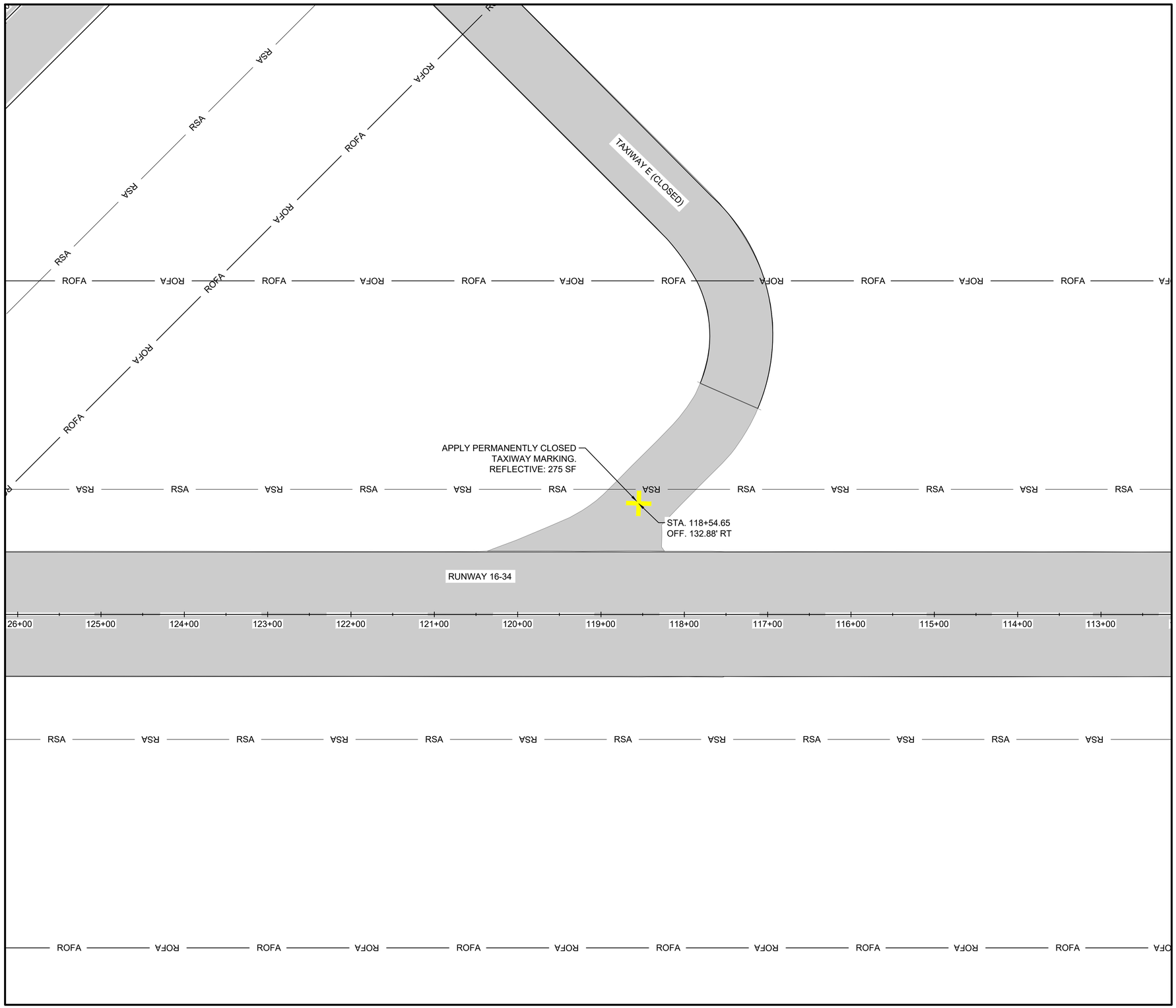

0 30' 60' 120' 180'

(IN FEET)

LEGEND

- EXISTING MARKINGS
- PROPOSED YELLOW MARKINGS
- RSA — RUNWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA

NOTES:

1. SHEET INTENDED TO BE PRINTED IN COLOR.
2. SEE SHEET CM501 FOR AIRFIELD MARKING DETAILS.
3. MARKINGS ON EXISTING PAVEMENT SHOWN FOR REFERENCE ONLY.
4. THE CONTRACTOR WILL BE REQUIRED TO REPAINT ANY MARKINGS THAT ARE OUTSIDE OF THE PROJECT LIMITS WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS. REPAINTING OF DAMAGED AREAS WILL BE AT THE CONTRACTOR'S EXPENSE.
5. ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL STRIPING PRESENT IN THE FIELD SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO MARKING REMOVAL OR INSTALLATION OPERATIONS.
6. MARKINGS TO BE REPAINTED SHALL BE CLEANED AND HAVE ANY LOOSE MATERIAL REMOVED PRIOR TO THE NEW APPLICATION.
7. BLACK PAINT SHALL NOT RECEIVE REFLECTIVE MEDIA.

KEYMAP

GARVER

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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

PAVEMENT MARKING PLAN 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
CM102

SHEET NUMBER **20**

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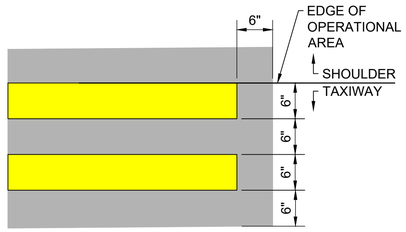
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:03 PM Plotter used: AutoCAD PDF (General Documentation).pc3

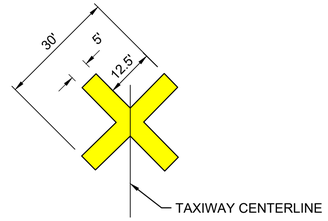


NOTE:

1. ALL YELLOW MARKINGS SHALL HAVE GLASS BEADS.
2. ALL BLACK MARKINGS SHALL HAVE NO GLASS BEADS.
3. BLACK OUTLINE SHALL BE 6" OUTSIDE OF YELLOW MARKING.

1 / CM501 TAXIWAY CONTINUOUS EDGE MARKINGS

SCALE: NONE



2 / CM501 TAXIWAY CLOSURE MARKING

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
JESSICA L. BRYAN
137137
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

PAVEMENT MARKING DETAILS

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: DAG
DRAWN BY: DAG

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DRAWING NUMBER
CM501

SHEET NUMBER **21**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:03 PM Plotter used: AutoCAD PDF (General Documentation).pc3

SYMBOL	ITEM DESCRIPTION
———	NEW EQUIPMENT
- - - - - -	EXISTING EQUIPMENT
	EXISTING EQUIPMENT TO BE COMPLETELY DEMOLISHED AND REMOVED, AREA TO BE RESTORED
	L-861T(L) TAXIWAY EDGE LIGHT
	L-852T(L) IN-PAVEMENT TAXIWAY EDGE LIGHT
	L-862(L) RUNWAY EDGE LIGHT, COLOR AS INDICATED
	L-862E(L) RUNWAY THRESHOLD/END LIGHT, COLOR AS INDICATED
	L-867 LIGHT BASE JUNCTION STRUCTURE, SIZED AS INDICATED
	JUNCTION STRUCTURE PLAZA, NUMBER AND SIZE OF CANS AS INDICATED
	L-858(L) GUIDANCE SIGN, SEE SIGN INDEX
	L-807 WIND CONE WITH SEGMENTED CIRCLE
	L-880 PRECISION APPROACH PATH INDICATOR (PAPI)
	L-849A RUNWAY END IDENTIFICATION LIGHT (REIL)
4W-4"	ELECTRICAL DUCT, NUMBER AND SIZE OF CONDUITS AS INDICATED
	DUCT MARKER
	HANDHOLE
	3/4" x 10' COPPER CLAD STEEL GROUND ROD
	SERIES LIGHTING CIRCUIT WITH COUNTERPOISE, NUMBER OF HASH MARKS INDICATES NUMBER OF CABLES
	CONDUIT CUT/COUPLE POINT
RSA	RUNWAY SAFETY AREA
ROFA	RUNWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TOFA	TAXIWAY OBJECT FREE AREA
T	CONDUIT DRAIN

CAUTION NOTES:

1. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS, HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.
2. TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE TEXAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-344-8377. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.

ELECTRICAL SAFETY NOTES:

1. SERIES CIRCUITS CAN BE DANGEROUS AND / OR FATAL.
2. LOCKOUT / TAGOUT PROCEDURES SHALL BE FOLLOWED.
3. LIGHTING REGULATORS SHALL BE TURNED OFF, LOCKED, AND TAGGED OUT OF SERVICE BEFORE ANY WORK IS DONE ON THE SERIES CIRCUIT.
4. THE ELECTRICAL RESISTANCE AND INSULATION INTEGRITY OF EACH MODIFIED CIRCUIT SHALL BE TESTED BEFORE THE CIRCUIT IS ENERGIZED.

DEMOLITION NOTES:

1. RESTORE THE DEMOLITION WORK AREAS TO MATCH EXISTING CONDITIONS.
2. LOCATE, IDENTIFY, AND PROTECT EXISTING SERVICES PASSING THROUGH DEMOLITION AREAS AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.
3. MAINTAIN AND PROTECT EXISTING SERVICES WHICH TRANSIT THE AREAS AFFECTED BY SELECTIVE DEMOLITION.
4. MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING SYSTEM EQUIPMENT, DEVICES, ETC., TO REMAIN IN USE WHETHER NOTED ON THE PLANS OR NOT. FIELD VERIFY EXISTING ITEMS TO REMAIN IN USE. WIRING FOR EXISTING DEVICES WHICH MUST BE RE-ROUTED OR WHICH ARE PARTIALLY ABANDONED, SHALL BE RECONNECTED TO SERVICE THE REMAINING DEVICES ON THE CIRCUIT.
5. THE INTENTION OF THE ELECTRICAL DEMOLITION IS TO DISCONNECT AND REMOVE ALL ELECTRICAL WORK MADE VOID BY THE SCOPE OF THE CONSTRUCTION AND ALTERATION. FIELD VERIFY EXACT MATERIAL QUANTITIES REQUIRED TO BE REMOVED.
6. ALL REMOVED MATERIALS, OTHER THAN REMOVED MATERIALS TO BE RELOCATED, OR TURNED OVER TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE.
7. COORDINATE ALL DEMOLITION WORK WITH ALL OTHER TRADES.
8. ALL EXISTING ELECTRICAL WORK AND ASSOCIATED RACEWAY AND WIRING WHICH HAS BEEN MADE OBSOLETE BY THE WORK AND / OR IS SHOWN DASHED ON THE ELECTRICAL DEMOLITION DRAWINGS, SHALL BE DISCONNECTED AND REMOVED, UNLESS OTHERWISE NOTED. AN ATTEMPT HAS BEEN MADE TO INDICATE ALL OF THIS WORK, BUT TOTAL ACCURACY IS NOT GUARANTEED.
9. FOR EXISTING ELECTRICAL EQUIPMENT TO BE REMOVED, DEMOLISH ALL EQUIPMENT, DEVICES, CIRCUITS, CONDUITS, BOXES, AND OTHER APPURTENANCES AS REQUIRED FOR A COMPLETE REMOVAL.
10. CUT OFF BOLT PROTRUSIONS, REMOVE ANCHORS, ETC. AT CEILING, FLOOR, OR WALL SURFACES AS REQUIRED. NO SUPPORT ITEMS SHALL BE LEFT IN PLACE.
11. REMOVE, CAP, AND / OR RELOCATE EQUIPMENT, OUTLETS, CONDUIT, WIRE, ETC., WHETHER INDICATED ON THE DRAWINGS OR NOT, AND AS MAY BECOME NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIBLY EXAMINE ALL EXISTING AREAS DESIGNATED FOR REMOVAL OR MODIFICATION TO DETERMINE THE CONDUIT AND THE WIRING THAT WILL REQUIRE CAPPING AND / OR REMOVAL. THE CONTRACTOR SHALL BE HELD TO HAVING VISITED THE SITE AND TAKEN ALL EXISTING CONDITIONS INTO CONSIDERATION.
12. WHERE ELECTRICAL EQUIPMENT, CONDUIT, BOXES, AND SUPPORTING HARDWARE ARE REMOVED, PATCH AND FINISH THE SURFACE (WALL AND CEILING) AS REQUIRED TO MATCH THE EXISTING, UNLESS OTHERWISE NOTED.
13. WHERE BURIED CONDUITS EXTENDING OUT OF A CONCRETE SLAB BECOME ABANDONED, CUT AND GRIND THE CONDUITS OFF FLUSH WITH TOP OF SLAB AND PLUG WITH NON-SHRINK WATERPROOF GROUT FILL.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL STAKE THE AIRFIELD LIGHTING SYSTEMS, PRIOR TO INSTALLATION OF ANY TRENCH, CABLE, OR LIGHTING APPARATUS. THE INTENT IS TO STAKE THE INSTALLATION AT THE LOCATIONS INDICATED, NOTING ANY DEVIATION FROM PLAN DIMENSIONS TO THE ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF AN EXPERIENCED AND LICENSED SURVEYOR TO PERFORM THIS WORK.
2. THE ENGINEER WILL PROVIDE ELECTRONIC CADD FILES TO THE CONTRACTOR FOR THIS STAKING WORK. THE CONTRACTOR SHALL STAKE THE ITEMS AND HIS SURVEYOR SHALL PROVIDE A CADD FILE SUBMITTAL BACK TO THE ENGINEER. BASED UPON THIS SUBMITTAL, THE ENGINEER WILL COORDINATE AND PROVIDE DIRECTIONS ON ANY ADJUSTMENTS NECESSARY TO MEET EXISTING FIELD CONDITION REQUIREMENTS AND COMPLY WITH FAA ADVISORY CIRCULAR REQUIREMENTS ON THE LAYOUT AND SPACING OF EQUIPMENT.
3. THE CONTRACTOR AND HIS SURVEYOR SHALL THEN MAKE ANY ELECTRONIC CADD FILE SPACING ADJUSTMENTS AND / OR FIELD STAKING ADJUSTMENTS PRIOR TO INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL VERIFY EXACT PAVEMENT EDGE DIMENSIONS WITH THIS INITIAL SURVEY WORK.
5. THE CONTRACTOR SHALL FIELD MARK AND IDENTIFY TAXIWAY POINT OF TANGENCY (PT), POINT OF CURVATURE (PC), AND INTERSECTION POINTS (IP) LOCATIONS AS REQUIRED IN ORDER TO PERFORM TAXIWAY EDGE LIGHT SPACING AND SURVEYING WORK.
6. THE EXISTING AND THE PROPOSED LOCATIONS OF LIGHTING CABLES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING AND IDENTIFYING THE EXISTING LIGHTING CIRCUITS TO DETERMINE THEIR EXACT ROUTING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING THE LIGHTING SYSTEMS IN A WORKING CONDITION UNTIL THE NEW LIGHTING CIRCUITS HAVE BEEN INSTALLED AND TESTED. THE CONTRACTOR SHALL PROACTIVELY AND EXPEDITIOUSLY ACCOMPLISH THIS CABLE IDENTIFICATION WORK PRIOR TO PERFORMING ANY MODIFICATIONS TO THE LIGHTING CIRCUITS. COORDINATE IDENTIFICATION WORK WITH THE OWNER AND ENGINEER AND MAKE ALL CORRECTIONS, ADDITIONS, ETC. ON THE AS-BUILT DRAWINGS.
7. THE CONTRACTOR SHALL BE EXTREMELY CAREFUL WHILE EXCAVATING IN THE AREA OF LIGHTING CIRCUITS. ANY CABLE OR CONDUIT / DUCT WHICH IS NICKED OR DAMAGED DURING EXCAVATION SHALL BE PROPERLY AND EXPEDITIOUSLY SPLICED OR THE LENGTH OF CABLE AND CONDUIT / DUCT REPLACED. A SPLICE OR CONDUIT / DUCT MARKER SHALL BE INSTALLED AT ALL SPLICE OR OTHER REPAIR LOCATIONS MORE THAN 2' AWAY FROM A LIGHT, SIGN, HANDHOLE, MANHOLE, OR JUNCTION STRUCTURE. ALL REPAIR AND / OR REPLACEMENT WORK AND MATERIALS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.
8. FOR NEW L-824C CABLE INSTALLED ON THIS PROJECT, THE BASIS-OF-DESIGN OUTSIDE DIAMETER THAT WAS USED IS 0.415 INCHES. IF THE CONTRACTOR USES L-824C CABLE WITH A LARGER OUTSIDE DIAMETER, ANY CONDUIT OR DUCT BANK INCREASES IN SIZE NECESSARY TO MAINTAIN CABLE FILL CODE COMPLIANCE SHALL BE INSTALLED AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE ENGINEER. PAYMENT WILL ONLY BE MADE AT THE BASIS-OF-DESIGN CONDUIT OR DUCT BANK PAY ITEM SHOW ON THE PLANS. AS-BUILT DRAWINGS SHALL BE MARKED UP BY THE CONTRACTOR TO IDENTIFY ANY SIZE CHANGES.
9. ALL ELECTRICAL CABLES SHALL BE CLEARLY IDENTIFIED, LABELED, AND TAGGED AT ALL POINTS WHERE THEY ARE AVAILABLE FOR CONNECTIONS OR INSPECTION, INCLUDING, BUT NOT LIMITED TO MANHOLES, HANDHOLES, PULL BOXES, JUNCTION BOXES, AND LIGHT BASES.
10. THE CONTRACTOR SHALL PERFORM MEGGER TESTS ON EACH EXISTING SERIES CIRCUIT PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM AND EACH NEW AND EXISTING SERIES CIRCUIT AFTER THE ACCEPTANCE TEST PERIOD. MEGGER TESTING REQUIREMENTS SHALL BE SUBSIDIARY TO AND PAID FOR BY L-108 PAY ITEMS.
11. THE CONTRACTOR SHALL COORDINATE WITH THE ON-SITE ENGINEER FOR OWNER AND ENGINEER WITNESS OF ALL MEGGER TESTING. THE CONTRACTOR SHALL SUBMIT HIS INITIAL MEGGER TEST REPORTS TO THE OWNER AND ENGINEER PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM. THIS REPORT SHALL BE APPROVED AND SIGNED BY THE OWNER AND ENGINEER PRIOR TO THE CONTRACTOR PROCEEDING WITH HIS WORK.
12. THE CONTRACTOR SHALL CHECK THE LOAD ON EACH EXISTING REGULATOR PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM AND ON EACH NEW AND EXISTING REGULATOR AFTER THE ACCEPTANCE TEST PERIOD.
13. THE CONTRACTOR SHALL CALIBRATE EACH NEW AND EXISTING REGULATOR FOLLOWING THE PERFORMED WORK.
14. LOCKOUT / TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES SHALL BE PAID FOR BY SS-300 PAY ITEMS UNLESS OTHERWISE NOTED.
15. DURING CONSTRUCTION, PROTECT ALL EQUIPMENT, DUCTS, CONDUITS, CABLES, ETC. THAT ARE TO REMAIN IN PLACE. WHERE EXISTING ITEMS ARE CUT, BROKEN, OR DAMAGED, THE CONTRACTOR SHALL REPLACE OR REPAIR PROACTIVELY AND EXPEDITIOUSLY THE ITEMS WITH THE SAME TYPE OF ORIGINAL MATERIAL AND CONSTRUCTION OR BETTER AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

ELECTRICAL LEGEND AND NOTES

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EN001

SHEET NUMBER **22**

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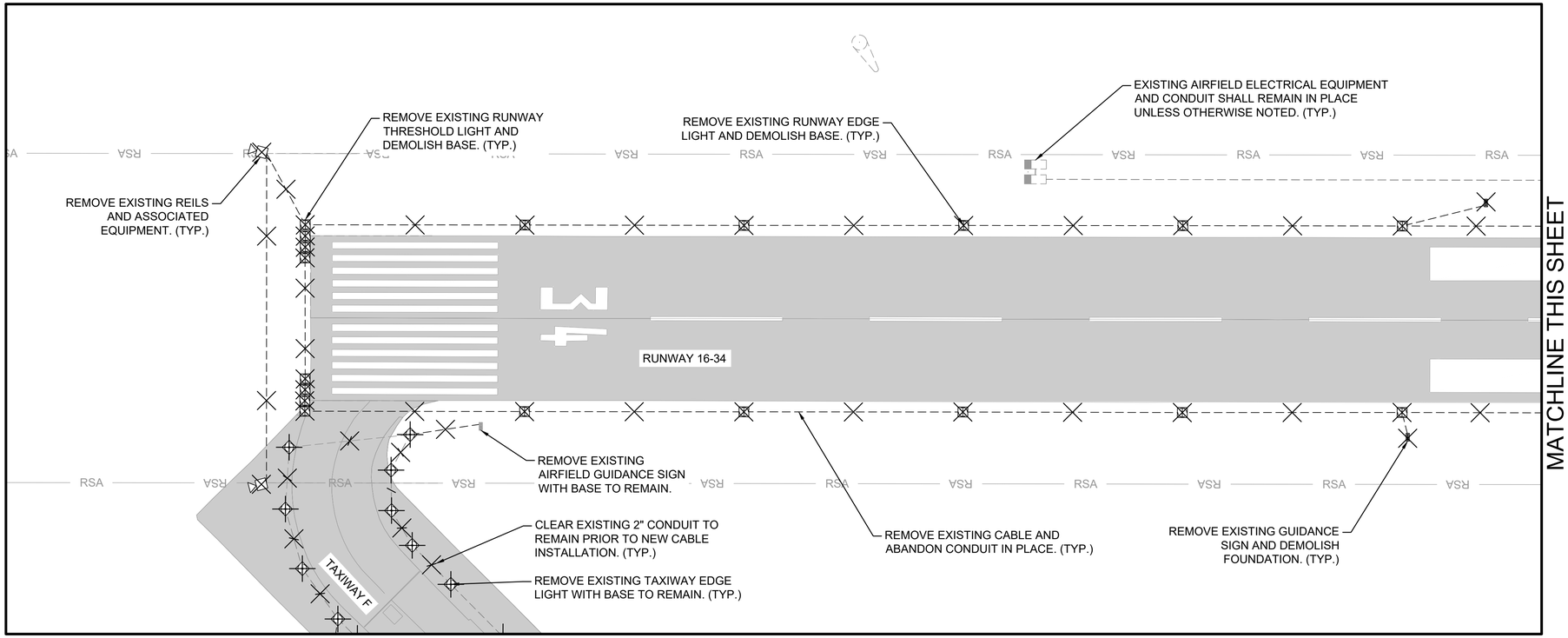

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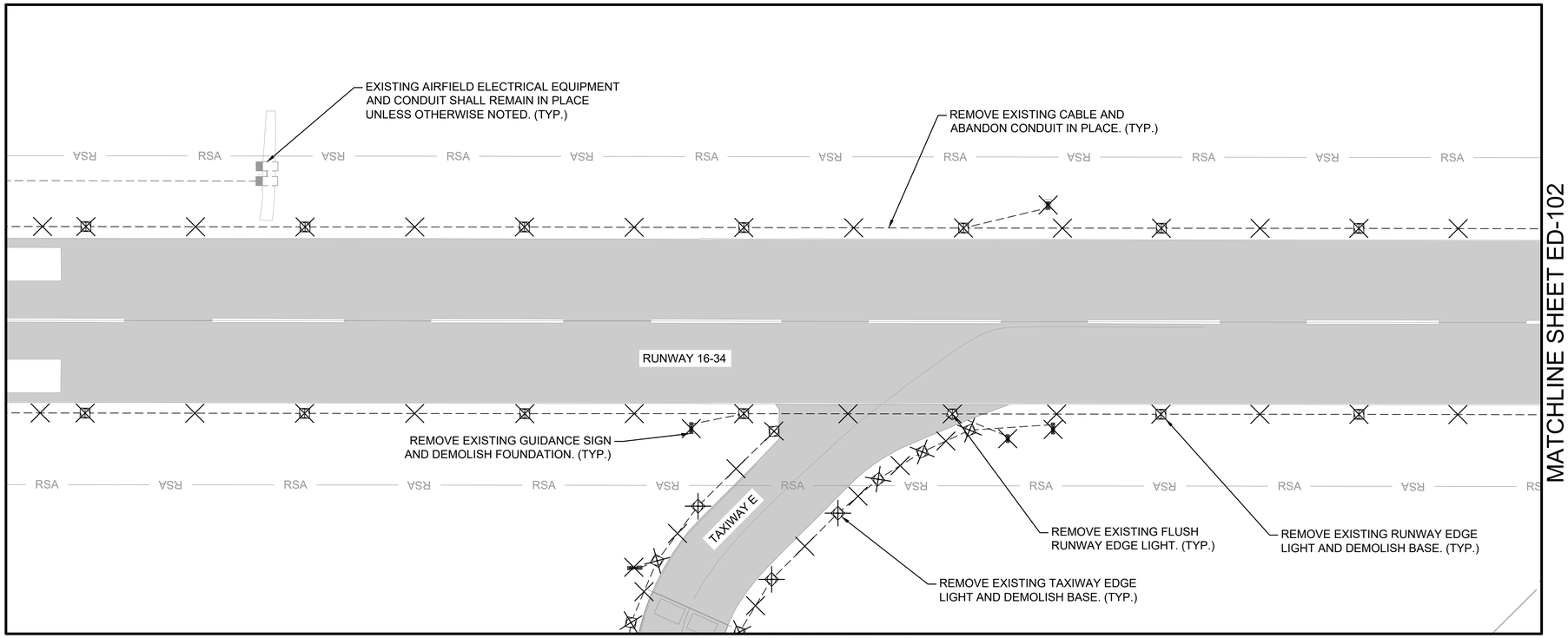

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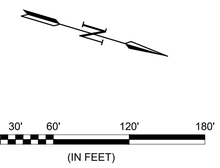

GENERAL NOTES:

1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.

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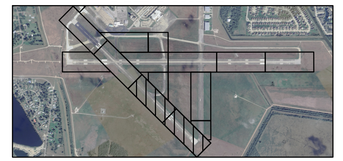

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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ED101

SHEET NUMBER **23**

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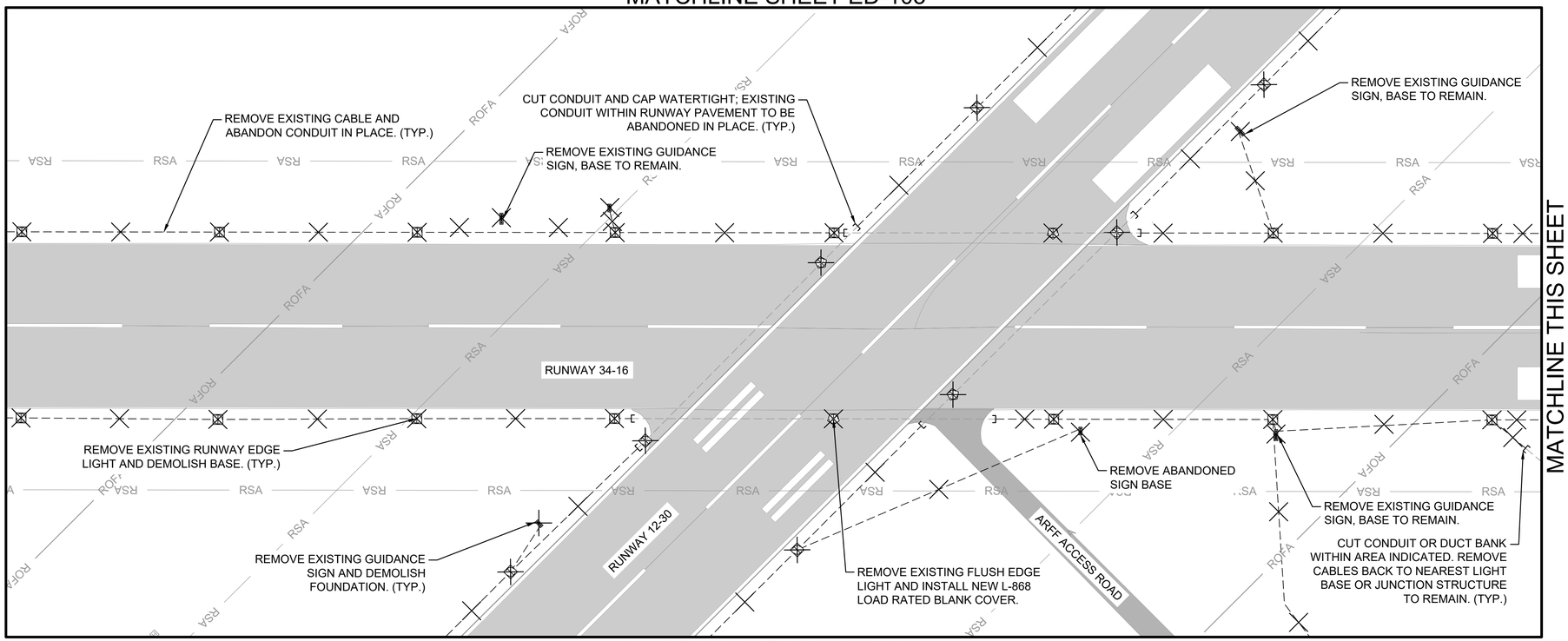
MATCHLINE SHEET ED-103

MATCHLINE SHEET ED-101



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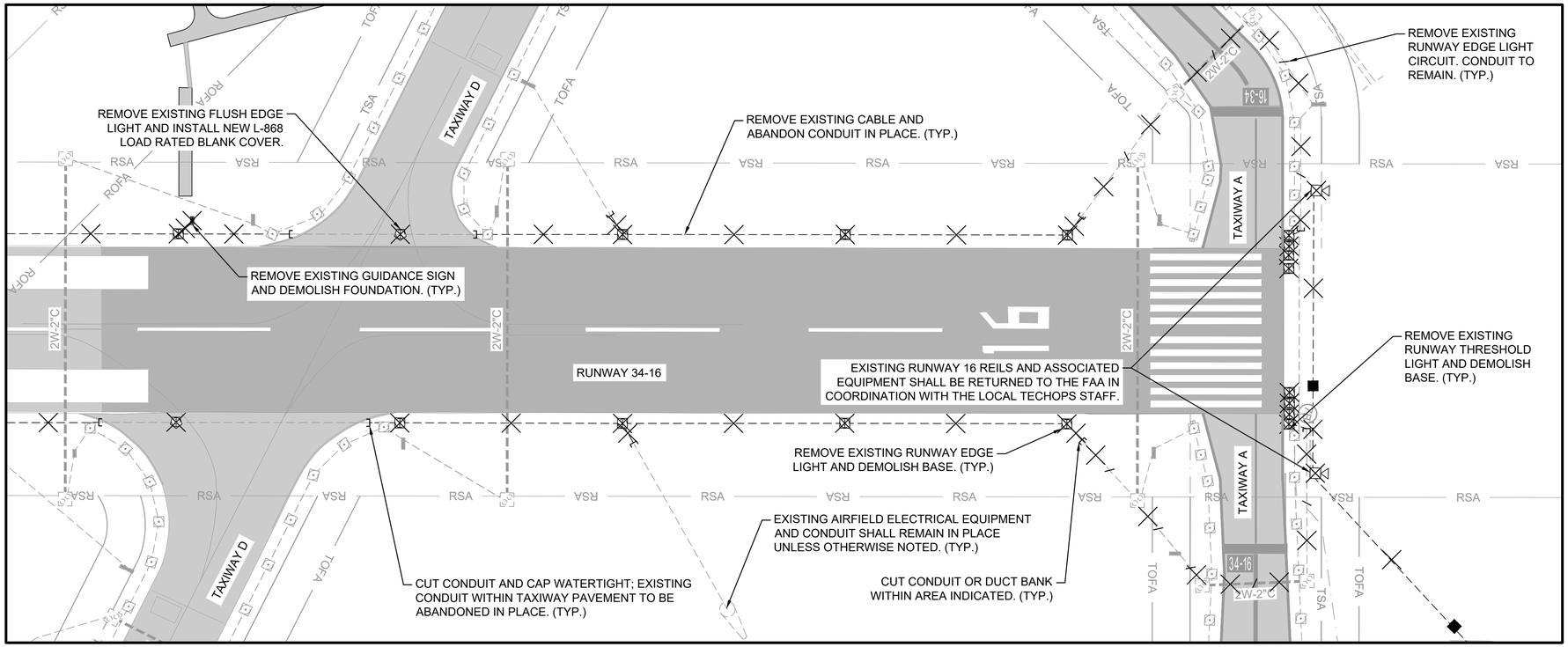
MATCHLINE SHEET ED-103

MATCHLINE THIS SHEET

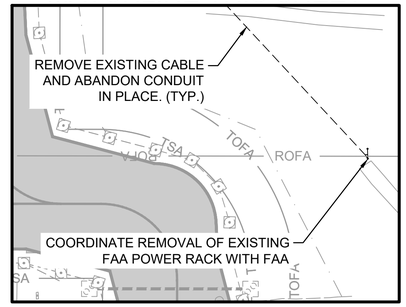


MATCHLINE THIS SHEET

GENERAL NOTES:

1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.

MATCHLINE THIS SHEET



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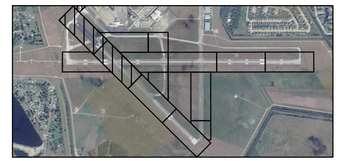

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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ED102

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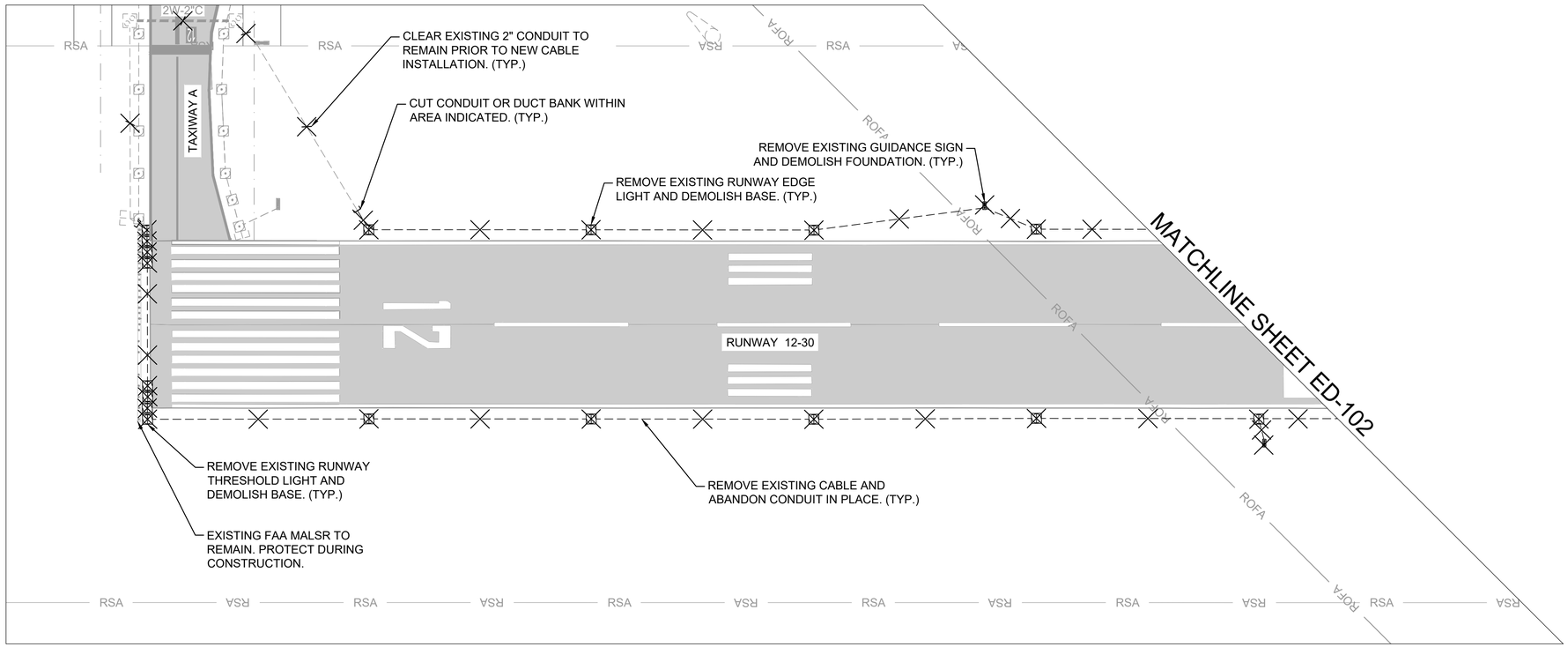

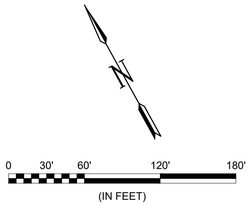

GENERAL NOTES:

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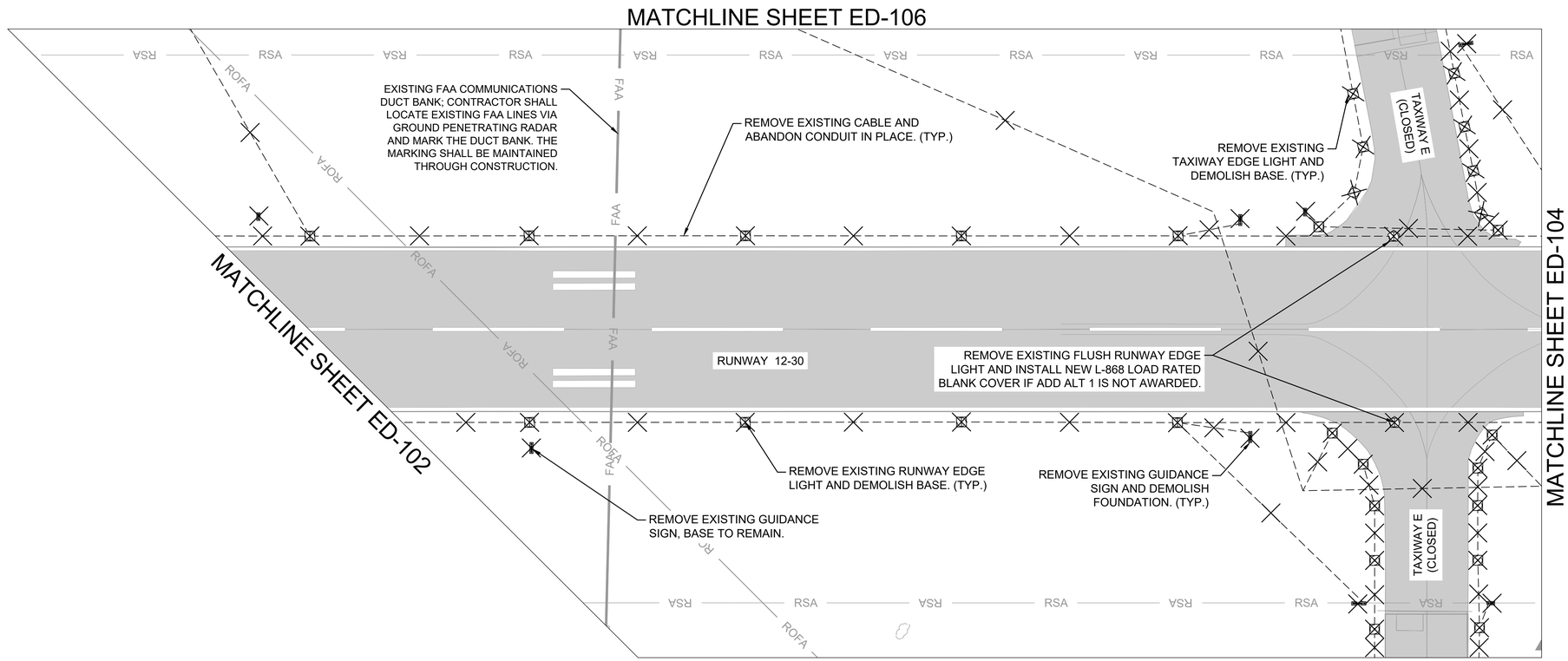

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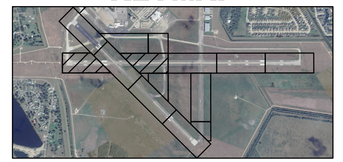

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 3

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
ED103

SHEET NUMBER **25**

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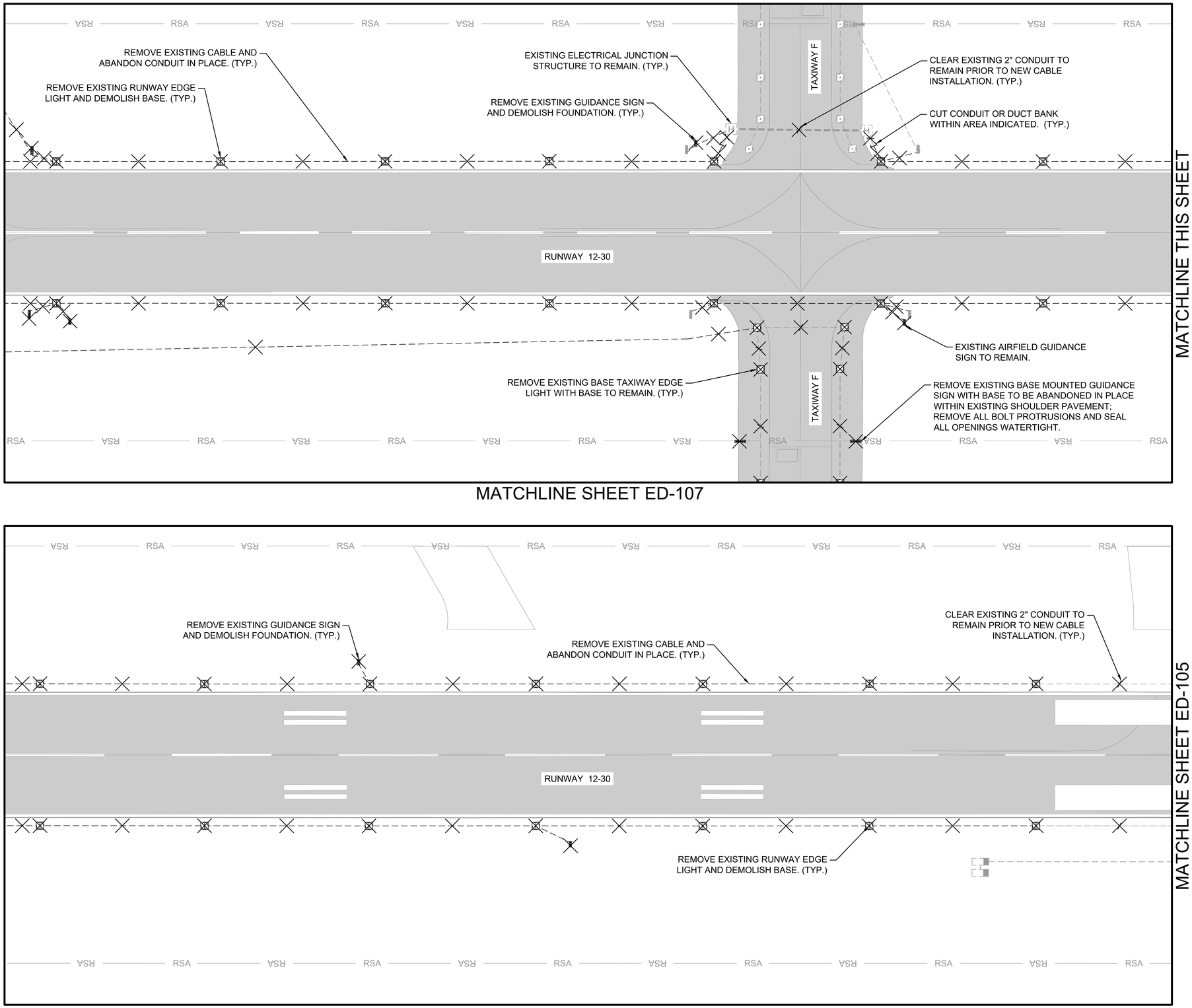
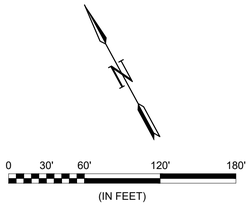
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Date: 4/24/2026 2:05 PM Plotter used: AutoCAD PDF (General Documentation).pc3

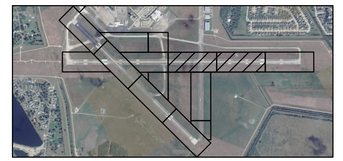




GENERAL NOTES:

1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 4

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

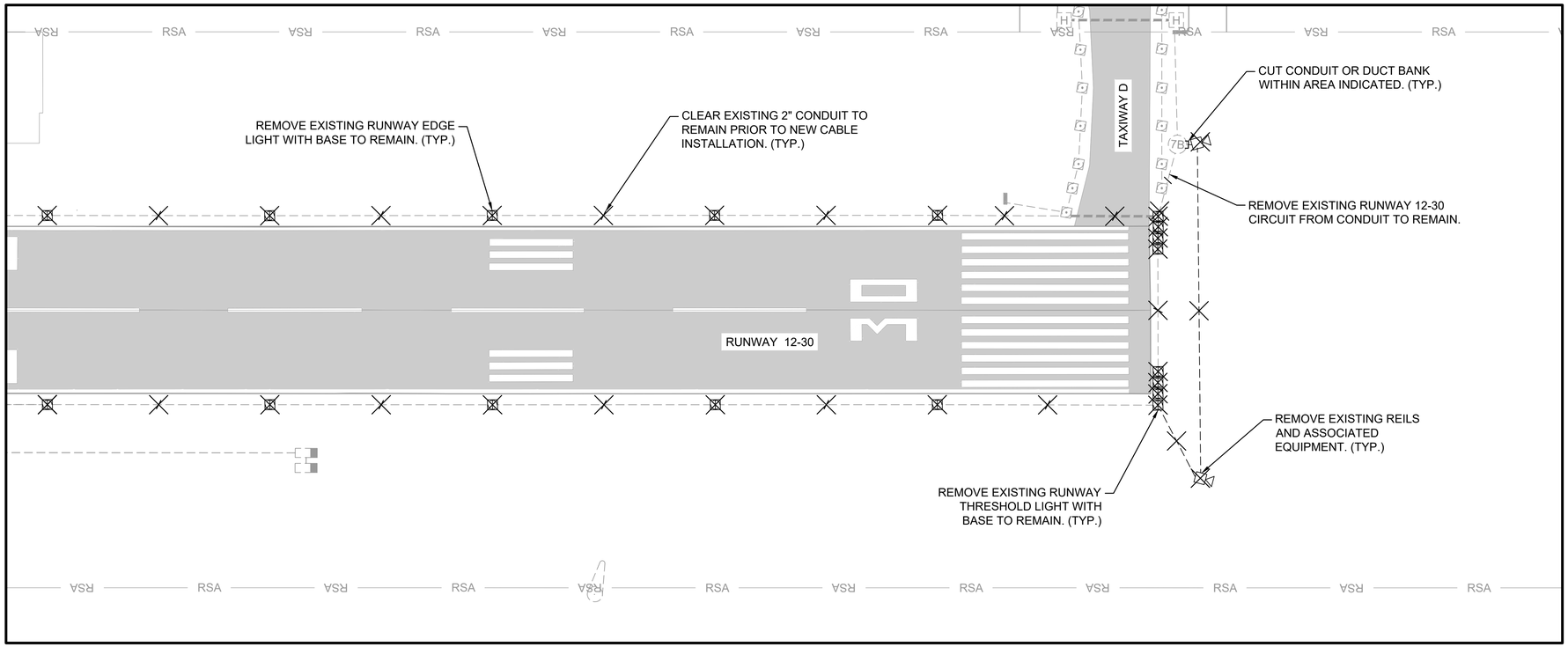
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

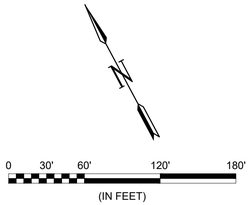
DRAWING NUMBER
ED104

SHEET NUMBER **26**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-ED101.dwg Last Save: 4/23/2026 5:13 PM Last saved by: MCLeMay
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:06 PM Plotter used: AutoCAD PDF (General Documentation).pc3

MATCHLINE SHEET ED-104

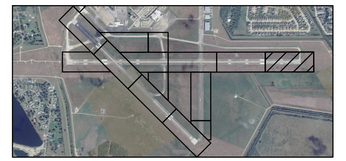




GENERAL NOTES:

1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 5

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
ED105

SHEET NUMBER **27**

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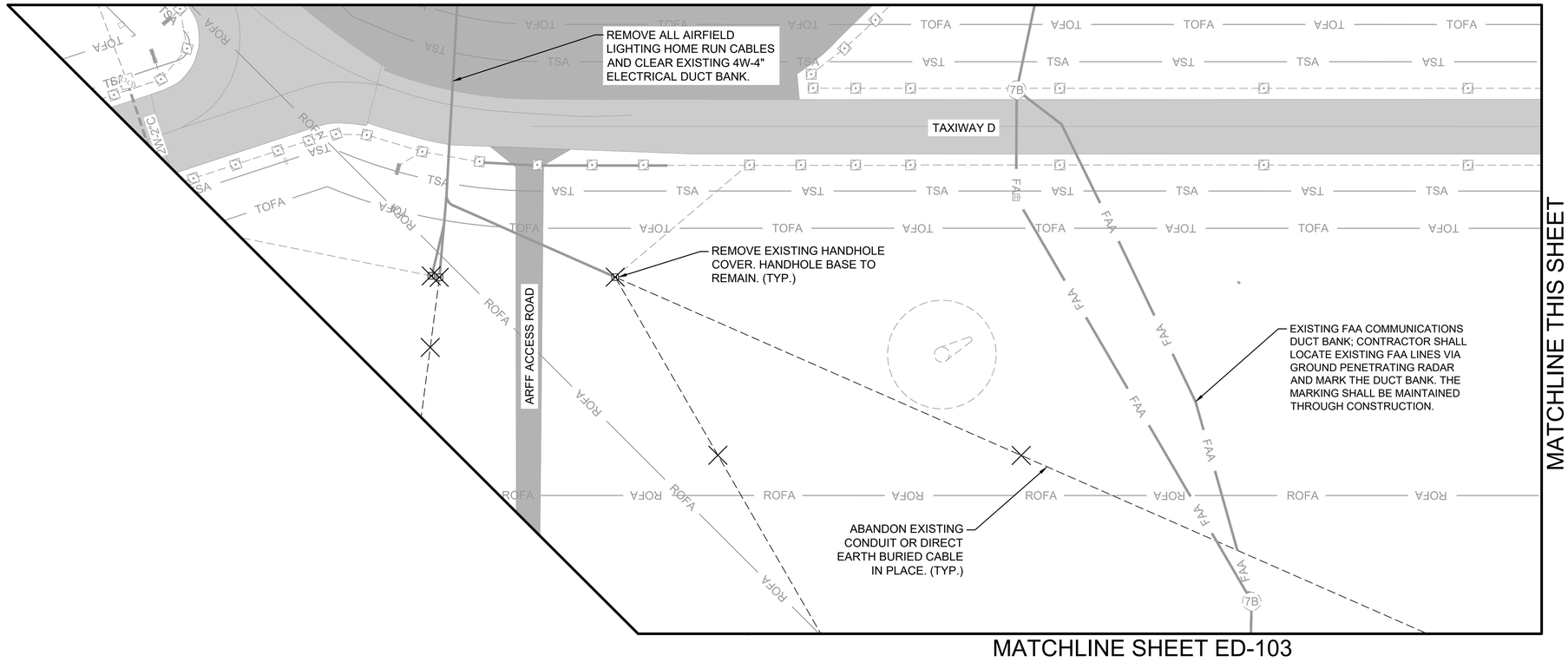
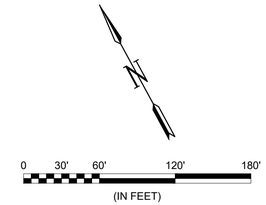
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:05 PM Plotter used: AutoCAD PDF (General Documentation).pc3



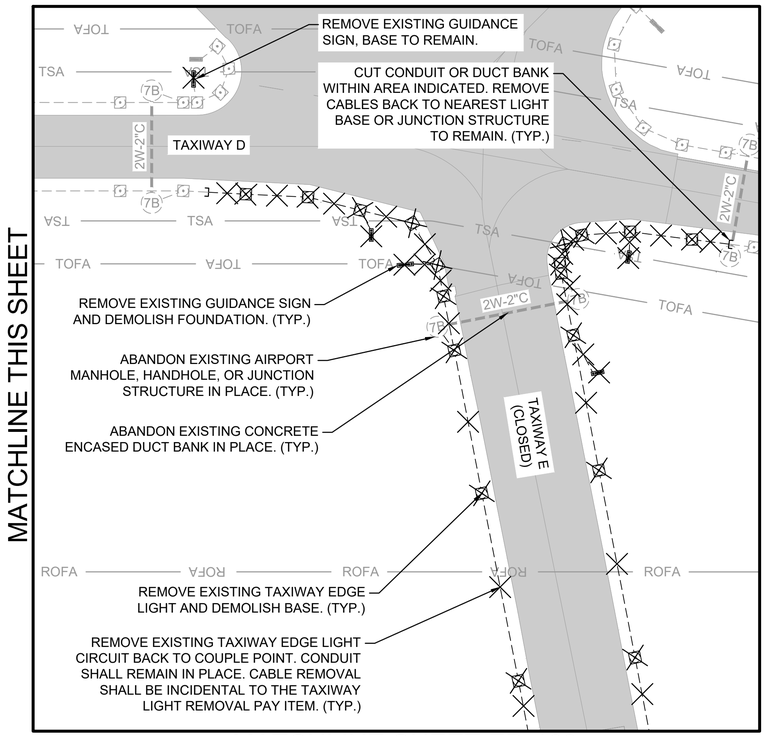
MATCHLINE SHEET ED-103

MATCHLINE THIS SHEET



GENERAL NOTES:

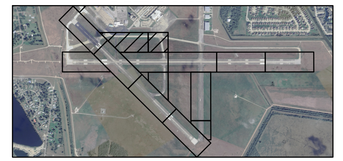
1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.



MATCHLINE SHEET ED-103

MATCHLINE THIS SHEET

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 6

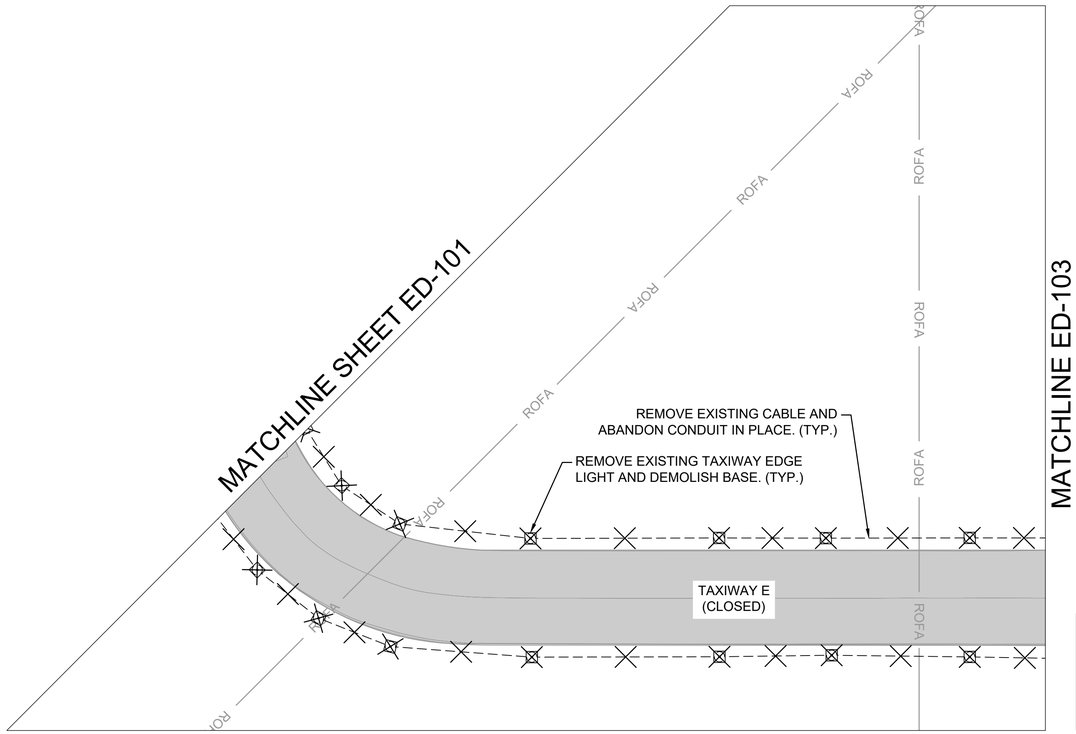
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

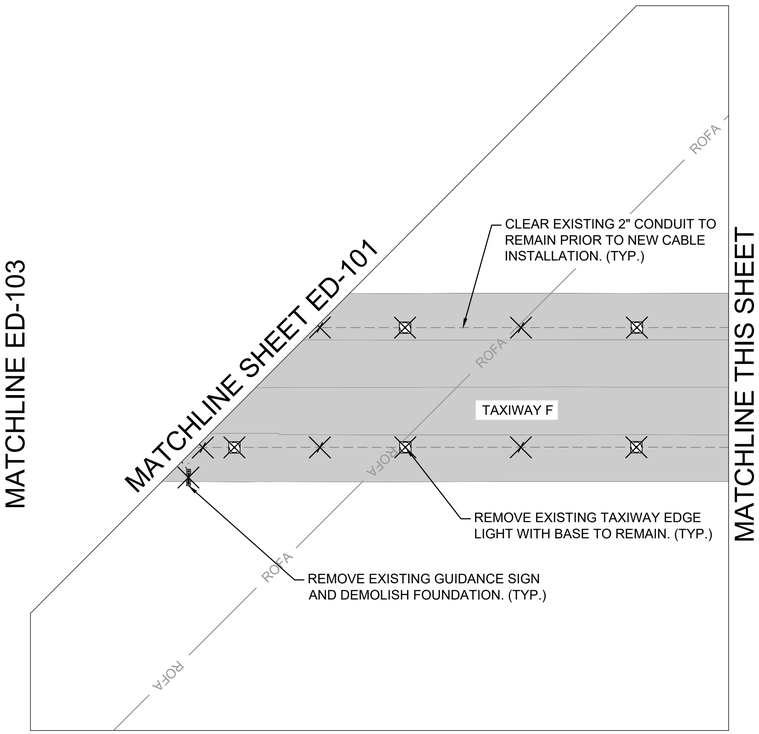
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

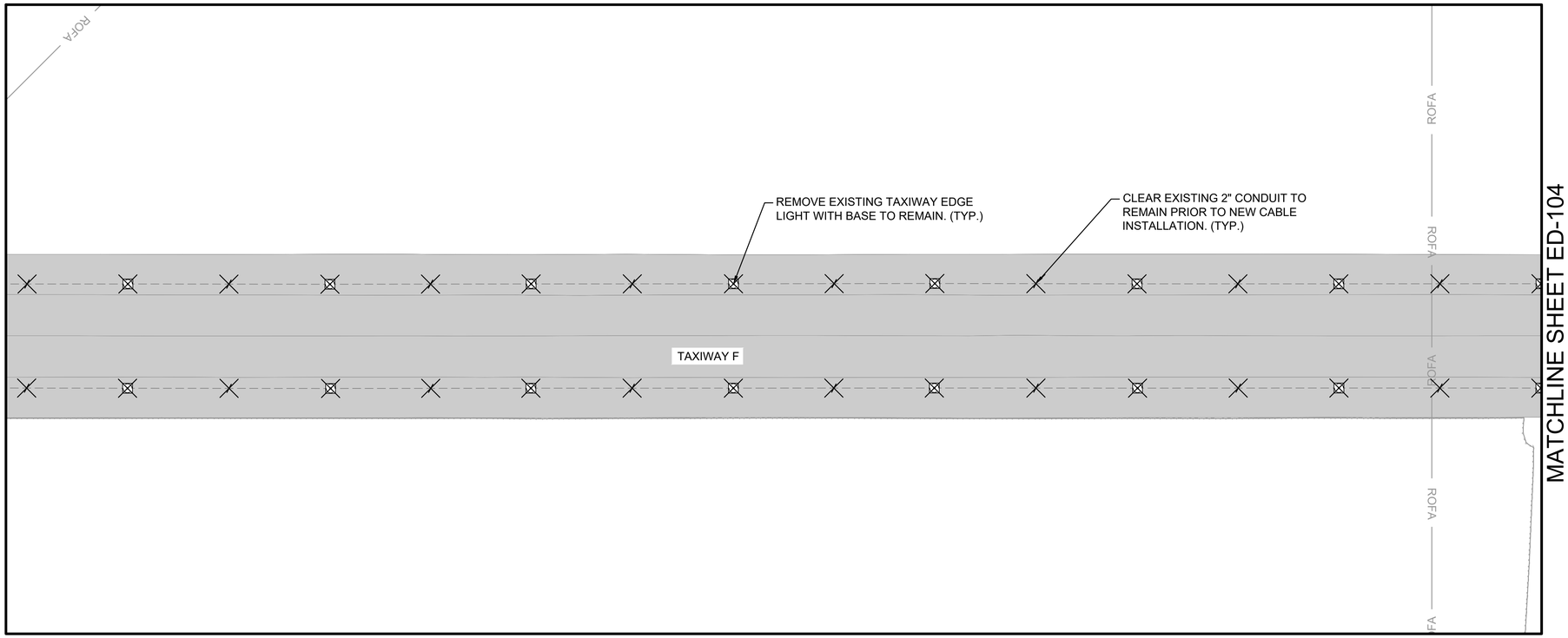
DRAWING NUMBER
ED106

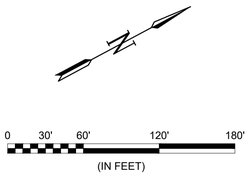
SHEET NUMBER **28**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-ED101.dwg Last Save: 4/23/2026 5:13 PM Last saved by: MCLeMay
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:05 PM Plotter used: AutoCAD PDF (General Documentation).pc3





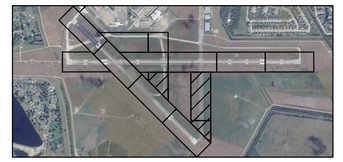




GENERAL NOTES:

1. SEE SHEET EN001 FOR ELECTRICAL DEMOLITION LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE ED500 SERIES FOR LIGHTING REMOVAL DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. CABLE REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO THE REMOVAL ITEMS.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION PLAN 7

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
ED107

SHEET NUMBER **29**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-ED101.dwg Last Save: 4/23/2026 5:13 PM Last saved by: MCLeMay
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:06 PM Plotter used: AutoCAD PDF (General Documentation).pc3

REMOVE EXISTING 150KW GENERATOR; CONCRETE PAD TO REMAIN

EXISTING 112.5 kVA TRANSFORMER TO REMAIN

EXISTING 2"C AND CONDUCTORS TO REMAIN

REMOVE EXISTING PLUG CUTOUTS (TYP. 4)

REMOVE EXISTING REGULATOR NO.1 30KW (RUNWAY 16-34)

EXISTING MAIN BREAKER AND JUNCTION BOX TO REMAIN

REMOVE EXISTING JUNCTION BOX

VAULT

REMOVE EXISTING REGULATOR NO. 2 30KW (RUNWAY 12-30)

REMOVE EXISTING TRANSFER SWITCH

REMOVE EXISTING CIRCUIT SELECTOR SWITCH

REMOVE EXISTING GROUND GRID

REMOVE PLUG CUTOUTS

REMOVE EXISTING OIL CUTOUTS (TYP. 3)

REMOVE EXISTING REGULATOR NO. 3 30KW (ALL TAXIWAYS)

EXISTING DISCONNECT TO REMAIN

OUTER VAULT

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

ELECTRICAL VAULT DEMO PLAN

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: RH

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
ED201

SHEET NUMBER **30**

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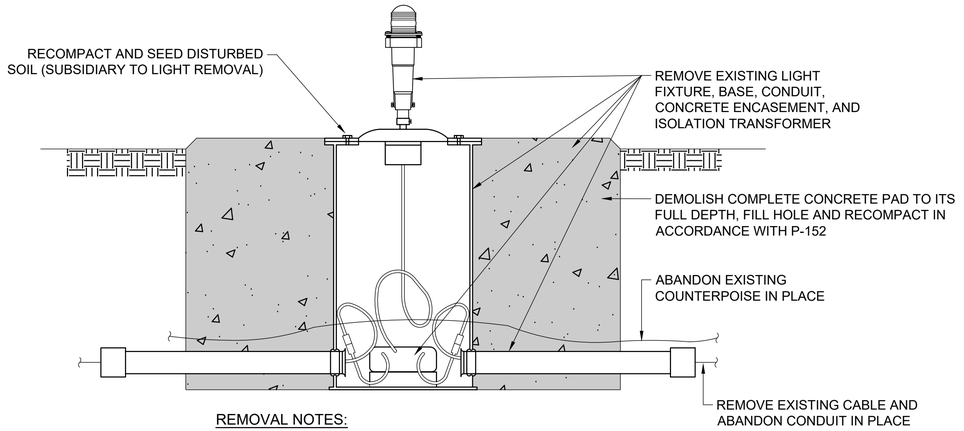
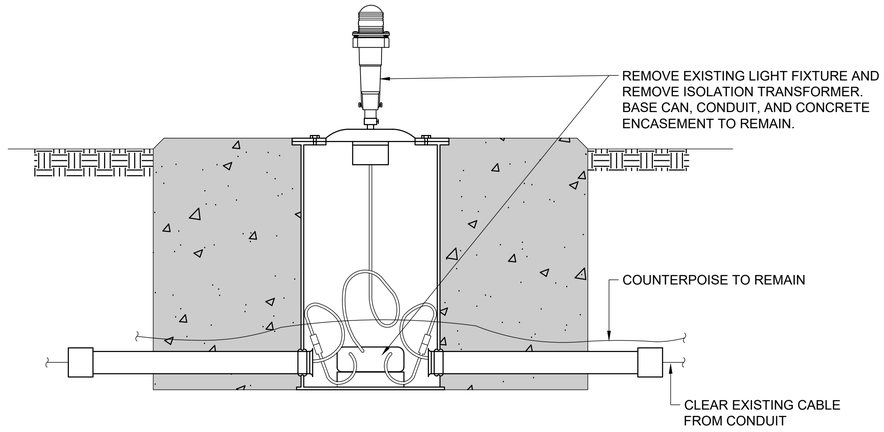


REMOVAL NOTES:

1. THE AIRPORT RESERVES THE RIGHT TO SALVAGE USABLE COMPONENTS.
2. ALL LIGHTING AND DEVICES SHALL BE REMOVED BY THE CONTRACTOR. THE RPR AND AIRPORT WILL REVIEW THE REMOVED EQUIPMENT. ITEMS DESIGNATED AS SALVAGE SHALL THEN BE MOVED AND STORED AS DIRECTED BY AIRPORT.
3. ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BECOME PROPERTY OF THE CONTRACTOR AND BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.
4. THE AREA DISTURBED BY THE REMOVAL OPERATION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER. THIS SHALL INCLUDE BACKFILLING WITH SELECT FILL, COMPACTION, GRADING, AND SEEDING. AREA RESTORATION SHALL BE SUBSIDIARY TO THE EQUIPMENT PAY ITEM.

1 ED501 BASE MOUNTED EDGE LIGHT REMOVAL

SCALE: NONE



REMOVAL NOTES:

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3. ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.

2 ED501 BASE MOUNTED EDGE LIGHT REMOVAL WITH BASE TO REMAIN

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION DETAILS 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
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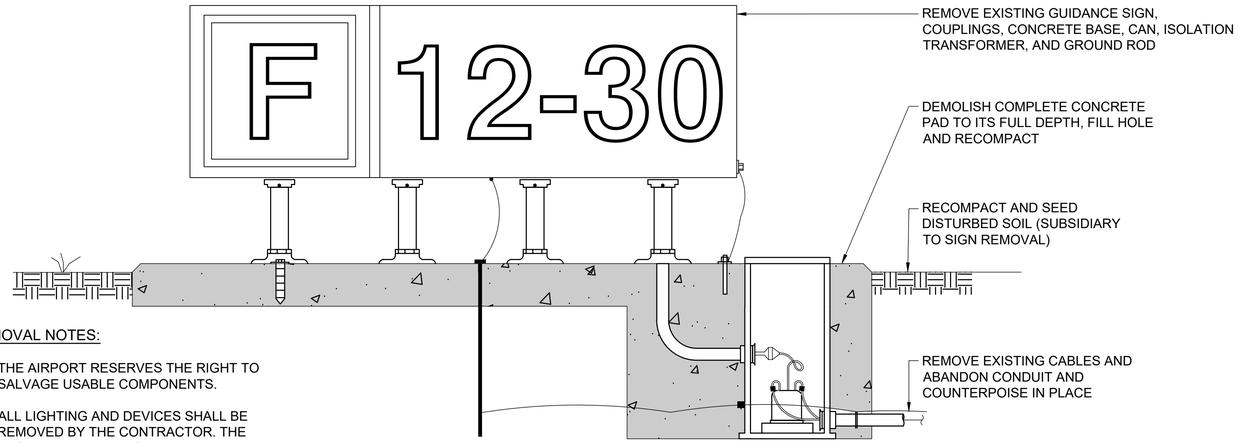
DRAWING NUMBER
ED501

SHEET NUMBER **31**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-ED501.dwg Last Save: 4/16/2026 8:33 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:06 PM Plotter used: AutoCAD PDF (General Documentation).pc3



REMOVAL NOTES:

1. THE AIRPORT RESERVES THE RIGHT TO SALVAGE USABLE COMPONENTS.
2. ALL LIGHTING AND DEVICES SHALL BE REMOVED BY THE CONTRACTOR. THE ENGINEER AND AIRPORT WILL REVIEW THE REMOVED EQUIPMENT. ITEMS DESIGNATED AS SALVAGE SHALL THEN BE MOVED AND STORED AS DIRECTED BY AIRPORT.
3. ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.
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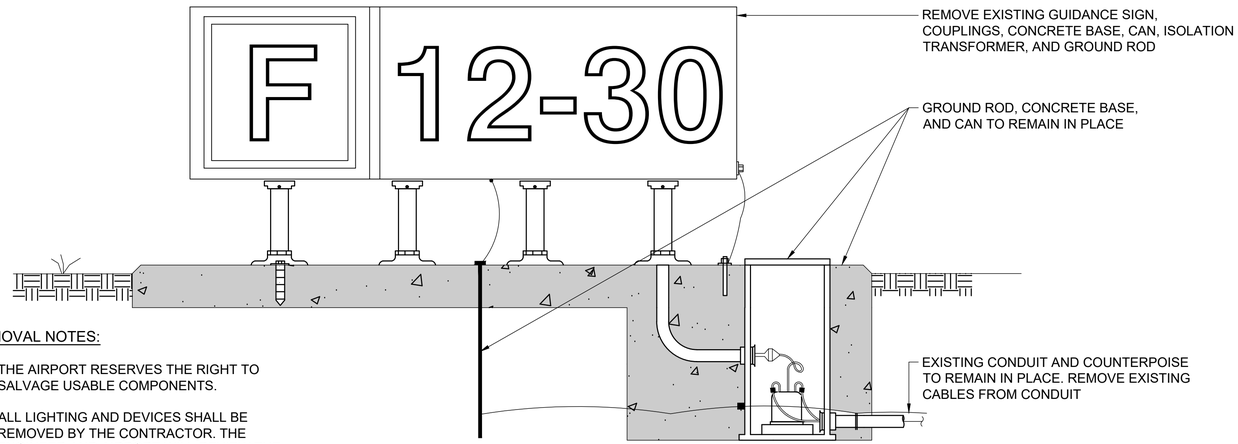
1 / ED502 BASE MOUNTED SIGN REMOVAL

SCALE: NONE



REMOVAL NOTES:

1. THE AIRPORT RESERVES THE RIGHT TO SALVAGE USABLE COMPONENTS.
2. ALL LIGHTING AND DEVICES SHALL BE REMOVED BY THE CONTRACTOR. THE ENGINEER AND AIRPORT WILL REVIEW THE REMOVED EQUIPMENT. ITEMS DESIGNATED AS SALVAGE SHALL THEN BE MOVED AND STORED AS DIRECTED BY AIRPORT.
3. ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.

2 / ED502 BASE MOUNTED SIGN REMOVAL WITH BASE TO REMAIN

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING DEMOLITION DETAILS 2

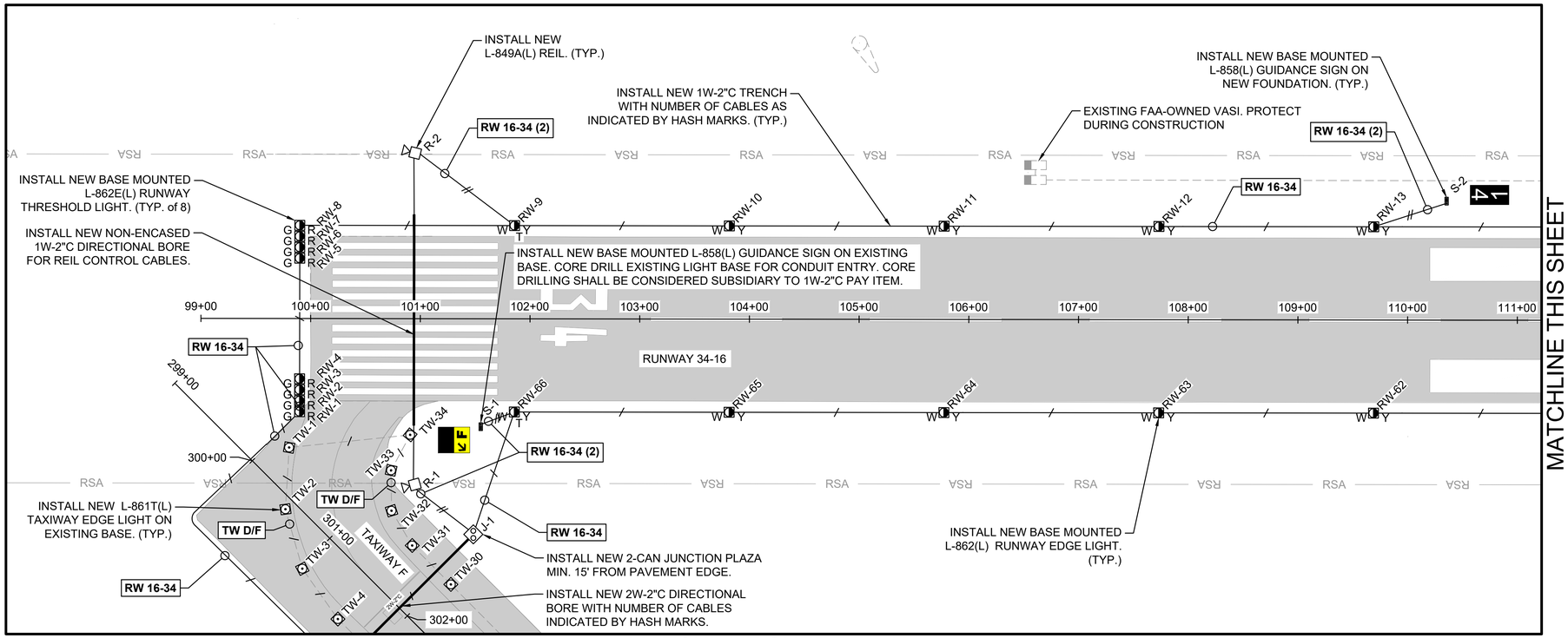
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
ED502

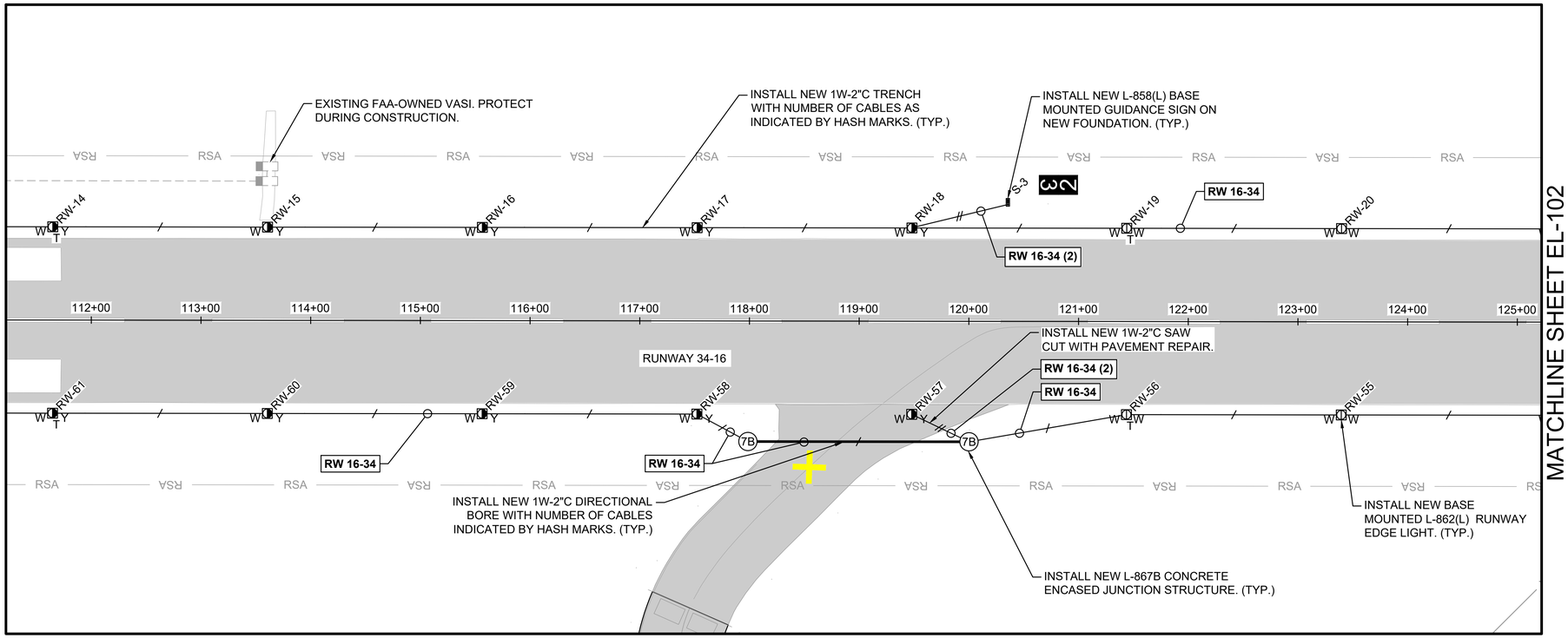
SHEET NUMBER **32**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-ED501.dwg Last Save: 4/16/2026 8:33 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Date: 4/24/2026 2:06 PM Plotter used: AutoCAD PDF (General Documentation).pc3



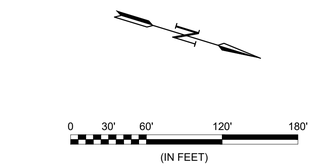
MATCHLINE SHEET EL-107

MATCHLINE THIS SHEET



MATCHLINE SHEET EL-102

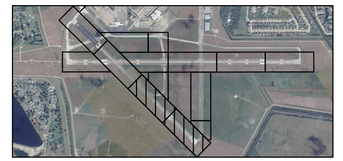
MATCHLINE THIS SHEET



GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. ALL SAWKERFS IN EXISTING CONCRETE PAVEMENT SHALL BE MADE AT RIGHT ANGLES TO EXISTING JOINTS. NO CUTS AT SKEW ANGLES TO JOINTS WILL BE ACCEPTED.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 1 - BASE BID

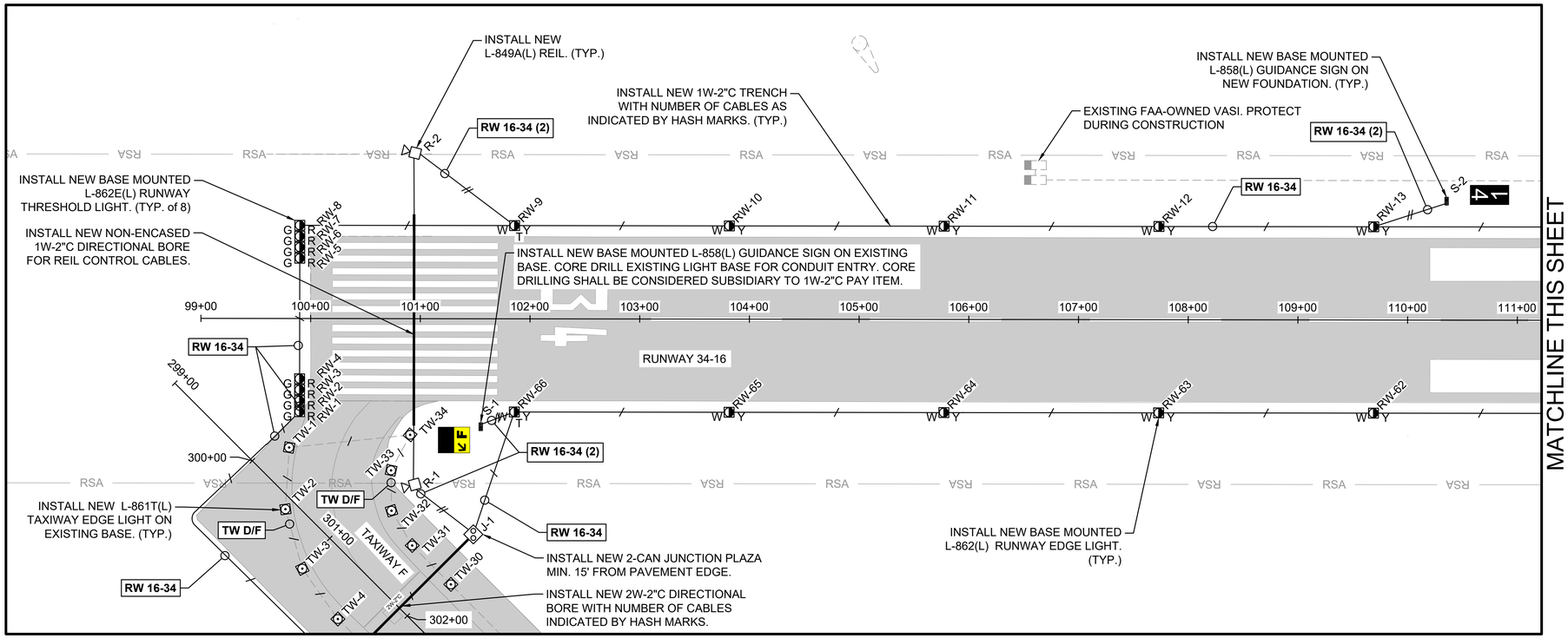
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
EL101

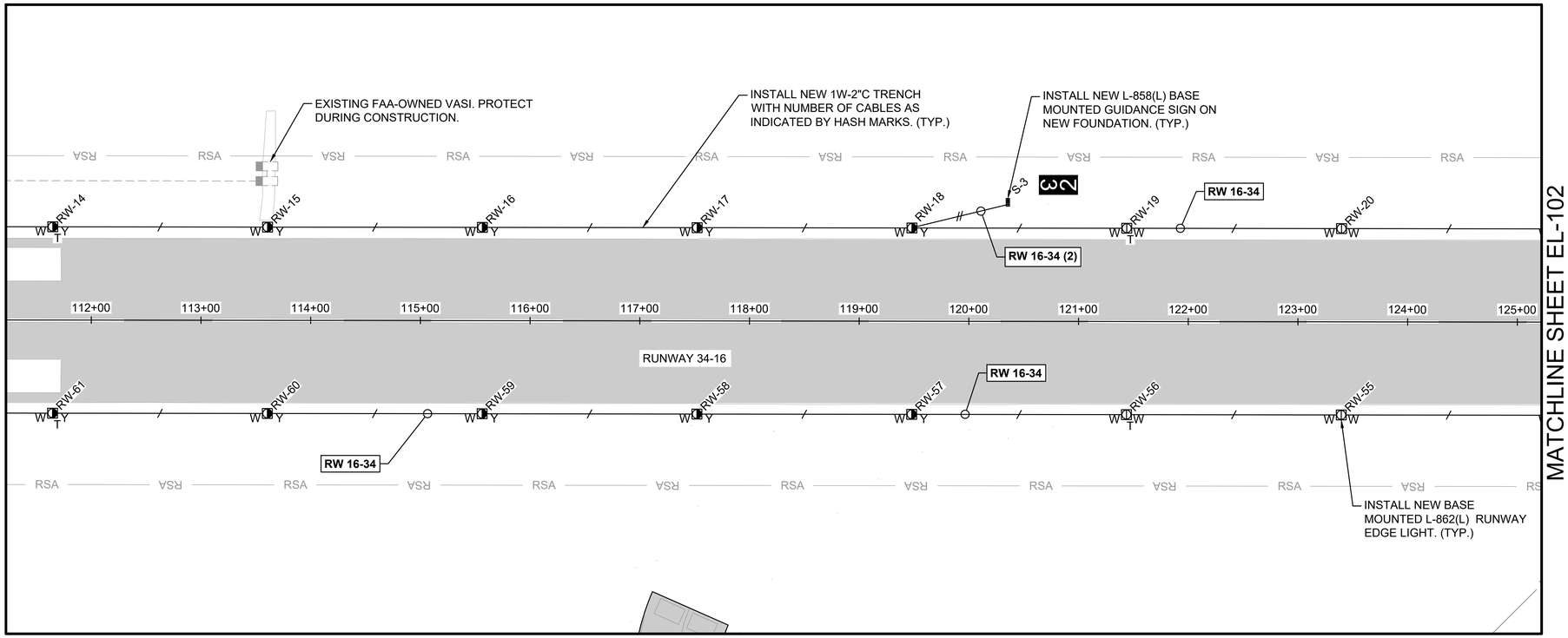
SHEET NUMBER **33**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-EL101.dwg Last Save: 4/24/2026 8:25 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Date: 4/24/2026 2:07 PM Plotter used: AutoCAD PDF (General Documentation).pc3



MATCHLINE SHEET EL-107

MATCHLINE THIS SHEET



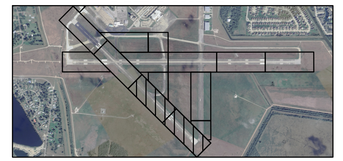
MATCHLINE SHEET EL-102

MATCHLINE THIS SHEET

GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.

KEYMAP



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REGISTRATION NO. F-5713

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 1 - ADD ALT.

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
EL101A

SHEET NUMBER **34**

MATCHLINE SHEET EL-103

MATCHLINE SHEET EL-101

MATCHLINE THIS SHEET

INSTALL NEW AIRFIELD GUIDANCE SIGN ON EXISTING FOUNDATION.

RW 16-34 (2)

INSTALL NEW BASE MOUNTED L-858(L) GUIDANCE SIGN ON NEW FOUNDATION.

INSTALL NEW 1W-2"C TRENCH WITH NUMBER OF CABLES AS INDICATED BY HASH MARKS. (TYP.)

12-30

S-5

S-6

RW 16-34

RW 12-30 (2)

RW 16-34

RW 16-34 (2)

INSTALL NEW AIRFIELD GUIDANCE SIGN ON EXISTING FOUNDATION.

16-34

RW 16-34 (2)

CORE DRILL EXISTING BASE FOR CONDUIT ENTRY. CORE DRILLING SHALL BE CONSIDERED SUBSIDIARY TO 1W-2"C PAY ITEM.

INSTALL NEW BASE MOUNTED L-850C(L) FLUSH IN PAVEMENT RUNWAY EDGE LIGHT IN EXISTING PAVEMENT. (TYP.)

RW 12-30 (2)

INSTALL NEW 2W-2"C DIRECTIONAL BORE WITH NUMBER OF CABLES INDICATED BY HASH MARKS. (TYP.)

RW 12-30

RW 16-34

RW 12-30 (2)

RUNWAY 34-16

RW 12-30

RW 16-34

RW 12-30 (2)

COUPLE NEW CONDUIT TO EXISTING AND BOND COUNTERPOISE USING EXOTHERMIC WELDS. (TYP.)

RW 16-34

RW 12-30 (2)

RW 16-34

RW 16-34 (2)

INSTALL NEW 1W-2"C DIRECTIONAL BORE WITH NUMBER OF CABLES INDICATED BY HASH MARKS.

INSTALL NEW AIRFIELD GUIDANCE SIGN ON EXISTING FOUNDATION.

12-30

RW 12-30

RW 16-34 (2)

INSTALL NEW 2-CAN JUNCTION PLAZA MIN. 15' FROM PAVEMENT EDGE. (TYP.)

INSTALL NEW 2W-2"C DIRECTIONAL BORE WITH NUMBER OF CABLES INDICATED BY HASH MARKS. (TYP.)

RW 12-30 TW D/F (2)

TW D/F (2)

RUNWAY 12-30

ARFF ACCESS ROAD

RW 12-30

INSTALL NEW BASE MOUNTED L-862(L) RUNWAY EDGE LIGHT. (TYP.)

RW 16-34 (2)

MATCHLINE SHEET EL-103

MATCHLINE THIS SHEET

INSTALL NEW 1W-2"C DIRECTIONAL BORE WITH NUMBER OF CABLES INDICATED BY HASH MARKS. (TYP.)

INSTALL NEW BASE MOUNTED L-850C(L) FLUSH IN-PAVEMENT RUNWAY EDGE LIGHT IN EXISTING PAVEMENT. (TYP.)

INSTALL NEW 1W-2"C TRENCH WITH NUMBER OF CABLES AS INDICATED BY HASH MARKS. (TYP.)

RW 16-34

RW 16-34

RW 16-34 (2)

RW 16-34

RW 16-34

INSTALL NEW BASE MOUNTED L-858(L) GUIDANCE SIGN ON NEW FOUNDATION.

RW 16-34 (2)

INSTALL NEW 1W-2"C SAW CUT WITH PAVEMENT REPAIR.

RW 16-34

RW 16-34 (2)

RW 16-34

RUNWAY 34-16

INSTALL NEW NON-ENCASED 1W-2"C FOR REIL CONTROL CABLES.

RW 16-34

INSTALL NEW L-849A(L) REIL. (TYP.)

INSTALL NEW L-867B CONCRETE ENCASED JUNCTION STRUCTURE. (TYP.)

RW 16-34 (2)

INSTALL NEW BASE MOUNTED L-862(L) RUNWAY EDGE LIGHT. (TYP.)

COUPLE NEW CONDUIT TO EXISTING AND BOND COUNTERPOISE USING EXOTHERMIC WELDS. (TYP.)

INSTALL NEW BASE MOUNTED L-862E(L) RUNWAY THRESHOLD LIGHT. (TYP. of 8)

INSTALL NEW L-824C CABLE TO WIND CONEY.

INSTALL NEW CABLES IN EXISTING CONDUIT(S). (TYP.)

RW 16-34

TAXIWAY D

TAXIWAY A

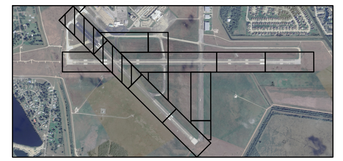
GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. ALL SAWKERFS IN EXISTING CONCRETE PAVEMENT SHALL BE MADE AT RIGHT ANGLES TO EXISTING JOINTS. NO CUTS AT SKEW ANGLES TO JOINTS WILL BE ACCEPTED.

0 30' 60' 120' 180'

(IN FEET)

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
EL102

SHEET NUMBER 35

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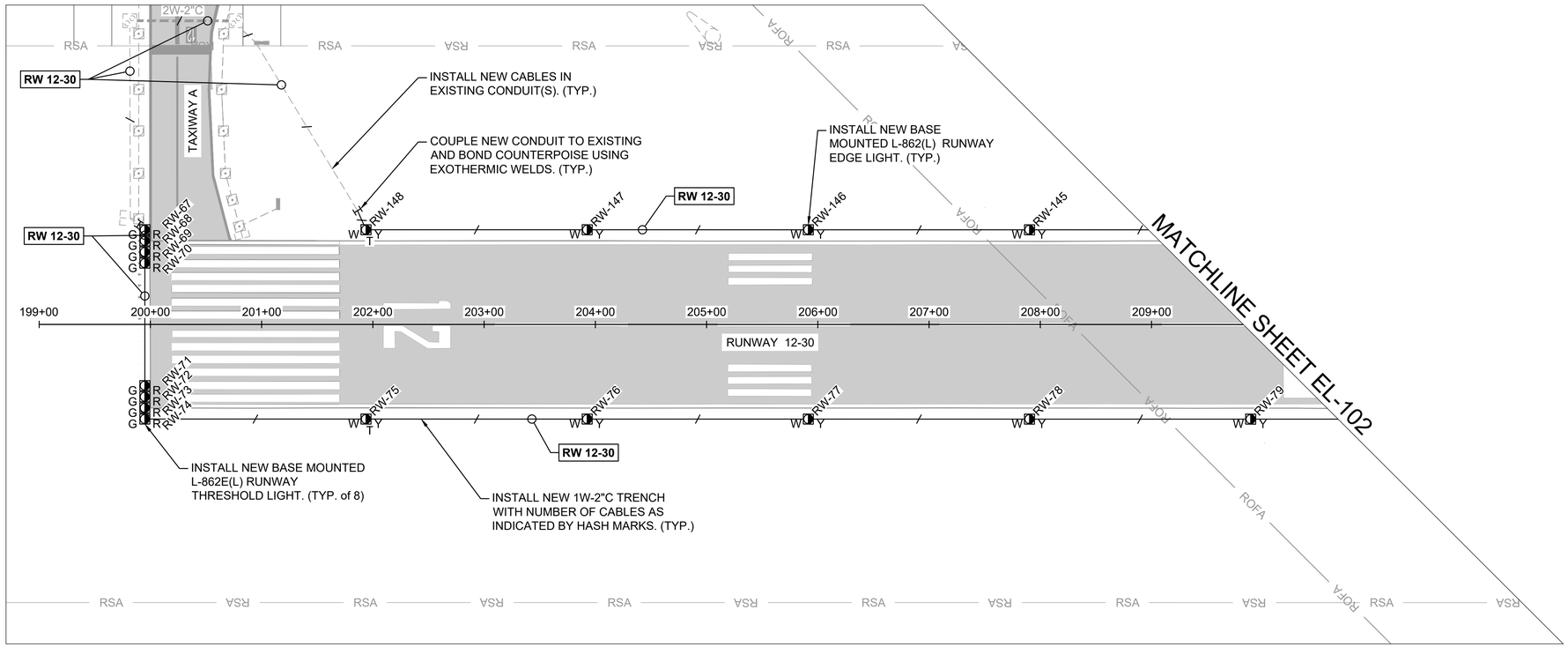
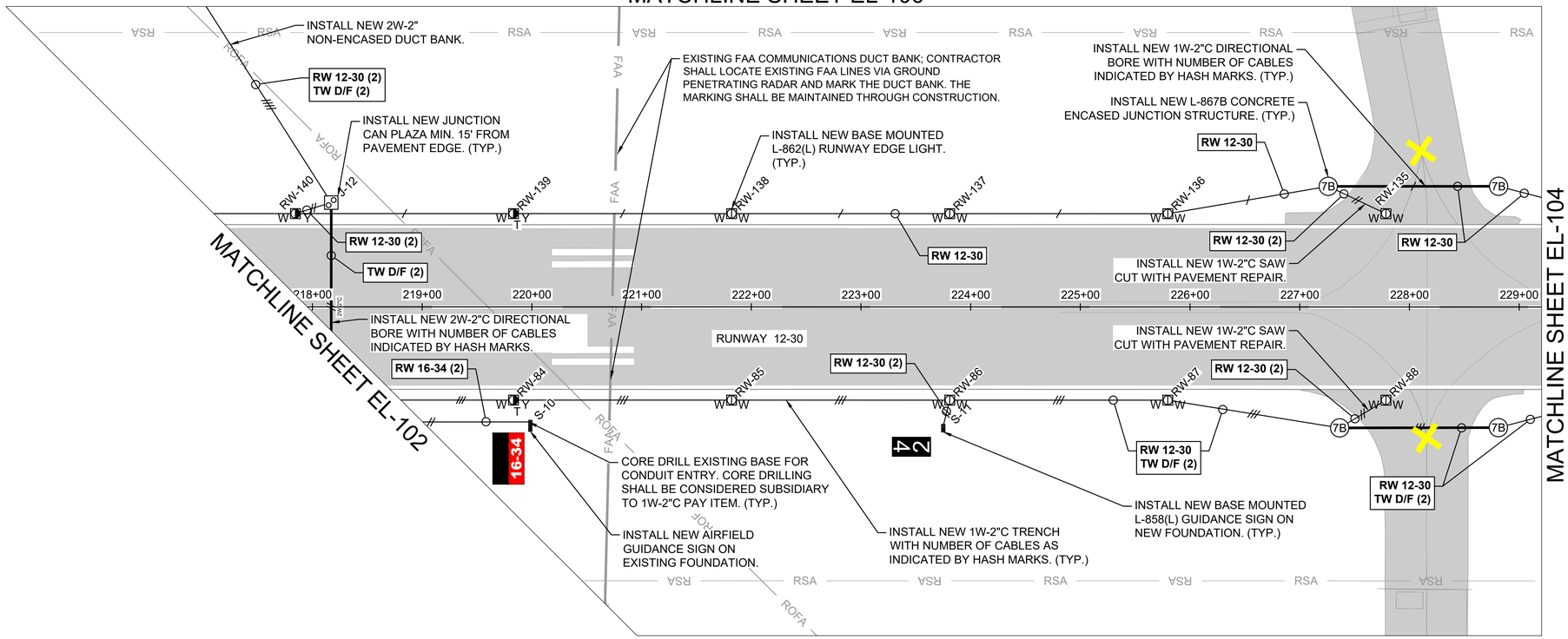
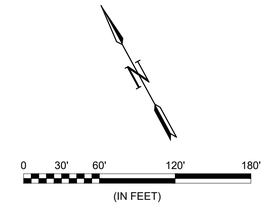


MATCHLINE SHEET EL-106





GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
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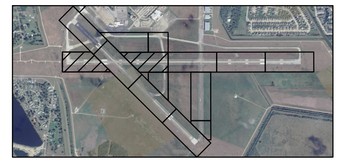
KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 3 - BASE BID

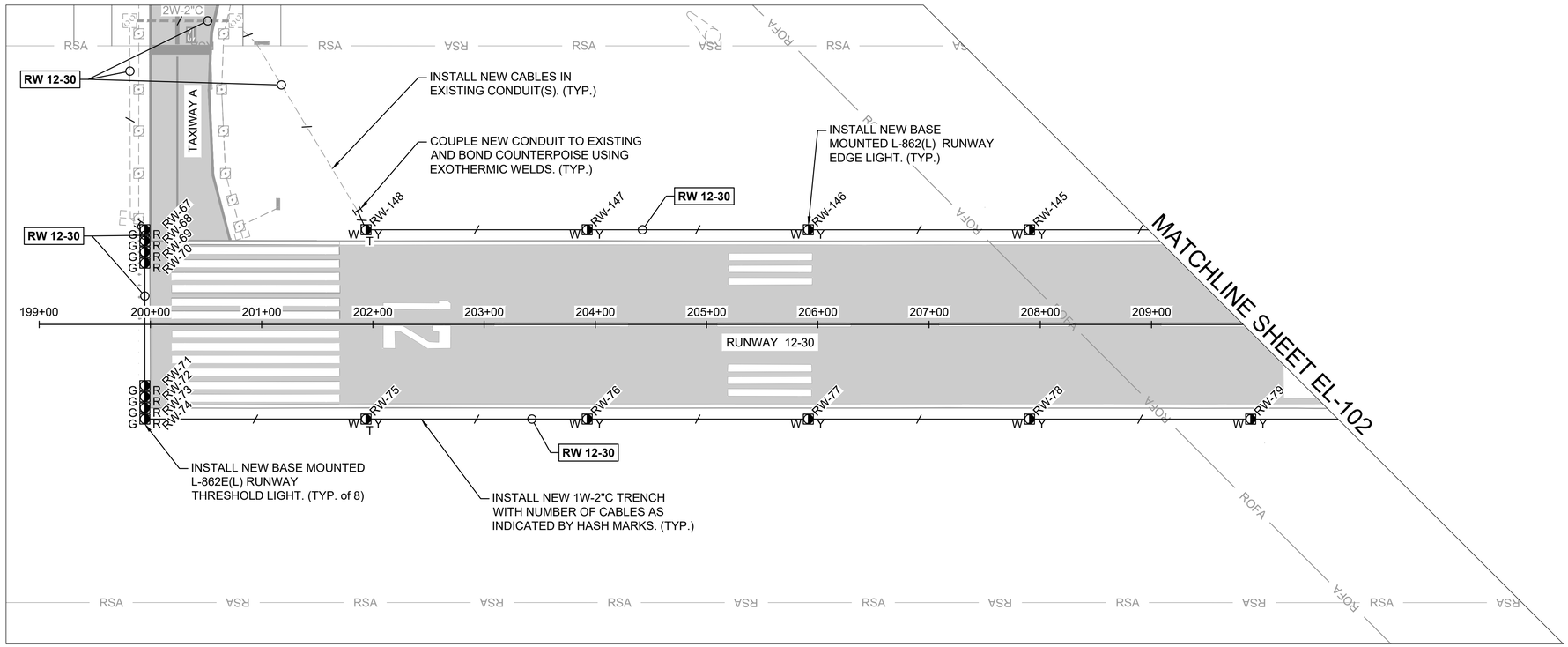
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

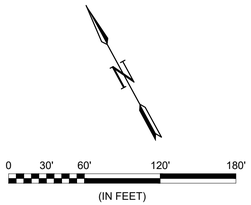
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
EL103

SHEET NUMBER **36**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-EL101.dwg Last Save: 4/24/2026 8:25 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Date: 4/24/2026 2:07 PM Plotter used: AutoCAD PDF (General Documentation).pc3

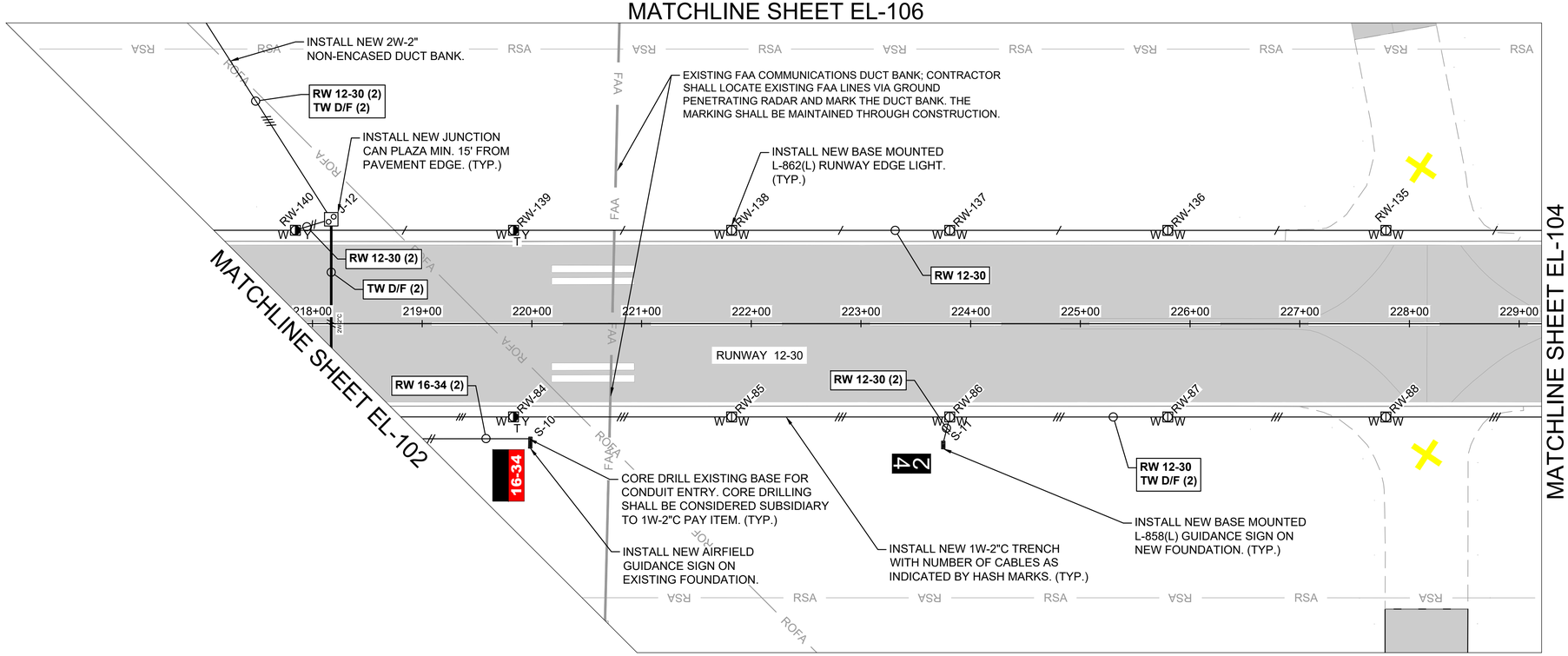




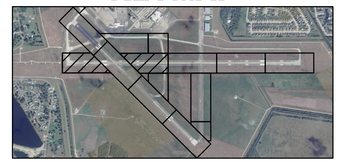
GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. PRIOR TO EXCAVATION OVER THE EXISTING FAA DUCT BANK, THE CONTRACTOR SHALL POTHOLE BY MEANS OF HYDROEXCAVATION THE FAA EXISTING DUCT BANK TO VERIFY DEPTH.
5. CONTRACTOR SHALL HAND DIG OR HYDROEXCAVATE WHEN WORKING WITHIN 10' OF ANY MARKED FAA DUCT BANK OR UTILITY LINE.
6. THE CONTRACTOR PERFORMING THE WORK SHALL HAVE A SPLICE KIT ON HAND (COPPER AND FIBER) AND HAVE QUALIFIED PERSONNEL TO PERFORM ANY CABLE REPAIRS EXPEDITIOUSLY IN THE EVENT OF A CABLE CUT. SPLICES WILL BE CONSIDERED A TEMPORARY MEANS TO RESTORE SERVICE.
7. PERMANENT REPAIR OF THE AFFECTED CABLE(S) WILL REQUIRE REPLACING THE CABLE(S) IN ITS ENTIRETY FROM SOURCE TERMINATION TO DESTINATION TERMINATION. NOTE A POINT OF DEMARCATION MAY BE CONSIDERED THE SOURCE TERMINATION INSTEAD OF THE TRUE ORIGIN SOURCE. ANY EXISTING SPLICE POINTS WILL NOT BE CONSIDERED A SOURCE OR DESTINATION TERMINATION.

MATCHLINE SHEET EL-106



KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 3 - ADD ALT.

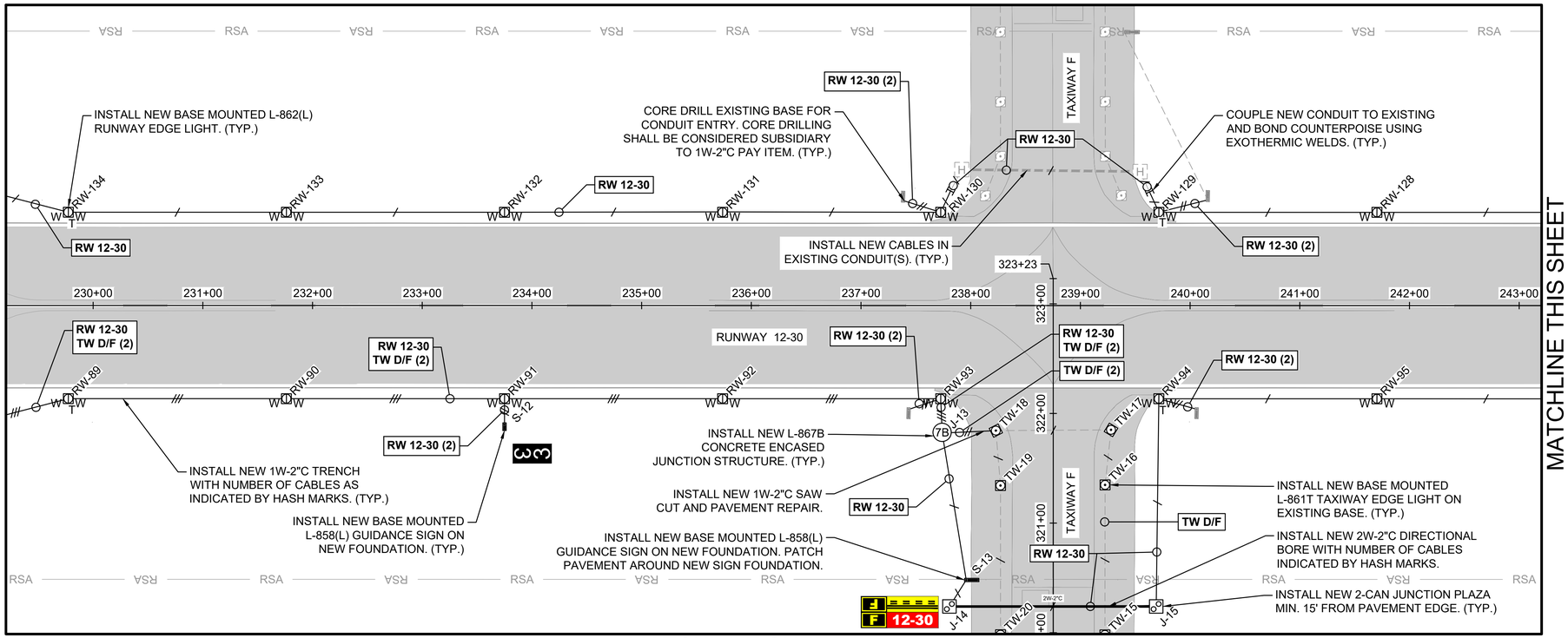
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

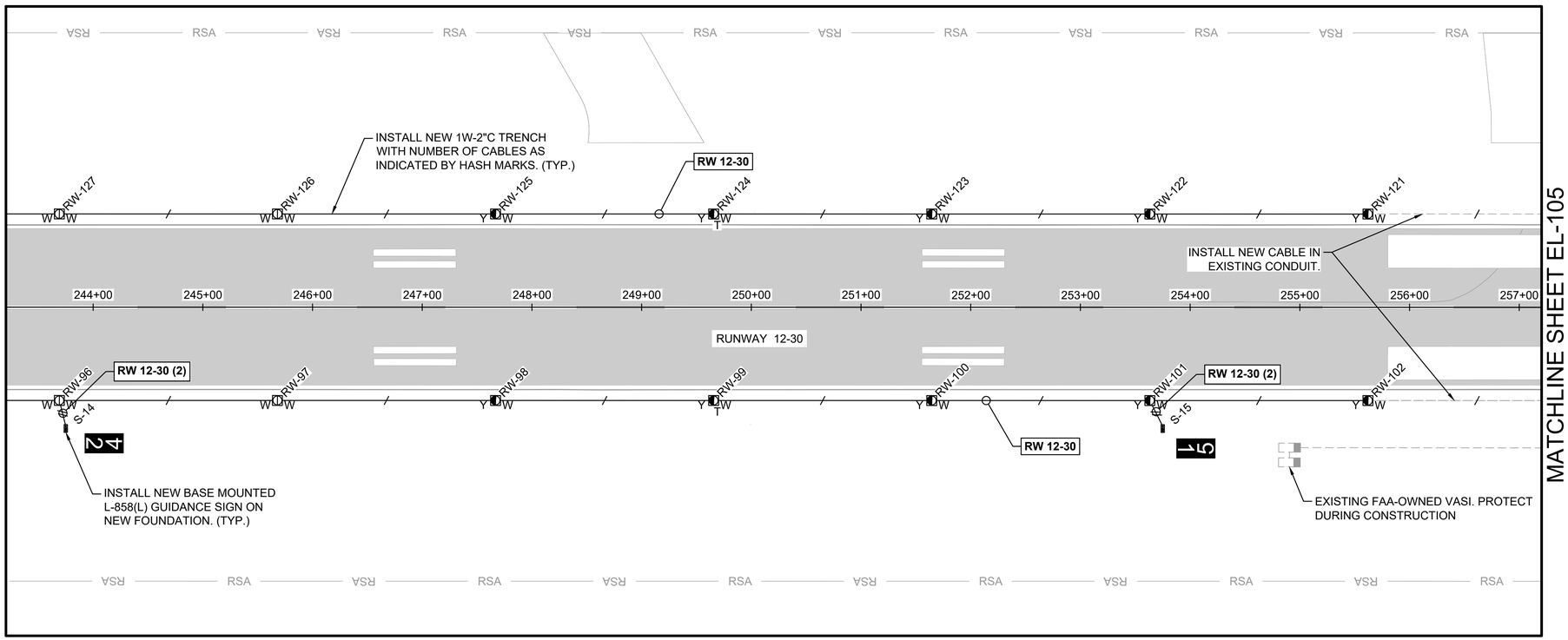
DRAWING NUMBER
EL103A

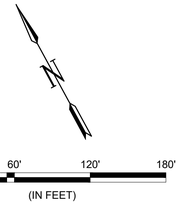
SHEET NUMBER **37**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-EL101.dwg Last Save: 4/24/2026 8:25 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:07 PM Plotter used: AutoCAD PDF (General Documentation).pc3



MATCHLINE SHEET EL-107

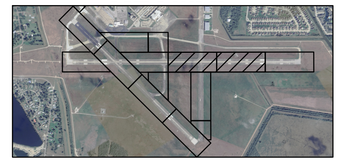




GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. ALL SAWKERFS IN EXISTING CONCRETE PAVEMENT SHALL BE MADE AT RIGHT ANGLES TO EXISTING JOINTS. NO CUTS AT SKEW ANGLES TO JOINTS WILL BE ACCEPTED.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 4 - BASE BID

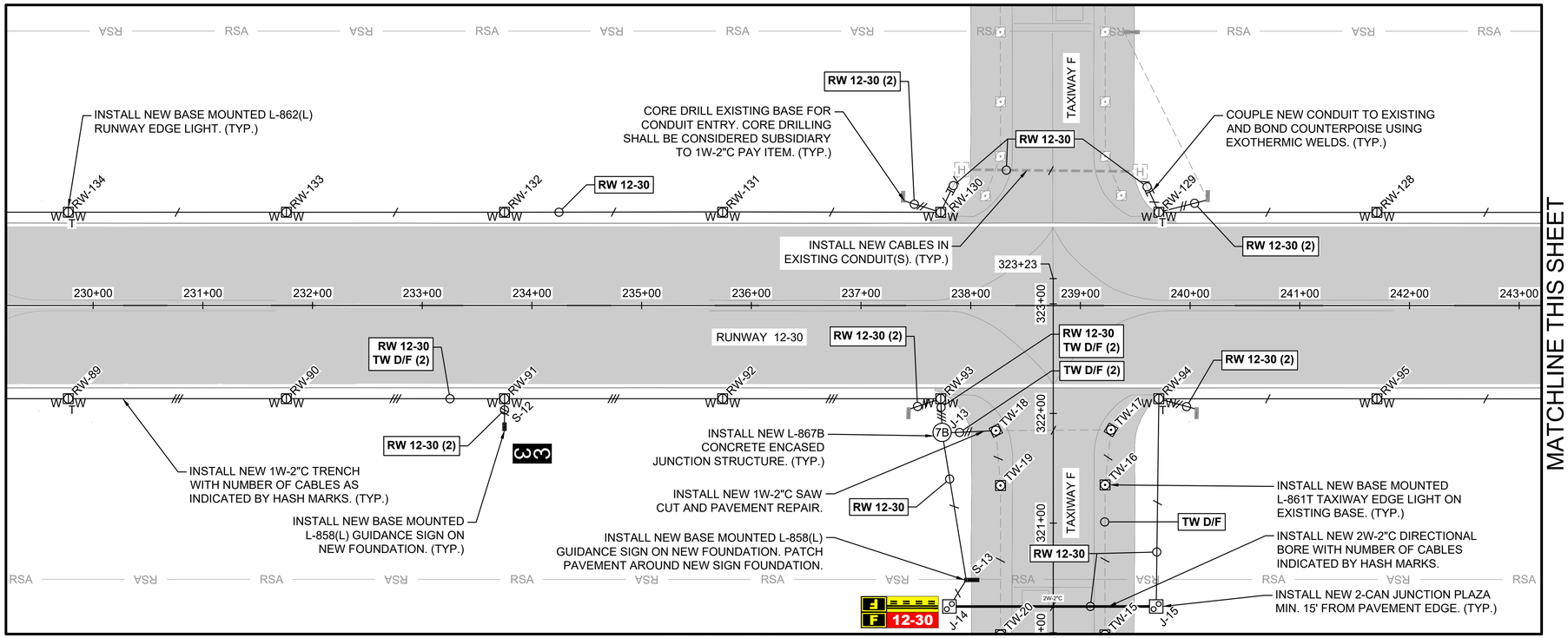
JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

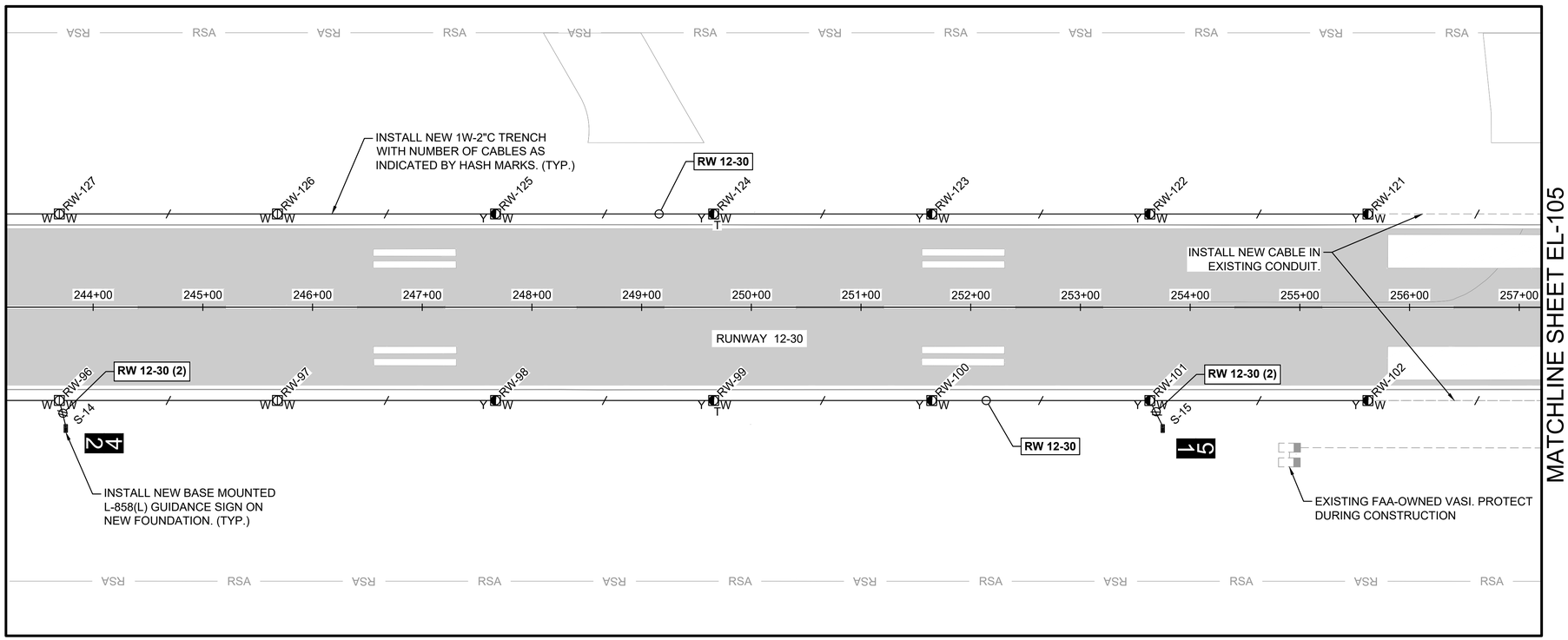
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
EL104

SHEET NUMBER **38**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-EL101.dwg Last Save: 4/24/2026 8:25 AM Last saved by: CCClark
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:07 PM Plotter used: AutoCAD PDF (General Documentation).pc3



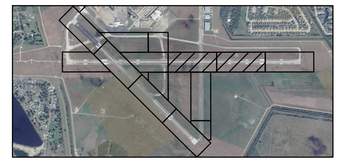


GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. ALL SAWKERFS IN EXISTING CONCRETE PAVEMENT SHALL BE MADE AT RIGHT ANGLES TO EXISTING JOINTS. NO CUTS AT SKEW ANGLES TO JOINTS WILL BE ACCEPTED.

0 30' 60' 120' 180'
(IN FEET)

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 4 - ADD ALT.

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
EL104A

SHEET NUMBER **39**

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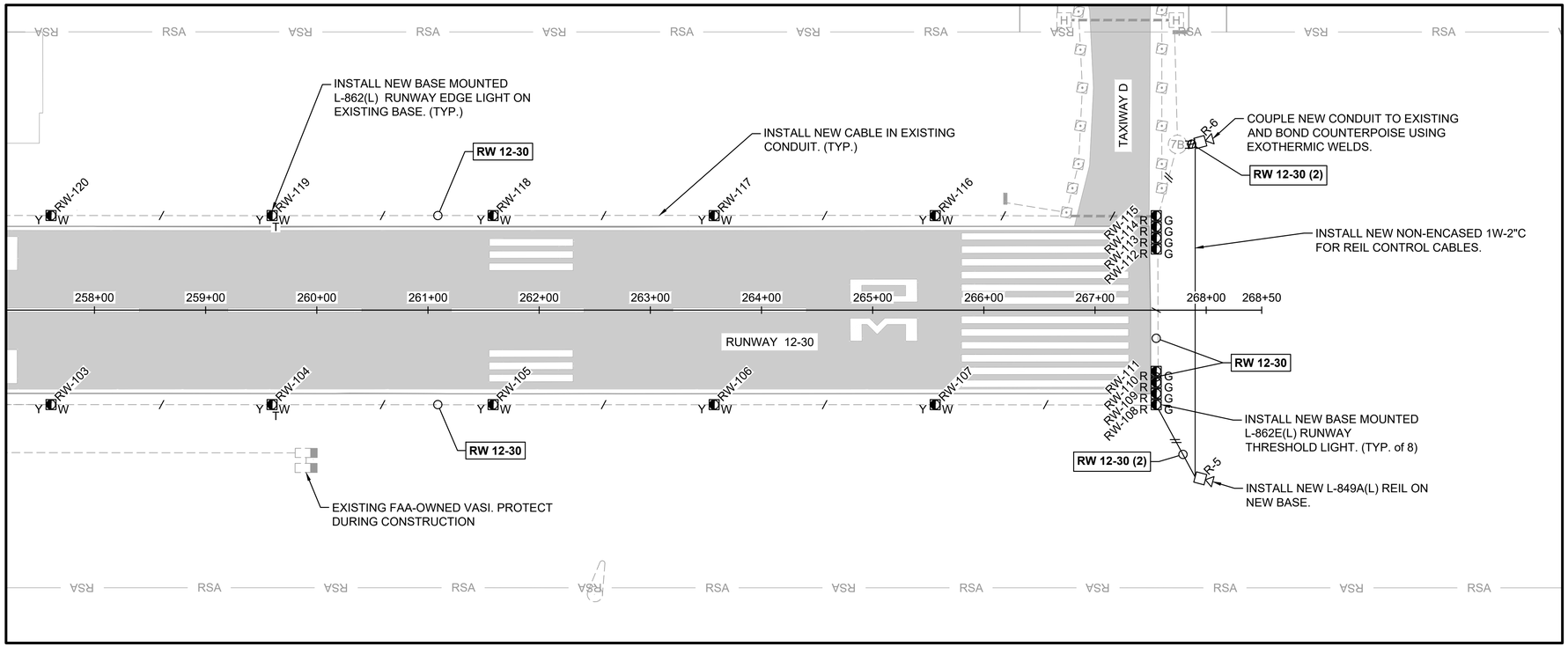
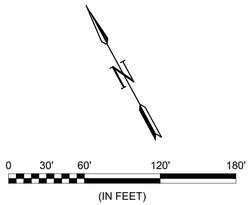
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:07 PM Plotter used: AutoCAD PDF (General Documentation).pc3

MATCHLINE SHEET EL-104

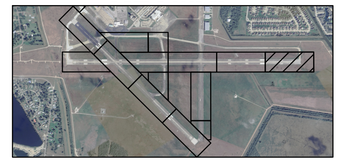




GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.

KEYMAP



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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 5

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL105

SHEET NUMBER **40**

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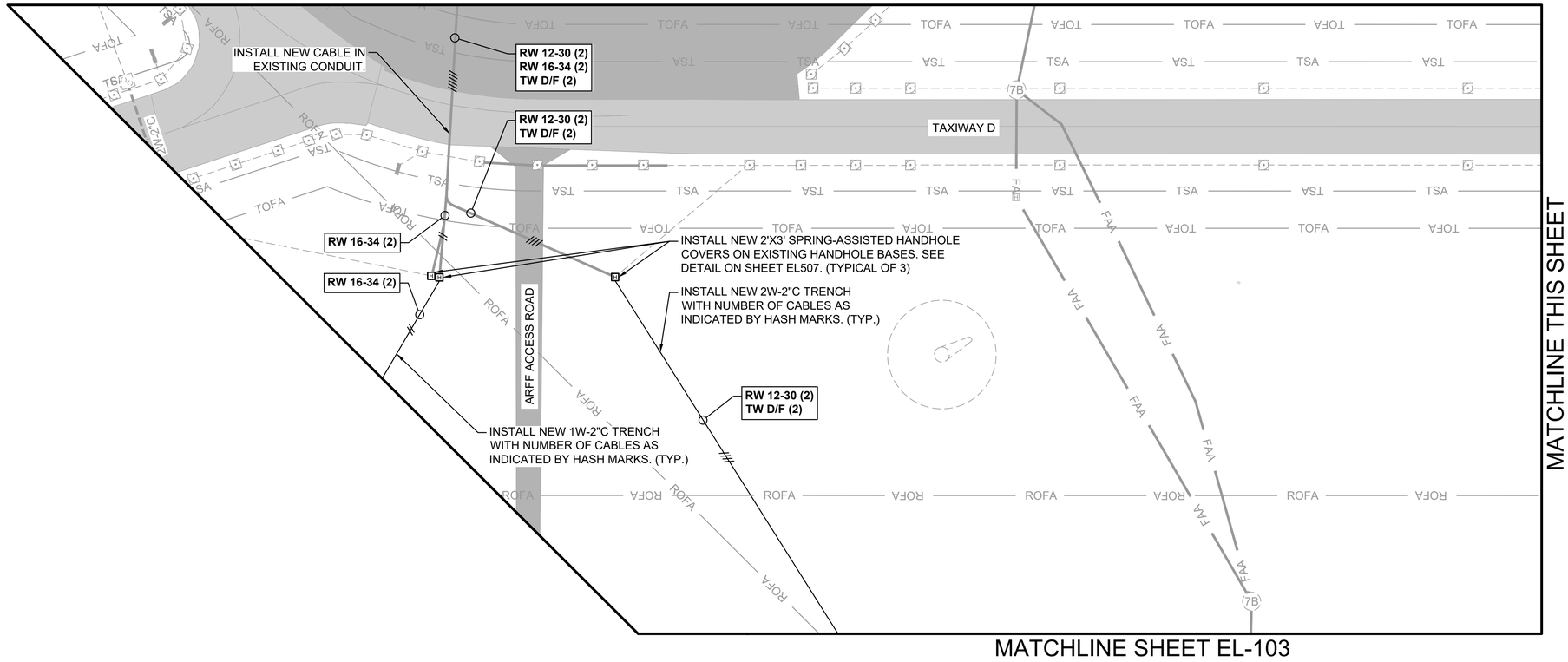
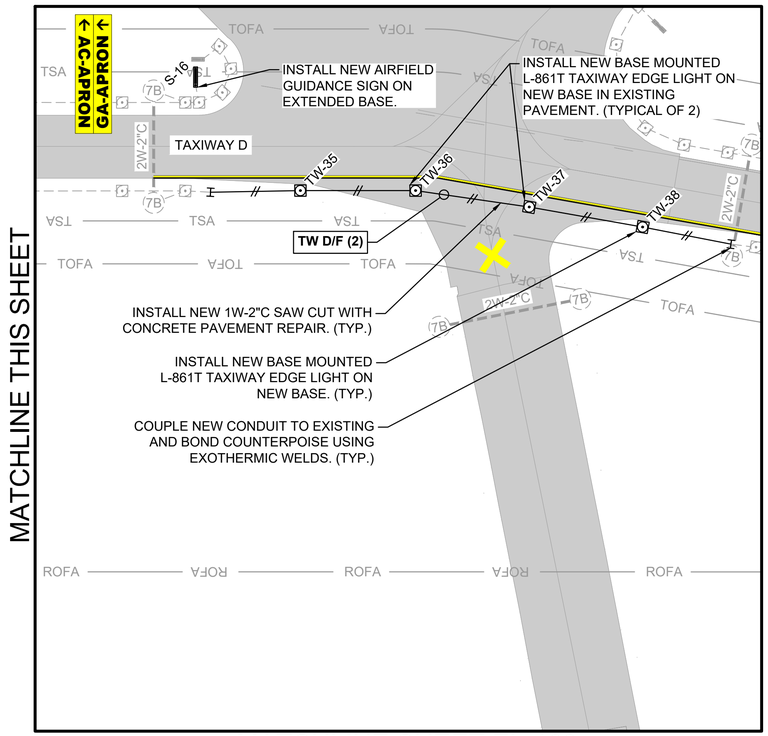


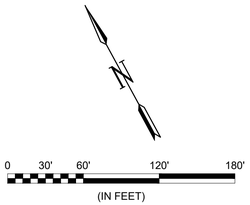
MATCHLINE THIS SHEET

MATCHLINE SHEET EL-103



MATCHLINE THIS SHEET

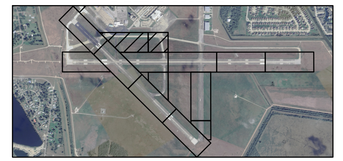
MATCHLINE SHEET EL-103



GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.
4. ALL SAWKERFS IN EXISTING CONCRETE PAVEMENT SHALL BE MADE AT RIGHT ANGLES TO EXISTING JOINTS. NO CUTS AT SKEW ANGLES TO JOINTS WILL BE ACCEPTED.

KEYMAP



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LICENSED PROFESSIONAL ENGINEER

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JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 6

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL106

SHEET NUMBER **41**

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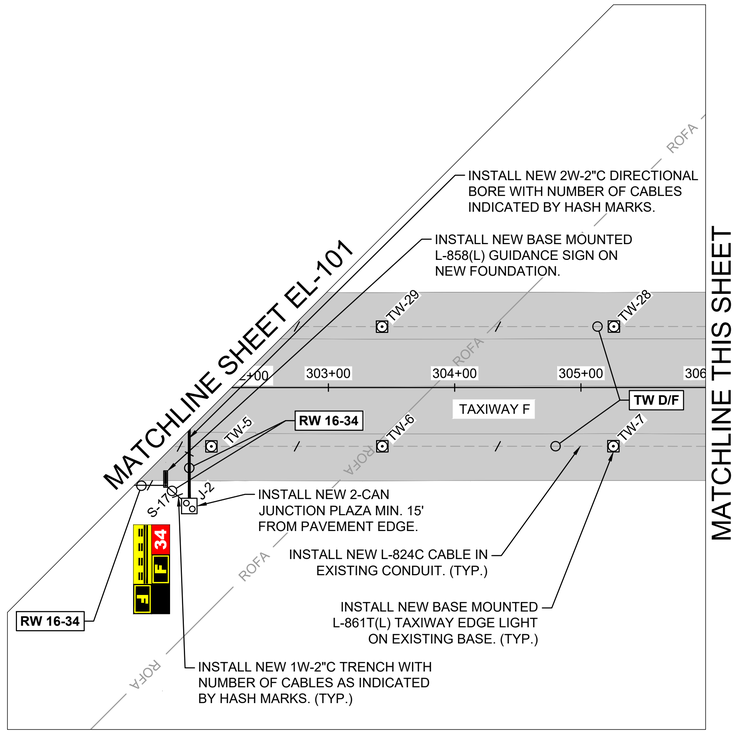
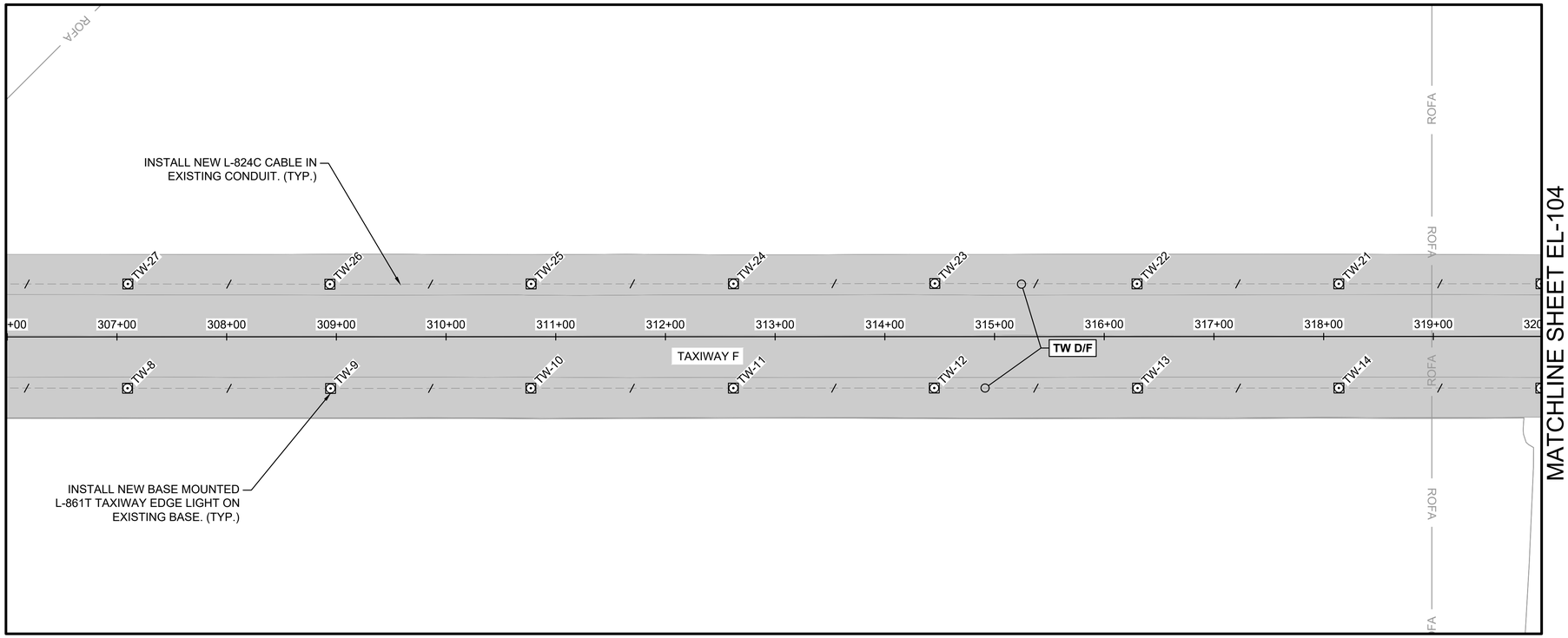
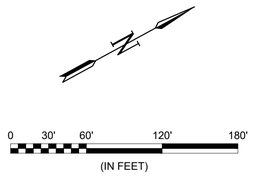


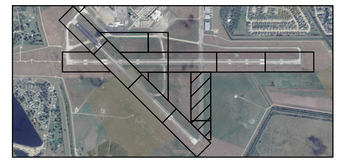




GENERAL NOTES:

1. SEE SHEET EN001 FOR LEGEND, CONSTRUCTION NOTES, CAUTION NOTES, ELECTRICAL SAFETY NOTES, AND DEMOLITION NOTES.
2. SEE THE EL500 SERIES FOR LIGHTING INSTALLATION DETAILS.
3. EXISTING CIRCUIT ROUTING IS APPROXIMATE. IF ROUTING DIFFERS IN THE FIELD, COORDINATE WITH ENGINEER.

KEYMAP



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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION PLAN 7

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL107

SHEET NUMBER **42**

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AIRFIELD LIGHTING EMERGENCY GENERATOR

INSTALL NEW EMERGENCY GENERATOR

EXISTING 112.5 kVA TRANSFORMER TO REMAIN

ATS

INSTALL NEW 1" GRS CONDUIT FOR EMERGENCY STOP CONTROLS; SURFACE MOUNT WITH CONDUIT STRAPS

INSTALL NEW 2" GRS CONDUIT; SURFACE MOUNT WITH CONDUIT STRAPS

INSTALL NEW AUTOMATIC TRANSFER SWITCH FOR AIRFIELD LIGHTING GENERATOR

INSTALL NEW 2" GRS CONDUIT; SURFACE MOUNT WITH CONDUIT STRAPS

INSTALL NEW BREAKER-TYPE DISCONNECT SWITCH. REFER TO ONE-LINE DIAGRAM

INSTALL NEW GENERATOR EMERGENCY STOP BUTTON

INSTALL NEW WEATHERPROOF, ULTRAVIOLET RESISTANT, WARNING SIGN DETAILING AIRFIELD LIGHTING VAULT DISCONNECT PROCEDURES; LANGUAGE SHALL BE APPROVED BY ENGINEER

INSTALL NEW EXHAUST FAN WITH THERMOSTAT CONTROLS AND VENTILATION SCREEN

INSTALL NEW 2" GRS CONDUIT; SURFACE MOUNT WITH CONDUIT STRAPS

INSTALL NEW REGULATOR INTERFACE BOX

INSTALL NEW 6"X6" WIREWAY WITHIN EXISTING VAULT FOR ROUTING OF 5kV CABLES

T/W A/B
7.5kW
3-STEP
CCR

T/W D/F
10kW
3-STEP
CCR

INSTALL NEW L-829 CONSTANT CURRENT REGULATOR (TYP. 4)

RUNWAY
16-34
7.5kW
5-STEP
CCR

INNER VAULT

RUNWAY
12-30
10kW
5-STEP
CCR

INSTALL NEW PANEL "DP1"

ROUTE NEW 2" GRS FEEDER CONDUIT OVER EXISTING DOORWAY AND CONNECT TO PANEL "DP1" VIA A TOP ENTRY

OUTER VAULT

0 1' 2' 4' 6'
(IN FEET)

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F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

ELECTRICAL VAULT INSTALLATION PLAN

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: RH

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DRAWING NUMBER
EL201

SHEET NUMBER **43**

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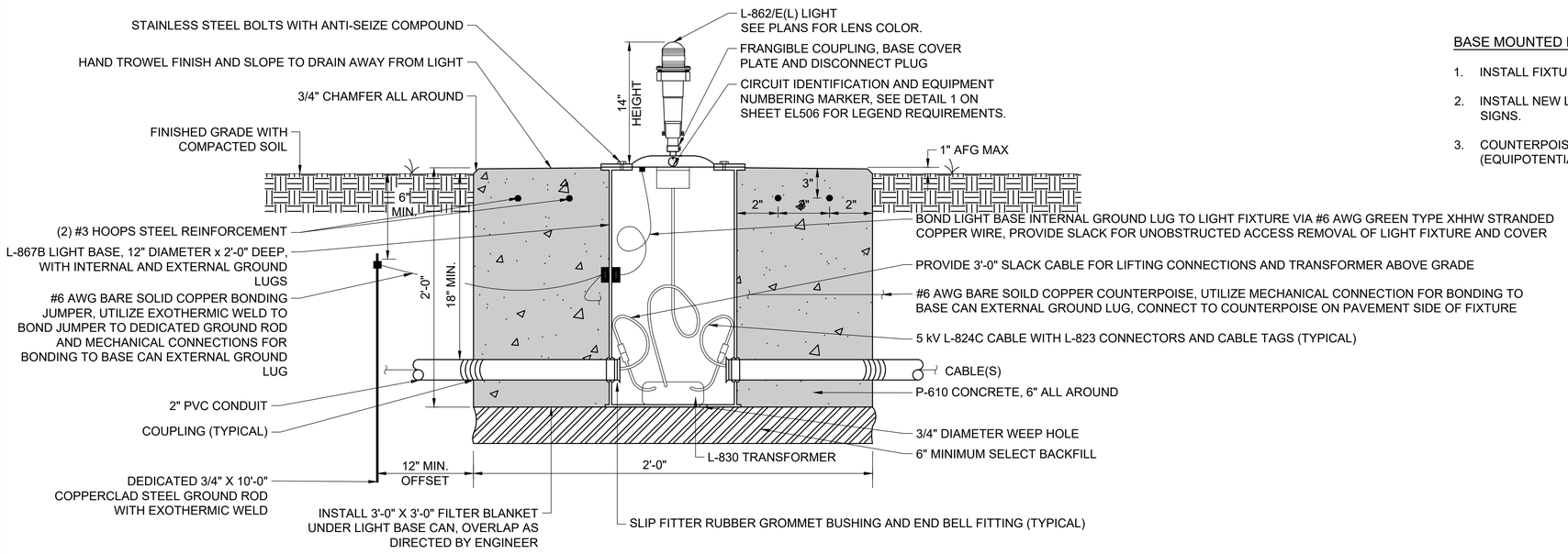
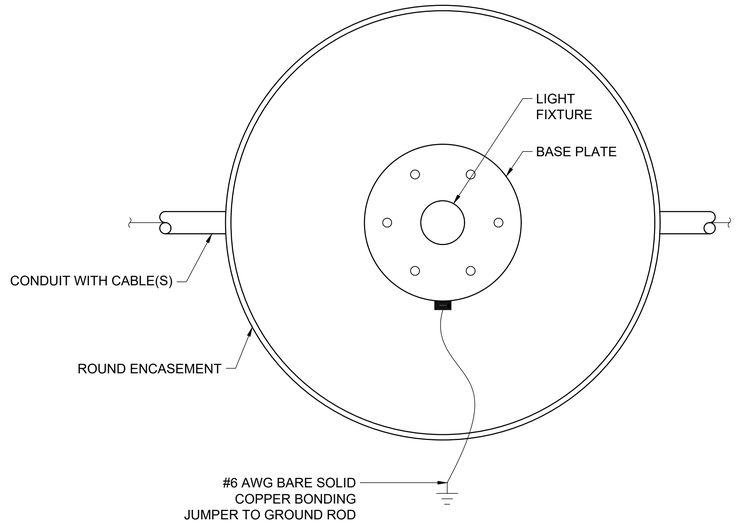


SECTION VIEW

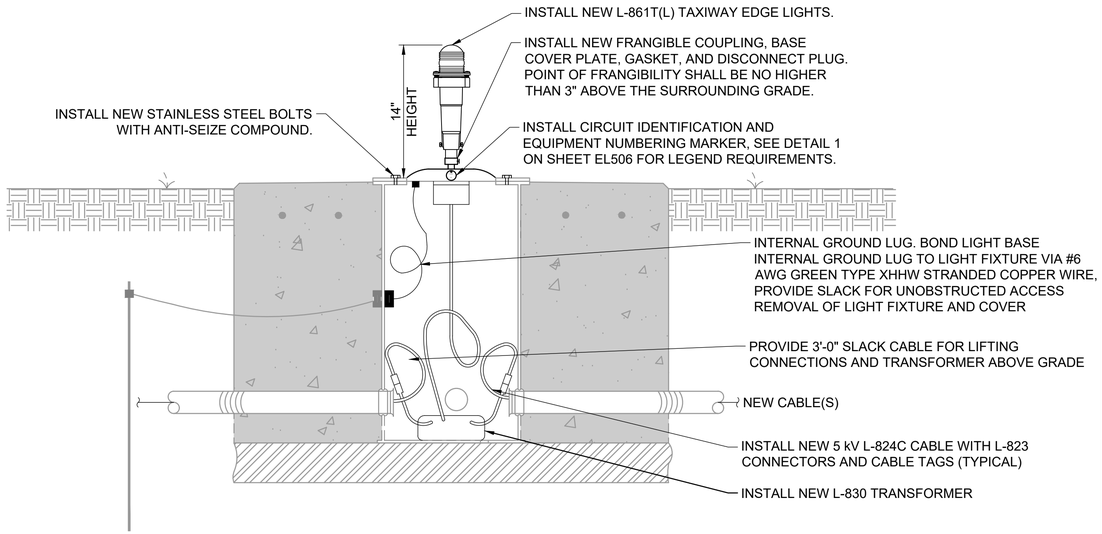
BASE MOUNTED LIGHT FIXTURE NOTES:

1. INSTALL FIXTURE SO NUMBERING TAG AND SET SCREW FACE PAVEMENT EDGE.
2. INSTALL NEW L-823 CONNECTOR KITS WITH CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
3. COUNTERPOISE SHALL BE BONDED TO JUNCTION BOX EXTERNAL GROUND LUG (EQUIPOTENTIAL METHOD LIGHTNING PROTECTION).



ROUND BASE PLAN VIEW

1 EL501 — BASE MOUNTED LIGHT INSTALLATION
SCALE: NONE



2 EL501 — BASE MOUNTED LIGHT INSTALLATION ON EXISTING BASE
SCALE: NONE

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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 1

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL501

SHEET NUMBER **44**

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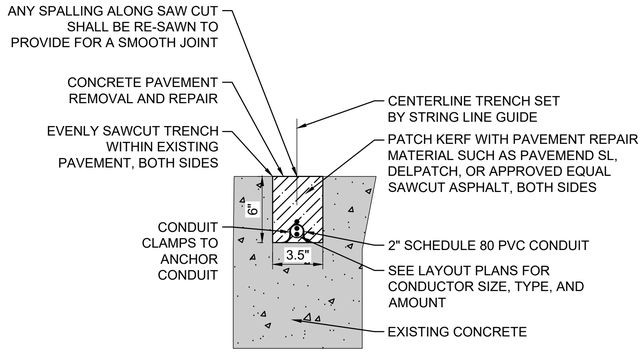
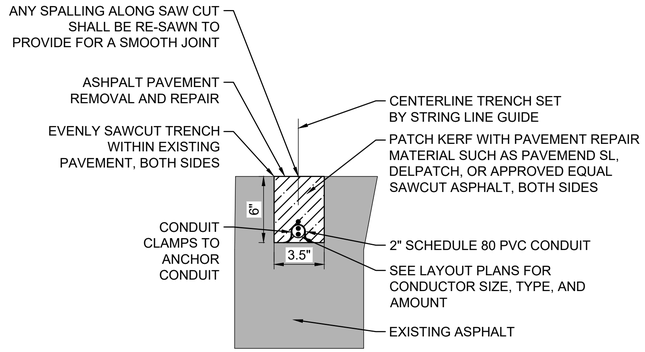


CIRCUIT IN EXISTING CONCRETE

CABLES AS REQUIRED AND ONE CONDUIT



CIRCUIT IN EXISTING ASPHALT

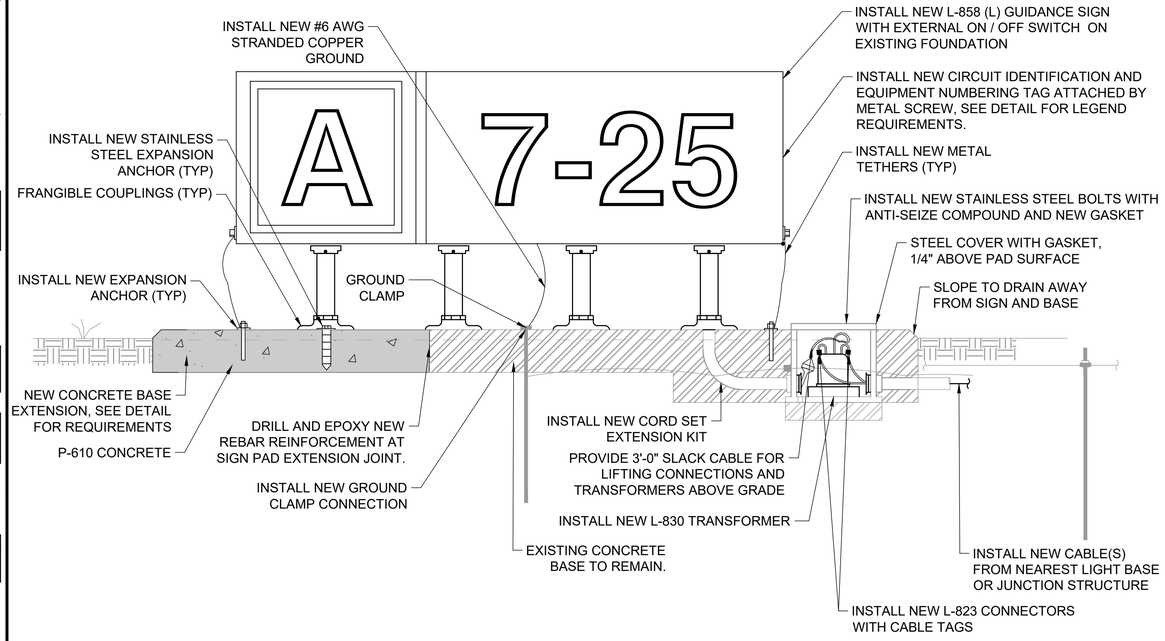
CABLES AS REQUIRED AND ONE CONDUIT

SAWKERF NOTES:

1. INSTALL CONDUIT STRAPS ANCHORED TO THE EXISTING CONCRETE/ASPHALT EVERY 5 FEET.
2. CLEAN SURFACE OF SAWKERF PRIOR TO APPLICATION OF ELASTOMERIC CONCRETE USING APPROVED METHOD.
3. SAW AND SEAL ANY EXISTING JOINTS THE SAWCUT INTERSECTS.
4. CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS REMOVED OR DAMAGED TO MATCH EXISTING OR AS DIRECTED BY ENGINEER.

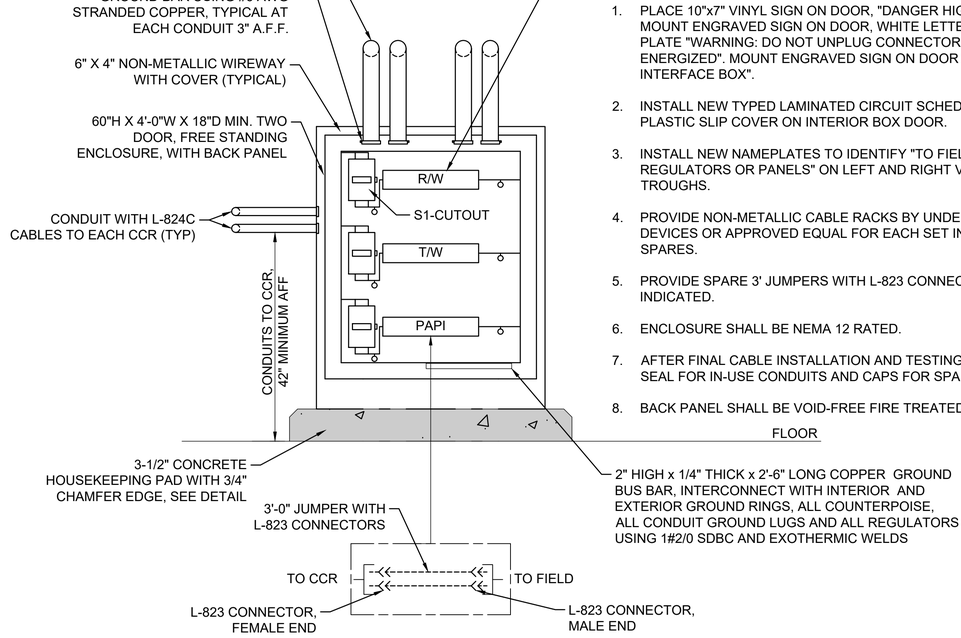
1 / EL502 — BASE MOUNTED FIXTURES AND CONDUIT TRENCH DETAIL

SCALE: NONE



2 / EL502 — SIGN INSTALLATION ON EXTENDED FOUNDATION

SCALE: NONE



INTERFACE BOX NOTES:

1. PLACE 10"x7" VINYL SIGN ON DOOR, "DANGER HIGH VOLTAGE". MOUNT ENGRAVED SIGN ON DOOR, WHITE LETTERS ON RED PLATE "WARNING: DO NOT UNPLUG CONNECTORS WITH CIRCUIT ENERGIZED". MOUNT ENGRAVED SIGN ON DOOR "REGULATOR INTERFACE BOX".
2. INSTALL NEW TYPED LAMINATED CIRCUIT SCHEDULE INSIDE PLASTIC SLIP COVER ON INTERIOR BOX DOOR.
3. INSTALL NEW NAMEPLATES TO IDENTIFY "TO FIELD" AND "TO REGULATORS OR PANELS" ON LEFT AND RIGHT VERTICAL CABLE TROUGHS.
4. PROVIDE NON-METALLIC CABLE RACKS BY UNDERGROUND DEVICES OR APPROVED EQUAL FOR EACH SET INCLUDING 2 SPARES.
5. PROVIDE SPARE 3' JUMPERS WITH L-823 CONNECTOR KITS AS INDICATED.
6. ENCLOSURE SHALL BE NEMA 12 RATED.
7. AFTER FINAL CABLE INSTALLATION AND TESTING, INSTALL DUCT SEAL FOR IN-USE CONDUITS AND CAPS FOR SPARE CONDUITS.
8. BACK PANEL SHALL BE VOID-FREE FIRE TREATED PLYWOOD.

3 / EL502 — 5kV REGULATOR INTERFACE BOX WITH CUTOUTS

SCALE: NONE

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MATTHEW C. LEMAY
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LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 2

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
EL502

SHEET NUMBER **45**

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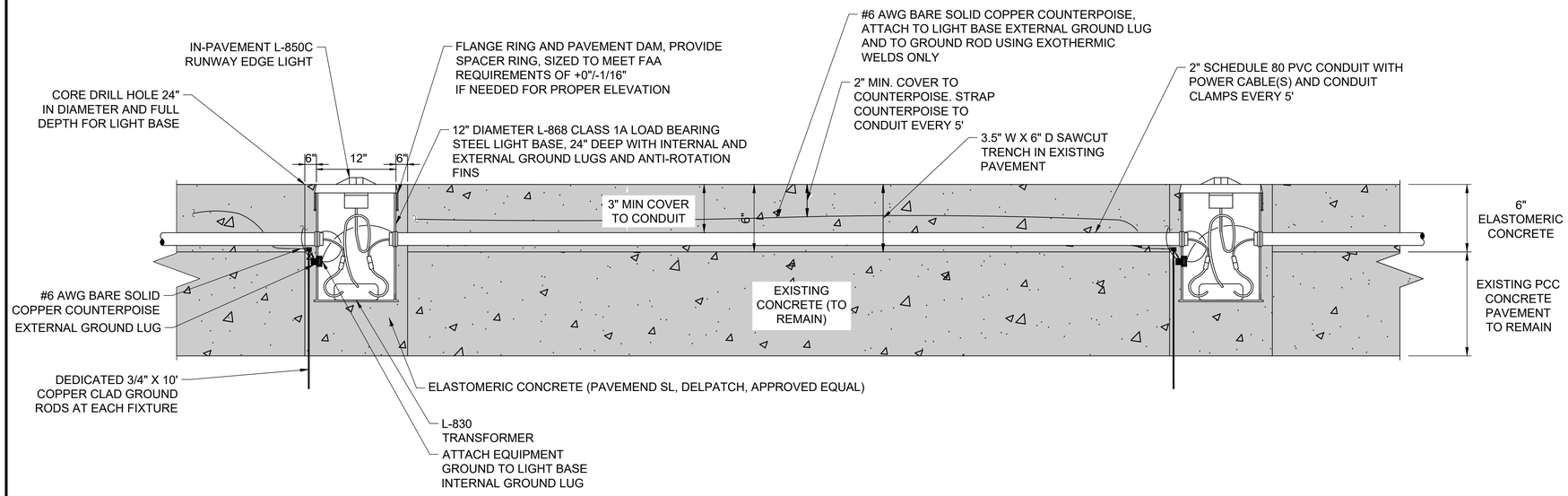
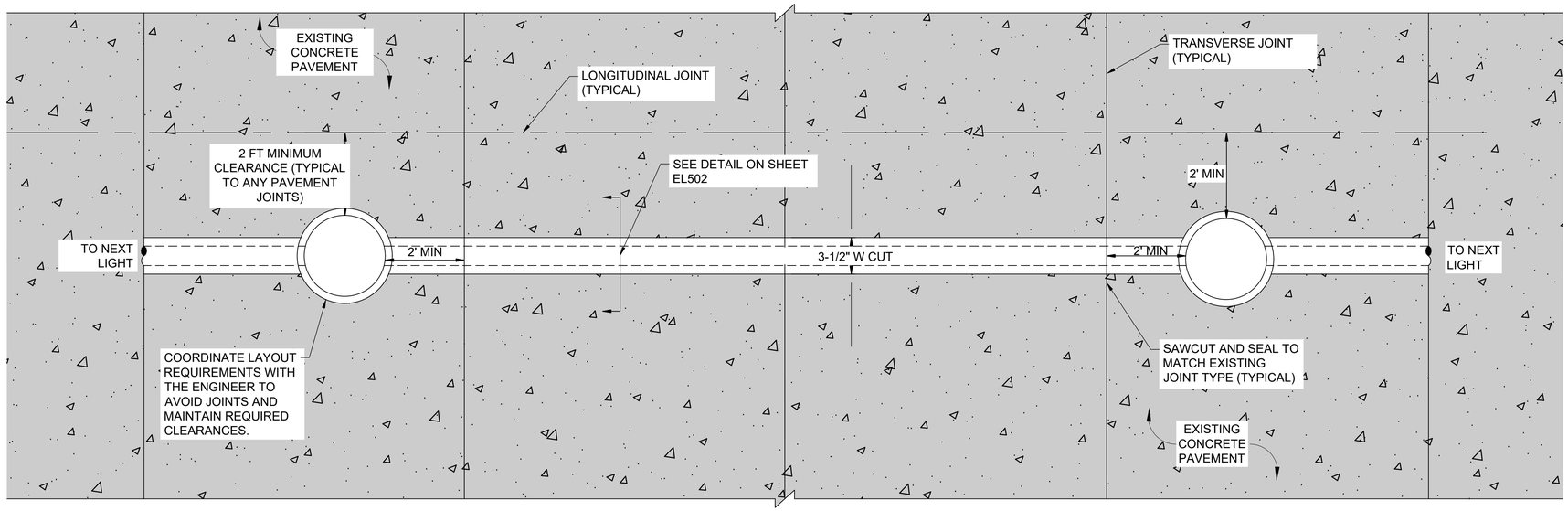


1
EL503

BASE MOUNTED IN-PAVEMENT LIGHT SECTION DETAIL FOR EXISTING RIGID PAVEMENT (CONCRETE)

SCALE: NONE



2
EL503

PLAN VIEW (CONCRETE)

SCALE: NONE

CONSTRUCTION NOTES:

1. INSTALL NEW L-823 CONNECTOR KITS WITH CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
2. ATTACH AND CONNECT COUNTERPOISE SYSTEM AND GROUND RODS USING EXOTHERMIC WELDS ONLY. CONNECT THE COUNTERPOISE TO EACH METAL BASE CAN INSTALLED UNDER RIGID OR FLEXIBLE PAVEMENT. BOND THE COUNTERPOISE TO THE REBAR CAGE AROUND THE FIXTURE BASE.
3. INSTALL IN-PAVEMENT LIGHT FIXTURES IN ACCORDANCE WITH FAA GUIDELINES AND MANUFACTURER'S RECOMMENDATIONS.
4. COORDINATE EXACT LIGHT BASE AND CONDUIT DRAINING LOCATIONS WITH ENGINEER PRIOR TO WORK. SEE LAYOUT PLANS FOR EXACT LOCATIONS REQUIRED.
5. ALL BASE CAN INSTALLATION, TECHNIQUES, METHODS, MATERIALS, ETC., SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
6. DEMONSTRATE PROPER INSTALLATION LOCATION, ELEVATION, AND ORIENTATION PRIOR TO PAVING WORK.
7. INSTALL A DEDICATED EQUIPMENT SAFETY GROUND ROD WITH EXOTHERMIC WELD AT EACH LIGHT FIXTURE. THE EQUIPMENT GROUND SHALL BE SECURELY ATTACHED TO EACH FIXTURE BASE.
8. UTILIZE ONLY EXOTHERMIC WELDS BELOW GRADE, UNLESS OTHERWISE NOTED.
9. PROVIDE MINIMUM 3' SLACK CABLE FOR EACH CABLE AND GROUNDING JUMPER ENTERING LIGHT BASE SO THAT L-823 CONNECTIONS AND ISOLATION TRANSFORMER CAN BE LIFTED OUT OF THE BASE ABOVE GRADE.
10. PROVIDE IN-PAVEMENT LIGHT FIXTURE WITH INTERNAL AND EXTERNAL GROUND LUGS.
11. UTILIZE ANTI-SEIZE MATERIAL WHEN INSTALLING BOLTS.
12. CONTRACTOR SHALL SAWCUT THE EXISTING PAVEMENT IN A MANNER AS TO NOT DAMAGE OR SPALL THE ADJACENT SURFACE. SPALL REPAIR WILL NOT BE PERMITTED. ADDITIONAL SAWCUTTING WILL NOT BE MEASURED FOR SEPARATE PAYMENT.
13. CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS REMOVED OR DAMAGED TO MATCH EXISTING OR AS DIRECTED BY THE ENGINEER.
14. SAWCUT AND SEAL JOINTS WHERE SAWKERF INTERSECTS EXISTING CONCRETE JOINTS.

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 3

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
EL503

SHEET NUMBER **46**

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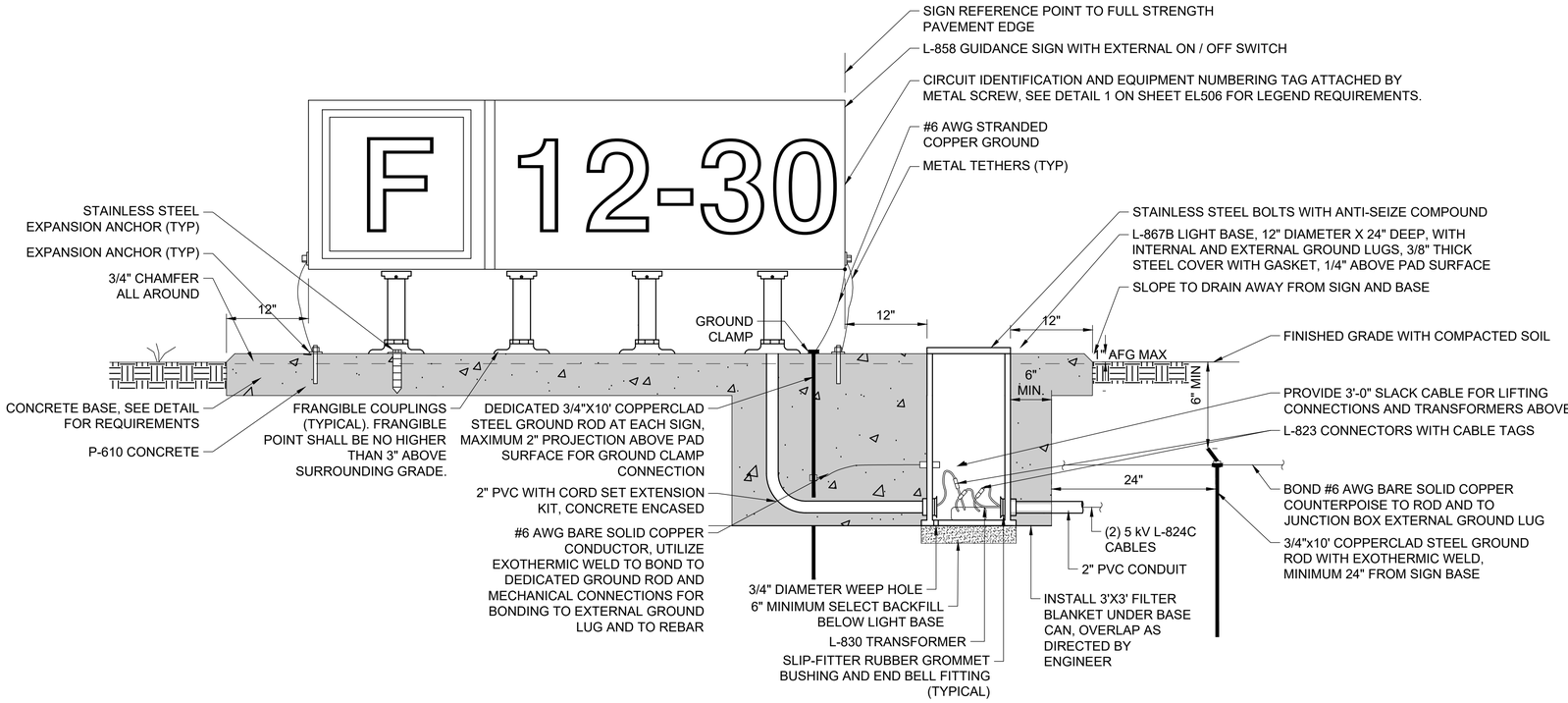
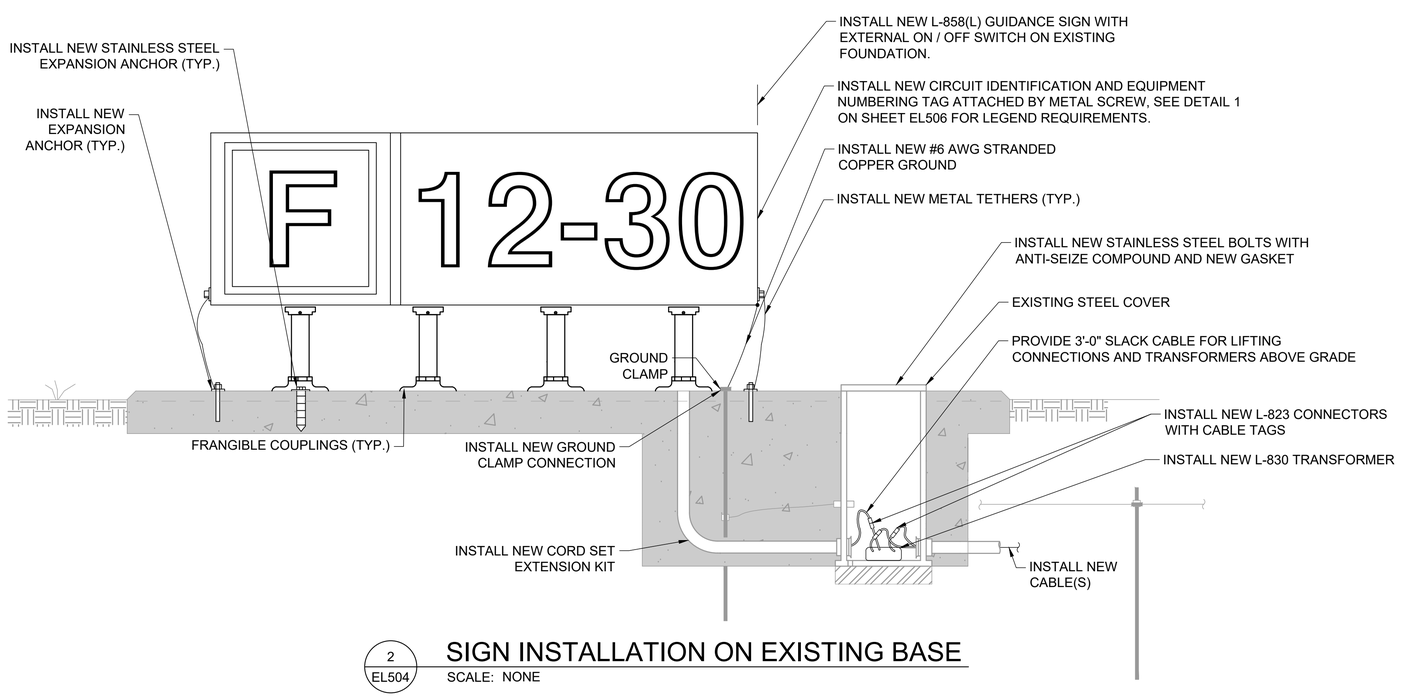
Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:08 PM Plotter used: AutoCAD PDF (General Documentation).pc3



1 EL504 BASE MOUNTED SIGN INSTALLATION

SCALE: NONE



2 EL504 SIGN INSTALLATION ON EXISTING BASE

SCALE: NONE

SIGN NOTES:

1. INSTALL SIGN IN ACCORDANCE WITH FAA GUIDELINES AND MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL NEW L-823 CONNECTOR KITS WITH CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
3. SUBMIT SIGN AND BASE CAN INSTALLATION METHOD SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK.
4. DEMONSTRATE PROPER INSTALLATION LOCATION, ELEVATION, AND ORIENTATION PRIOR TO CONCRETE WORK.
5. COUNTERPOISE SHALL BE BONDED TO LIGHT BASE EXTERNAL GROUND LUG (EQUIPOTENTIAL METHOD LIGHTNING PROTECTION).
6. INSTALL A DEDICATED EQUIPMENT SAFETY GROUND ROD WITH EXOTHERMIC WELD AT EACH SIGN.
7. UTILIZE ONLY EXOTHERMIC WELDS BELOW GRADE.
8. PROVIDE MINIMUM 3'-0" SLACK CABLE FOR EACH CABLE ENTERING LIGHT BASE SO THAT L-823 CONNECTIONS CAN BE LIFTED OUT OF THE BASE ABOVE GRADE.
9. PROVIDE TETHER FOR ALL SIGNS USING 3/16" STAINLESS STEEL AIRCRAFT CABLE AND STAINLESS STEEL HARDWARE. PROVIDE SINGLE MODULE SIGNS WITH ONE TETHER. PROVIDE MULTIPLE MODULE SIGNS WITH A TETHER AT BOTH ENDS.
10. TETHERS AND GROUND BONDING CONDUCTOR SHALL BE SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE PROPERLY AND POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER.
11. RESOD THE DISTURBED AREAS 2'-0" ALL AROUND THE SIGN AND GRADE SOIL TO PROVIDE DRAINAGE AWAY FROM SIGN BASE.

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JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 4

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER **EL504**

SHEET NUMBER **47**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:08 PM Plotter used: AutoCAD PDF (General Documentation).pc3

NEW GUIDANCE SIGN INDEX

SIGN NO.	DESC.	SIDE 1	SIDE 2	SIZE	STYLE	CLASS	MODE	ARROW ANGLE
S-1	LEGEND	↙ F	*	2	3	2	2	225°
	TYPE	L						
S-2	LEGEND	1	4	5	3	2	2	-
	TYPE	B	B					
S-3	LEGEND	2	3	5	3	2	2	-
	TYPE	B	B					
S-4	LEGEND	12-30	* *	2	3	2	2	-
	TYPE	R R						
S-5	LEGEND	3	2	5	3	2	2	-
	TYPE	B	B					
S-6	LEGEND	1	5	5	3	2	2	-
	TYPE	B	B					
S-7	LEGEND	16-34	* *	2	3	2	2	-
	TYPE	R R						
S-8	LEGEND	12-30	* *	2	3	2	2	-
	TYPE	R R						
S-9	LEGEND	4	1	5	3	2	2	-
	TYPE	B	B					
S-10	LEGEND	16-34	* *	2	3	2	2	-
	TYPE	R R						
S-11	LEGEND	2	4	5	3	2	2	-
	TYPE	B	B					
S-12	LEGEND	3	3	5	3	2	2	-
	TYPE	B	B					
S-13	LEGEND	F 12-30	F	2	3	2	2	-
	TYPE	L R R	Y Y L					
S-14	LEGEND	4	2	5	3	2	2	-
	TYPE	B	B					
S-15	LEGEND	5	1	5	3	2	2	-
	TYPE	B	B					
S-16	LEGEND	← AC-APRON	GA-APRON ↑	2	3	2	2	270°, 0°
	TYPE	Y Y Y Y	Y Y Y Y					
S-17	LEGEND	* F 34	F	2	3	2	2	-
	TYPE	L R	Y Y L					

1 EL505 NEW GUIDANCE SIGN INDEX
SCALE: NONE

LEGEND:

L L-858L LOCATION
Y L-858Y DIRECTION / DESTINATION / BOUNDARY
R L-858R MANDATORY INSTRUCTION
B L-858B DISTANCE REMAINING
* BLANK PANEL

GENERAL NOTES:

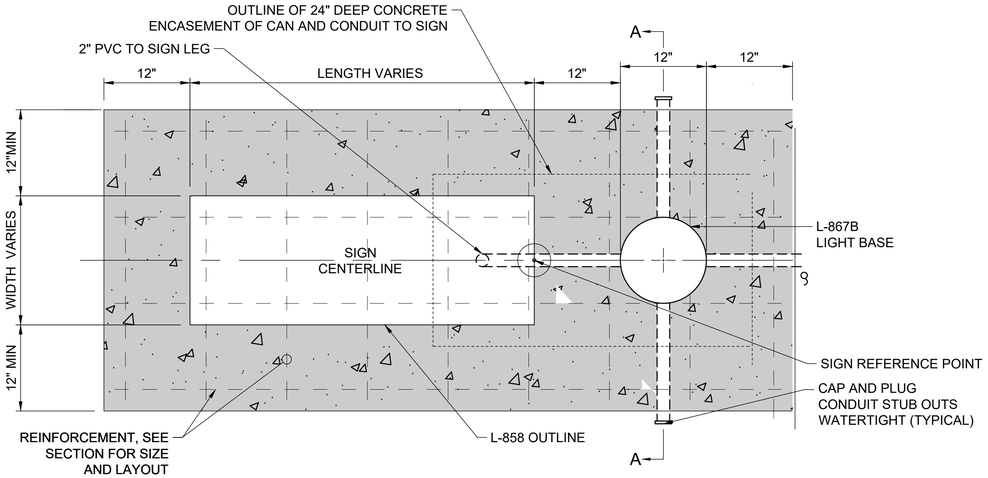
1. NUMBER OF SIGN LEGEND LETTERS UNDERNEATH SIGN ON NEW GUIDANCE SIGN INDEX INDICATES APPROXIMATE NUMBER OF MODULES ON DESIGNA SIGN. SIGNS SHALL BE BID ACCORDING TO MODUL SHOWN ABOVE, IF MANUFACTURER UTILIZES LESS MODULES THAN SHOWN ABOVE, INDICATE ON SUB OF SIGN LEGEND AS REQUIRED BY THE SPECIFICA

ARROW ANGLES

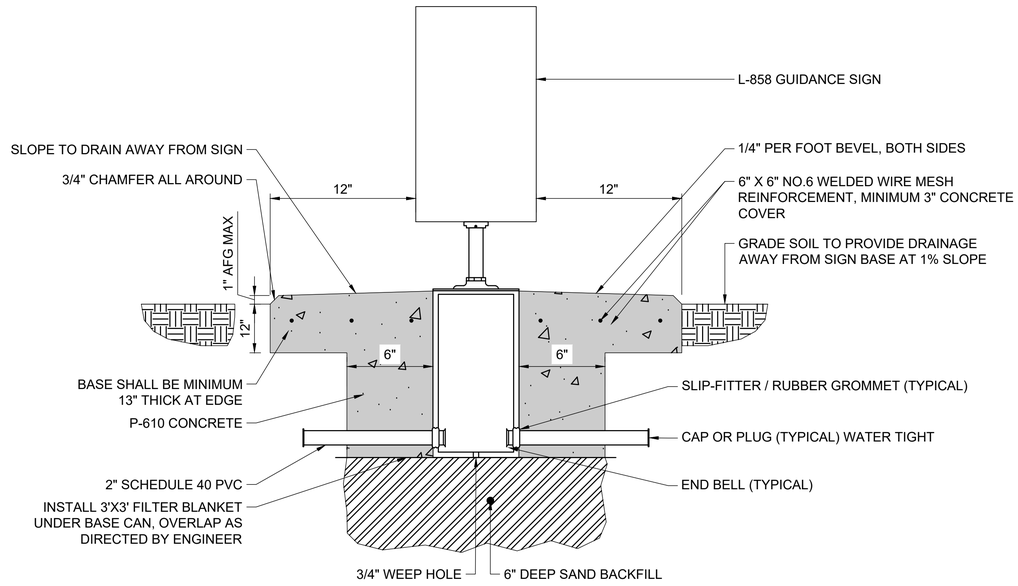
GUIDANCE SIGN LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	SIGN TYPE / SIZE
S-1	RWY 16-34	101+55.22	97.93' RT	L-858
S-2	RWY 16-34	110+35.41	108.02' LT	L-858
S-3	RWY 16-34	120+35.41	108.04' LT	L-858
S-4	RWY 16-34	129+73.75	95.63' LT	L-858
S-5	RWY 16-34	130+35.41	108.06' LT	L-858
S-6	RWY 12-30	213+35.04	110.00' RT	L-858
S-7	RWY 16-34	136+45.52	179.87' LT	L-858
S-8	RWY 16-34	136+80.19	96.62' RT	L-858
S-9	RWY 16-34	140+35.41	108.08' LT	L-858
S-10	RWY 12-30	219+98.66	106.42' RT	L-858
S-11	RWY 12-30	223+75.04	110.00' RT	L-858
S-12	RWY 12-30	233+75.04	110.00' RT	L-858
S-13	TWY F	320+48.13	68.88' LT	L-858
S-14	RWY 12-30	243+75.04	110.00' RT	L-858
S-15	RWY 12-30	253+75.04	110.00' RT	L-858
S-16	TWY F	???	???' ???	L-858
S-17	RWY 12-30	239+42.92	2127.27' RT	L-858

2 EL505 NEW GUIDANCE SIGN LOCATIONS
SCALE: NONE



3 EL505 SIGN BASE PLAN
SCALE: NONE



SECTION A-A

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 5

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER **EL505**

SHEET NUMBER **48**

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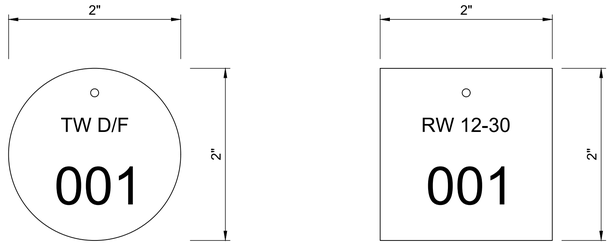


ROUND (FOR LIGHTS)

SQUARE (FOR SIGNS)

LIGHT TAG NOTES:

1. INSTALL FIXTURE SO NUMBERING TAG AND SET SCREW FACE PAVEMENT EDGE. NUMBERING TAG SHALL HAVE A 3/16" TOP HOLE FOR SECURING VIA FIXTURE SET SCREW.

2. PROVIDE WEATHER AND CORROSION RESISTANT BRASS TAGS WITH BLACK FILLED 1/4" TALL CIRCUIT IDENTIFICATION AND LETTERS / NUMBERS AND 1/2" TALL TAG NUMBERS. PROVIDE ROUND OR SQUARE TAGS AS INDICATED BY ENGINEER.

3. TAGS SHALL BE INSTALLED SEQUENTIALLY ALONG THE PATH OF THE TAXIWAY / RUNWAY CIRCUIT IN THE ORDER THAT THE SERIES CIRCUIT CABLE IS CONNECTED. NEW CIRCUIT ID TAG NUMBERING SHALL ORIGINATE AT THE FIRST AIRFIELD EQUIPMENT FIXTURE AS THE CIRCUIT LEAVES THE AIRFIELD ELECTRICAL VAULT.

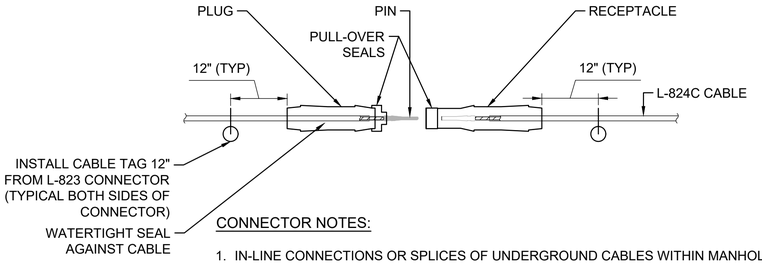
4. LIGHT FIXTURES, GUIDANCE SIGNS, ETC. ALL ON THE SAME CIRCUIT SHALL BE NUMBERED IN THE SAME SEQUENTIAL FASHION.

5. TAXIWAY LIGHT IDENTIFICATION TAGS ARE REQUIRED FOR THE FOLLOWING TAXIWAY CIRCUITS:
   A. TAXIWAY D/F: "TW D/F"

6. RUNWAY LIGHT IDENTIFICATION TAGS ARE REQUIRED FOR THE FOLLOWING RUNWAY CIRCUITS:
   A. RUNWAY 12-30: "RW 12-30"
   B. RUNWAY 16-34: "RW 16-34"

1 / EL506 — AIRFIELD EQUIPMENT IDENTIFICATION TAG

SCALE: NONE



CONNECTOR NOTES:

1. IN-LINE CONNECTIONS OR SPLICES OF UNDERGROUND CABLES WITHIN MANHOLES, HANDHOLES, LIGHT BASES, OR OTHER ACCESSIBLE LOCATIONS SHALL BE MADE USING L-823 CONNECTOR KITS.

2. PROVIDE CABLE IN CONTINUOUS LENGTHS FOR HOME RUNS OR OTHER LONG CABLE RUNS WITHOUT CONNECTIONS, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER OR SHOWN ON THE PLANS.

3. THE CONTRACTOR SHALL UTILIZE ENHANCED FAA CERTIFIED L-823 CONNECTOR KITS, SUCH AS THE AMERACE 54 SUPER KIT, INTEGRO COMPLETE KIT, OR AN APPROVED EQUAL. THESE KITS DO NOT REQUIRE TAPING OR HEAT SHRINKING. THESE KITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION REQUIREMENTS. NOTE THAT THE MIXING OF CONNECTOR KITS IS UNACCEPTABLE. THE CONTRACTOR SHALL CLEARLY LIST AND SUBMIT THE CONNECTOR KITS HE PROPOSES TO UTILIZE ON THE PROJECT FOR APPROVAL PRIOR TO ANY FIELD CONSTRUCTION WORK, AND HE SHALL ONLY INSTALL THAT TYPE DURING CONSTRUCTION UNLESS OTHERWISE NOTED BY THE ENGINEER.

2 / EL506 — L-823 CONNECTOR INSTALLATION FOR CAN AND CONDUIT SYSTEM

SCALE: NONE

NOTES:

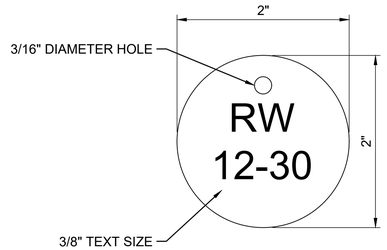
1. POWER MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH RED BACKGROUND AND BLACK LETTERING.

2. TAPE SHALL BE DETECTABLE, DURABLE, HIGHLY VISIBLE, RESISTANT TO ELEMENTS, MEETING AND / OR EXCEEDING ALL INDUSTRY STANDARDS.

3. PROVIDE MULTIPLE AND / OR WIDER TAPES FOR WIDER DUCT BANKS. COORDINATE WITH ENGINEER.

3 / EL506 — UNDERGROUND DETECTABLE WARNING TAPE

SCALE: NONE



CABLE TAG NOTES:

1. ALL CABLES SHALL BE IDENTIFIED. INSTALL CABLE TAGS IN ALL ACCESSIBLE LOCATIONS INCLUDING JUNCTION BOXES, PULL BOXES, MANHOLES, HANDHOLES, AND LIGHT BASES.

2. INSTALL CABLE TAGS 12" FROM THE L-823 CONNECTORS. IF NO CONNECTORS ARE REQUIRED, INSTALL A CABLE TAG NEAR EACH CABLE ENTRANCE VIA DUCT OR CONDUIT.

3. CABLE IDENTIFICATION TAGS SHALL BE MADE FROM A NON-CORROSIVE STAINLESS STEEL MATERIAL WITH THE CIRCUIT AND / OR LOOP IDENTIFICATION NUMBER STAMPED OR ETCHED ONTO THE TAG.

4. TAGS SHALL BE CIRCULAR IN SHAPE, 2-INCH MINIMUM DIAMETER AND 20 GAUGE NON-CORROSIVE STAINLESS STEEL MATERIAL.

5. SECURE EACH TAG TO THE CABLE USING WEATHER AND ULTRAVIOLET RESISTANT NYLON CABLE TIES.

6. TAG IDENTIFICATION TEXT SHALL BE COORDINATED WITH THE OWNER AND THE ENGINEER DURING SUBMITTALS PRIOR TO THE WORK.

4 / EL506 — TYPICAL CABLE TAG

SCALE: NONE

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REGISTRATION NO. F-5713

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Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 6

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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SHEET NUMBER **49**

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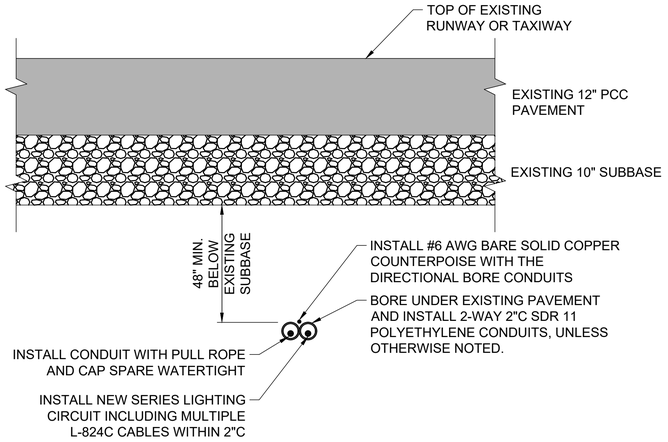
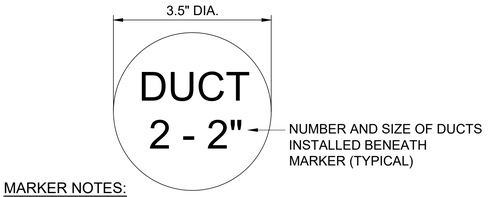


BORING NOTES:

1. POLYETHYLENE CONDUITS SHALL EXTEND 15'-0" BEYOND EACH PAVEMENT EDGE.
2. INSTALL PE TO PVC FITTING AND EXTEND PVC RACEWAY SYSTEM TO MANHOLES, HAND HOLES, OR JUNCTION CANS AS INDICATED ON THE PLANS.
3. INSTALL DUCT MARKERS AT EACH END FOR DUCT BORES AND SAW CUT LOCATIONS.
4. INSTALL 3/4" x 10'-0" COPPERCLAD GROUND RODS AT EACH END OF ELECTRICAL DUCT AND BOND COUNTERPOISES USING EXOTHERMIC WELDS.
5. BORING LOCATION SHALL BE MINIMUM 10'-0" BEYOND RUNWAY SAFETY AREA BOUNDARY UNLESS OTHERWISE NOTED. SEE PLANS FOR LOCATIONS AND COORDINATE WORK WITH ENGINEER PRIOR TO START.
6. ADD CONCRETE AND BRONZE DUCT MARKERS AT BOTH ENDS OF BORE.
7. SIMILAR FOR OTHER BORE SIZES.

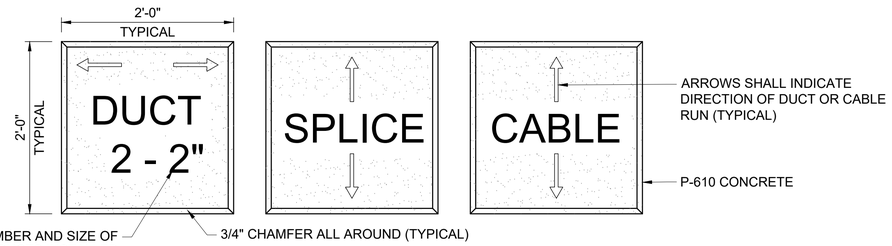
1 EL507 — DIRECTIONAL BORING CONDUITS
SCALE: NONE



MARKER NOTES:

1. PROVIDE 3.5" DIAMETER FLAT BRONZE MARKER, LETTERS 1/2" HIGH, RECESS MOUNTED FLUSH WITH TOP OF PAVEMENT, EPOXY IN PLACE.
2. INSTALL MARKER CENTERED 6" FROM PAVEMENT EDGE.
3. COST OF BRONZE MARKERS IS INCIDENTAL TO THE ASSOCIATED ITEMS OF DUCT OR CABLE.

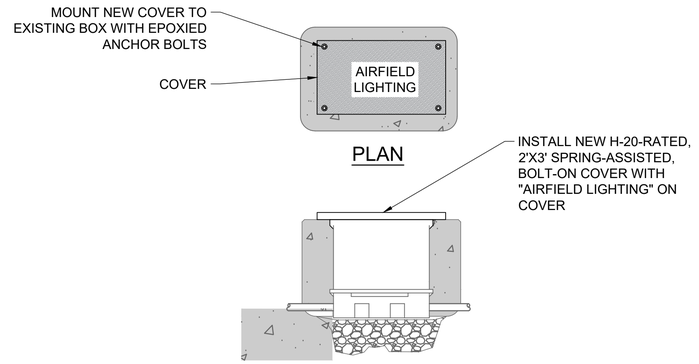
2 EL507 — BRONZE PAVEMENT EDGE DUCT MARKER
SCALE: NONE



MARKER NOTES:

1. LETTERS SHALL BE 4" HIGH, 3" WIDE, STROKE 1/2" WIDE, IMPRESSED 1/4" DEEP. LETTERS SHALL BE STENCILED.
2. MARKERS SHALL BE 4" THICK MINIMUM AND PROJECT 1" AFG MAXIMUM.
3. MARKERS SHALL BE PAINTED AVIATION ORANGE.
4. COST OF CONCRETE MARKERS IS INCIDENTAL TO THE ASSOCIATED ITEMS OF DUCT OR CABLE.
5. CABLE AND SPLICE MARKERS SHALL IDENTIFY THE CIRCUITS WHICH THE CABLES BELONG TO.
6. EACH DUCT OF CONDUIT RUN SHALL BE MARKED APPROXIMATELY EVERY 200 FEET ALONG THE DUCT OR CONDUIT RUN, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF DUCT OR CONDUIT RUN.
7. EMPLOY THE FOLLOWING METHODS WHERE ADDITIONAL SPACE TO FIT THE LEGEND IS REQUIRED:
   A. REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.
   B. INCREASE THE MARKER SIZE TO 30"X30" MAX.
   C. PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE.

3 EL507 — CONCRETE SLAB MARKERS
SCALE: NONE



PLAN

SECTION

4 EL507 — HANDHOLE COVER DETAILS
SCALE: NONE

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LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 7

JOB NO.: 2400880
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DRAWN BY: CCC

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SHEET NUMBER **50**

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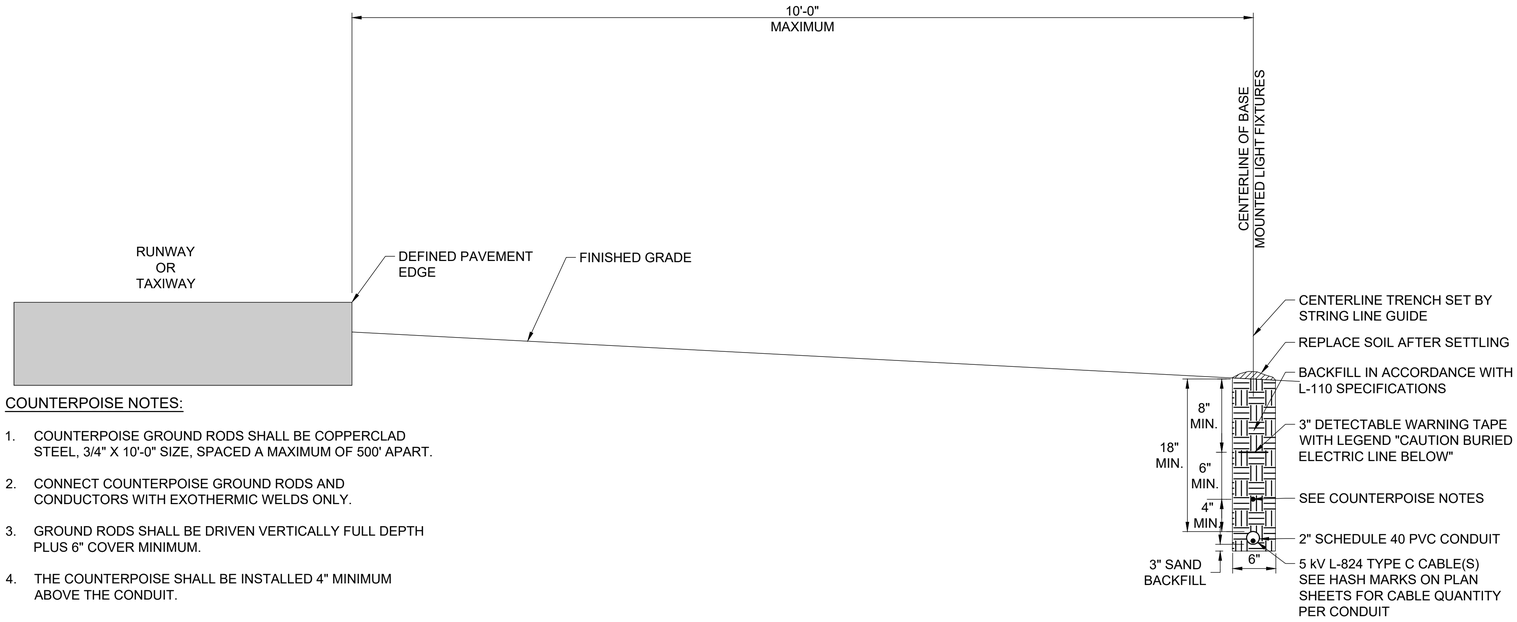
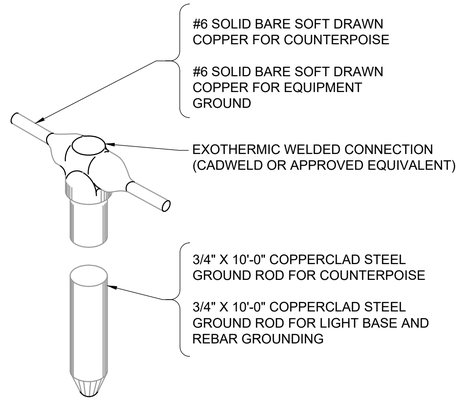


COUNTERPOISE NOTES:

1. COUNTERPOISE GROUND RODS SHALL BE COPPERCLAD STEEL, 3/4" X 10'-0" SIZE, SPACED A MAXIMUM OF 500' APART.
2. CONNECT COUNTERPOISE GROUND RODS AND CONDUCTORS WITH EXOTHERMIC WELDS ONLY.
3. GROUND RODS SHALL BE DRIVEN VERTICALLY FULL DEPTH PLUS 6" COVER MINIMUM.
4. THE COUNTERPOISE SHALL BE INSTALLED 4" MINIMUM ABOVE THE CONDUIT.

1 / EL508 — BASE MOUNTED FIXTURES AND CONDUIT TRENCH DETAILS (CURRENT POWERED SYSTEM)

SCALE: NONE



AIRFIELD EQUIPMENT, DUCTS, AND CIRCUITS:

1. GROUND RODS SHALL BE INSTALLED NOT MORE THAN 500 FEET APART FOR COUNTERPOISE AND AS SHOWN ON LAYOUT PLAN SHEETS.
2. ONE GROUND ROD SHALL BE INSTALLED AT EACH LIGHT BASE FOR GROUNDING THE LIGHT BASE AND ASSOCIATED STEEL REINFORCEMENT.

2 / EL508 — TYPICAL GROUND ROD CONNECTION

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 8

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
EL508

SHEET NUMBER **51**

File: L:\2024\A12-2400880 - BPT Airfield Lighting Rehab\Drawings\2400880-EL501.dwg Last Save: 4/23/2026 4:33 PM Last saved by: MCLeMay
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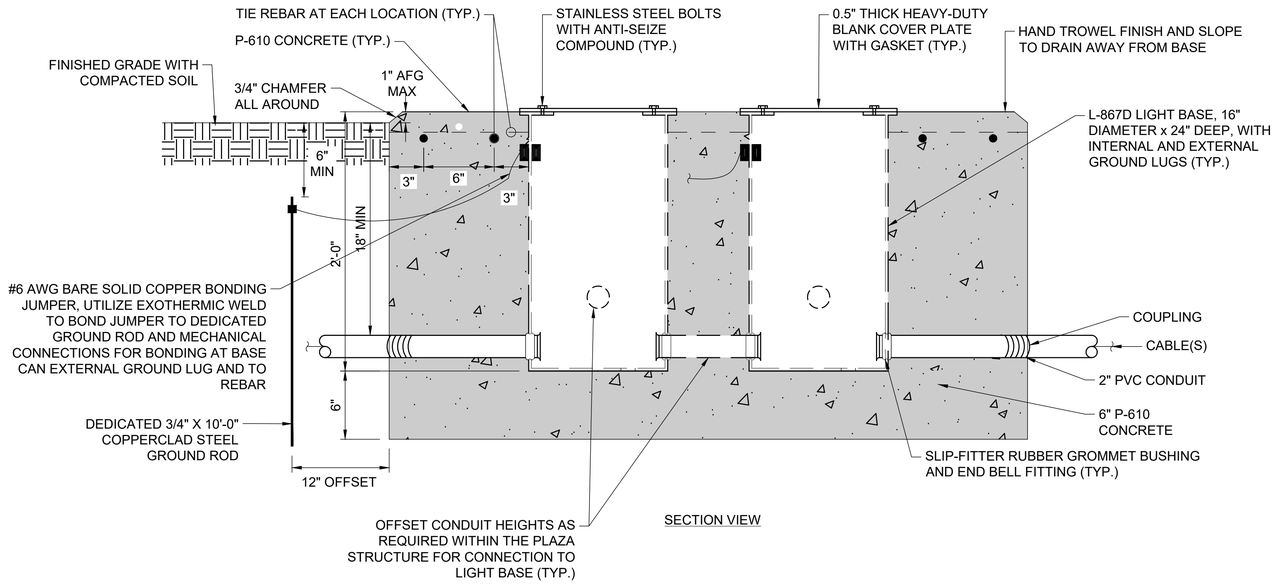
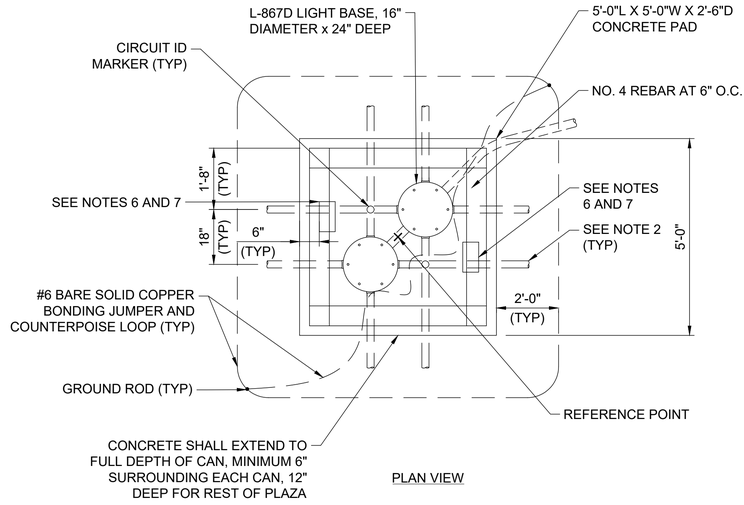


SECTION VIEW



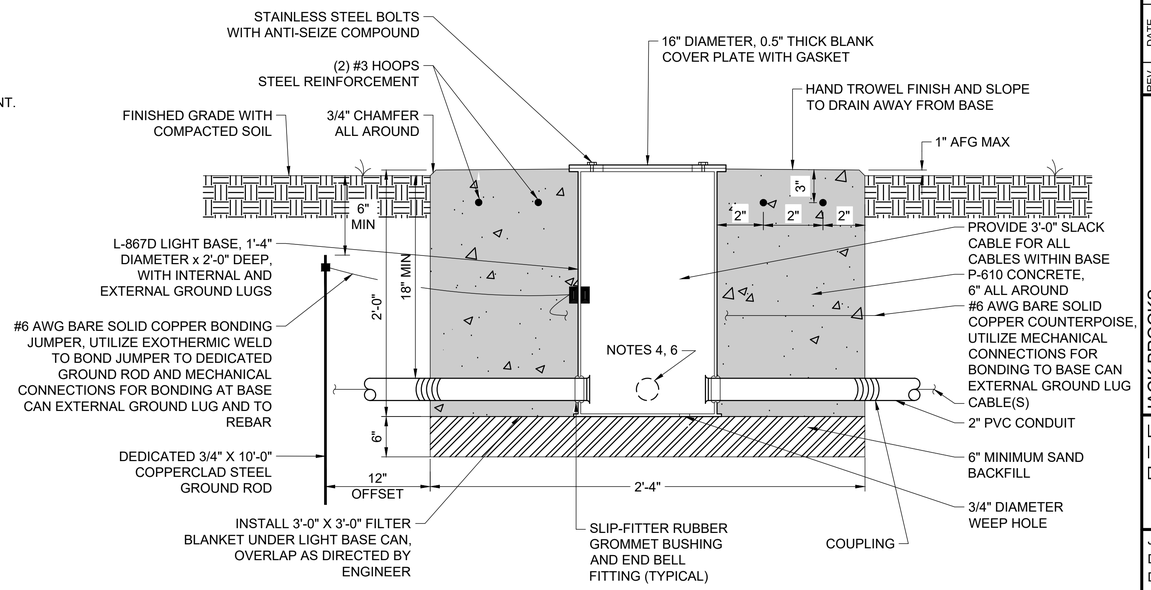
PLAN VIEW

JUNCTION CAN PLAZA (JCP) NOTES:

1. SEE LAYOUT PLAN SHEETS FOR JUNCTION CAN PLAZAS (JCP) SIZE AND ORIENTATION.
2. CONDUITS WHICH ARE NOT USED IN THE PROJECT SHALL BE CAPPED 36" OUTSIDE OF PLAZA CONCRETE FOR FUTURE USE.
3. ORIENT PLAZA AS SHOWN ON LAYOUT PLAN SHEETS. COORDINATE EXACT LOCATION WITH ENGINEER.
4. CONTRACTOR SHALL PROVIDE A 2" DIAMETER DOMED BRONZE MARKER AT EACH JUNCTION CAN AS SHOWN. MARKER SHALL BE STAMPED IF JUNCTION CAN IS UTILIZED WITH CIRCUIT IDENTIFICATION AS SHOWN ON LAYOUT PLAN SHEETS, OTHERWISE LEAVE MARKER BLANK.
5. INSTALL GROUND RODS AND GROUND LOOP AT ALL JCP AS SHOWN. TWO 3/4" X 10' COPPERCLAD STEEL GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS SHALL BE PROVIDED. GROUND CONDUCTOR SHALL BE LOCATED NOMINALLY 12" BELOW FINAL GRADE. GROUND RODS SHALL BE BONDED TO SEPARATE COUNTERPOISE SYSTEM (EQUIPOTENTIAL METHOD LIGHTNING PROTECTION).
6. CONTRACTOR SHALL LABEL 2 ENDS OF EACH JCP BY IMPRESSING THE JCP IDENTIFICATION NUMBER INTO THE CONCRETE FOUNDATION DURING PLACEMENT. LETTERS AND NUMBERS SHALL BE 4" IN HEIGHT, PROPORTIONAL IN WIDTH, AND HAVE A STROKE WIDTH OF 1/2" AND 1/4" DEPTH.
7. SEE LAYOUT PLAN SHEETS FOR JCP IDENTIFICATION NUMBERS.
8. GRADE SOIL TO PROVIDE DRAINAGE AWAY FROM THE STRUCTURE AND PREVENT SILT/DIRT INFILTRATION ONTO TOP OF THE JCP.
9. SOD THE DISTURBED AREAS 5' ALL AROUND THE STRUCTURE.

JUNCTION BOX NOTES:

1. INSTALL CABLE ID TAGS ON ALL LIGHTING CIRCUIT CABLES IN ALL BOXES.
2. PROVIDE MINIMUM 3' SLACK CABLE FOR EACH CABLE ENTERING LIGHT BASE SO THAT L-823 CONNECTIONS CAN BE LIFTED OUT OF THE BASE ABOVE GRADE.
3. DEDICATED GROUND ROD SHALL BE BONDED TO SEPARATE COUNTERPOISE SYSTEM (EQUIPOTENTIAL METHOD LIGHTNING PROTECTION).
4. STUBOUTS AND OTHER APPURTENANCES SHALL BE INCLUDED IN THE JUNCTION BOX PAY ITEM.
5. STUBOUTS SHALL BE 1' BEYOND JUNCTION BOX WALL AND INCLUDE A WATERTIGHT FACTORY PLUG.
6. COORDINATE EXACT LIGHT BASE AND CONDUIT DRAINING LOCATIONS WITH ENGINEER PRIOR TO WORK. INSTALL BASES WITH T-CONFIGURED CANS WITH A 1" CONDUIT AWAY FROM PAVEMENT, INCLUDING 45 DEGREE DOWN ELBOW WITH RODENT GUARD INTO MINIMUM 1 CUBIC FOOT OPEN GRADED, DRAINABLE AGGREGATE. TOP OF AGGREGATE SHALL BE MINIMUM 3'-0" BELOW GRADE.



1 EL509 2 UNIT JUNCTION CAN PLAZA INSTALLATION

SCALE: NONE

2 EL509 BASE MOUNTED LIGHT BASE JUNCTION BOX INSTALLATION

SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
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LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 9

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL509

SHEET NUMBER **52**

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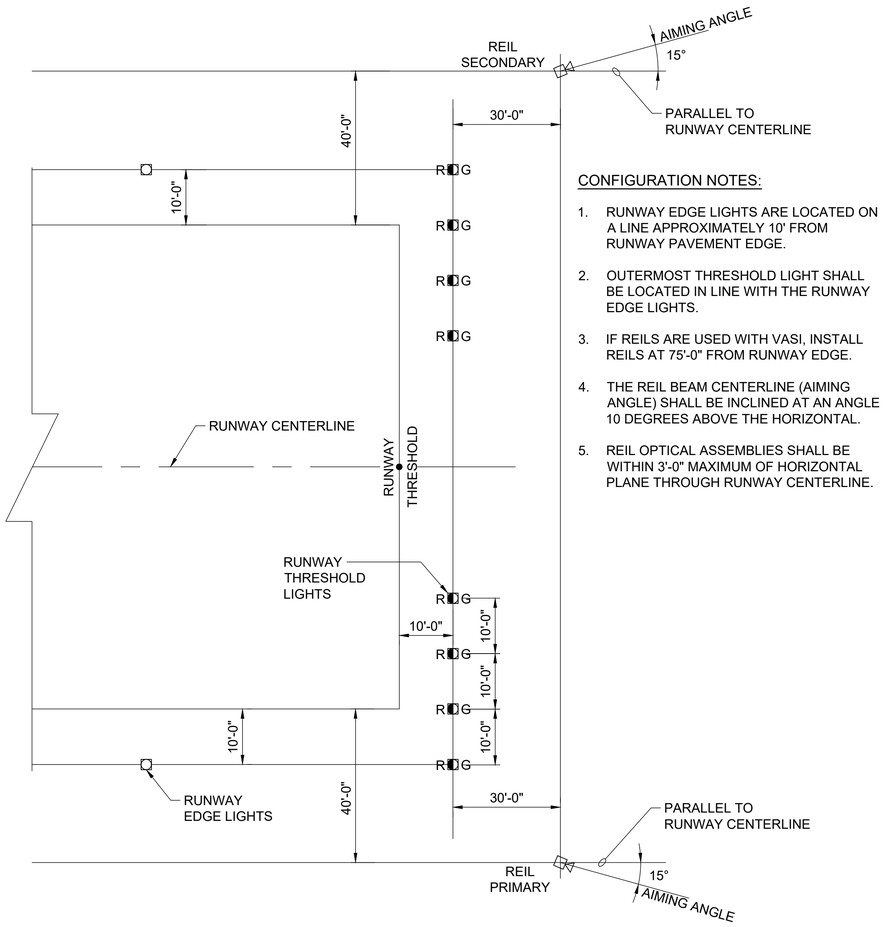

CONFIGURATION NOTES:

1. RUNWAY EDGE LIGHTS ARE LOCATED ON A LINE APPROXIMATELY 10' FROM RUNWAY PAVEMENT EDGE.
2. OUTERMOST THRESHOLD LIGHT SHALL BE LOCATED IN LINE WITH THE RUNWAY EDGE LIGHTS.
3. IF REILS ARE USED WITH VASI, INSTALL REILS AT 75'-0" FROM RUNWAY EDGE.
4. THE REIL BEAM CENTERLINE (AIMING ANGLE) SHALL BE INCLINED AT AN ANGLE 10 DEGREES ABOVE THE HORIZONTAL.
5. REIL OPTICAL ASSEMBLIES SHALL BE WITHIN 3'-0" MAXIMUM OF HORIZONTAL PLANE THROUGH RUNWAY CENTERLINE.

1 EL510 **L-849 REIL CONFIGURATION**
SCALE: NONE

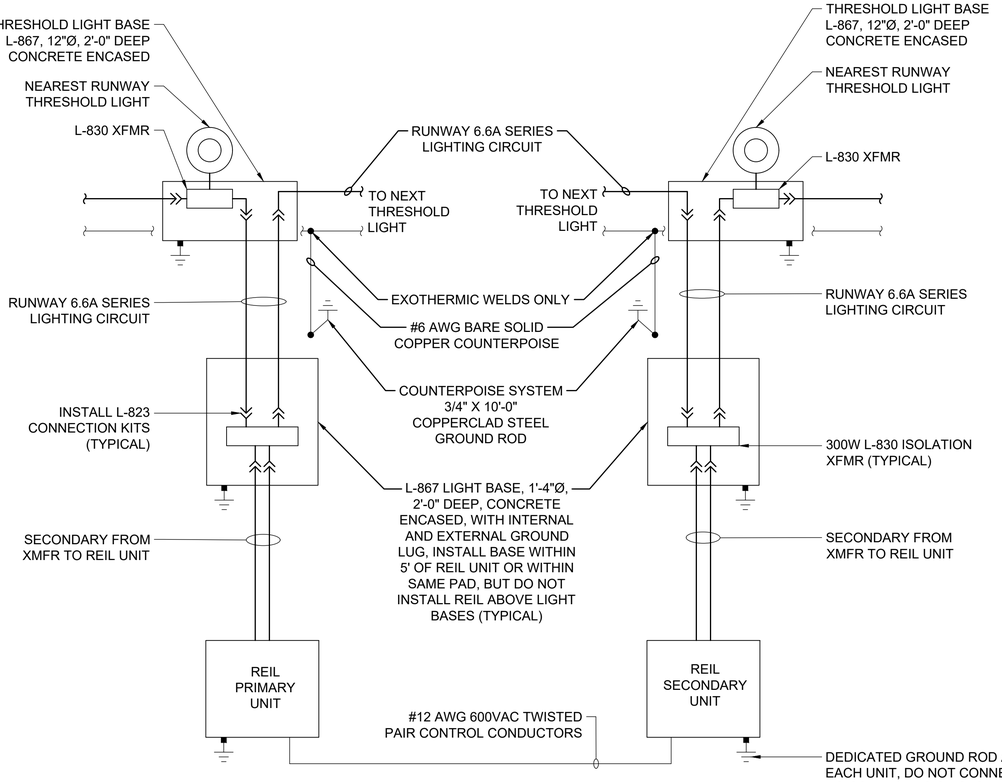

DIAGRAM NOTES:

1. CONTRACTOR SHALL VERIFY AND INSTALL CONDUCTORS AS REQUIRED BY THE MANUFACTURER.
2. INSTALL ALL CABLES IN 2" CONDUIT.
3. INSTALL NEW L-823 CONNECTOR KITS WITH CABLE TAGS AT ALL LIGHT BASES.
4. BOND ALL BOXES, BASES AND REIL UNITS TO THE EQUIPMENT GROUND SYSTEM.

2 EL510 **L-849 REIL STYLE "A" WIRING DIAGRAM**
SCALE: NONE

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F-5713

STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 10

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL510

SHEET NUMBER **53**

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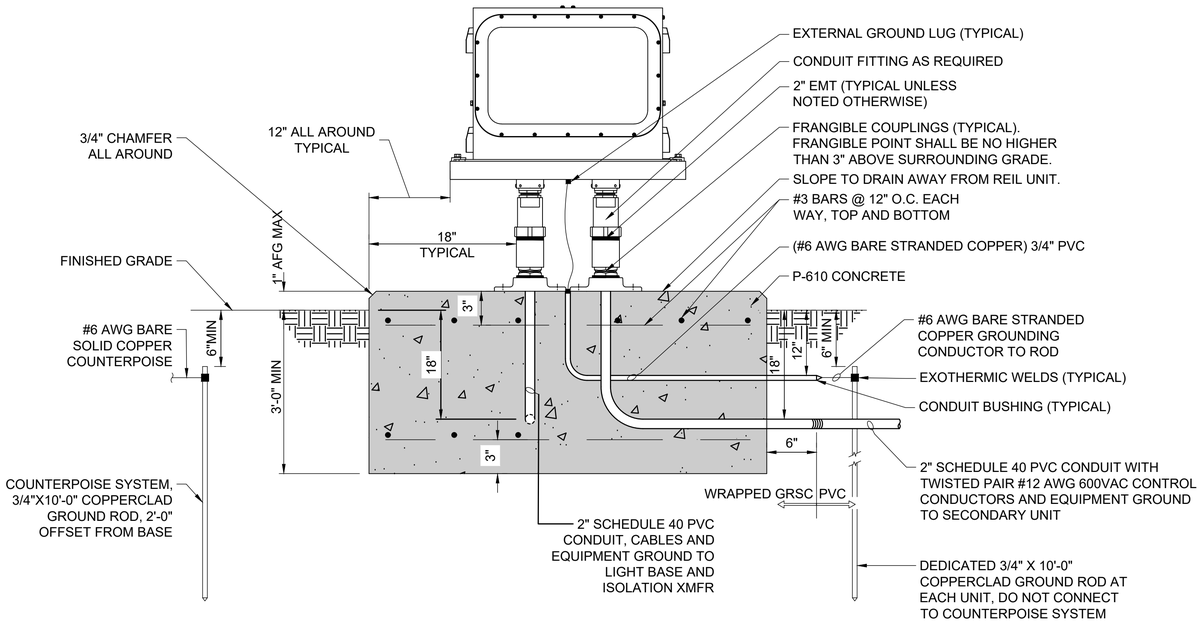
REIL INSTALLATION NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE ALL SIZES AND DIMENSIONS OF EQUIPMENT PRIOR TO CONSTRUCTION. SUBMIT DIMENSIONED SHOP DRAWINGS FOR APPROVAL.
2. STENCIL HORIZONTAL AND VERTICAL AIMING ANGLES ON EACH REIL UNIT, BLACK NUMBERS 1" MINIMUM HEIGHT.
3. INSTALL DUCT SEAL IN CONDUIT(S) TO PREVENT MOISTURE ENTRY AFTER FINAL ACCEPTANCE TESTING IS COMPLETED.

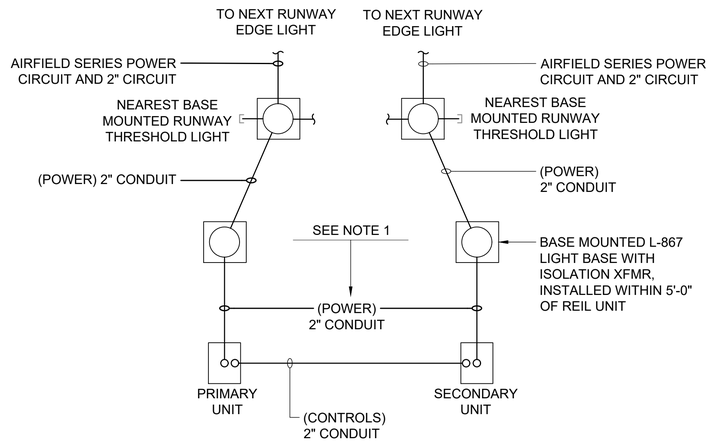


1 / EL511 — L-849 REIL INSTALLATION

SCALE: NONE

LAYOUT NOTES:

1. ALL COMPONENTS FROM THIS POINT FORWARD SHALL BE CONSIDERED SUBSIDIARY TO REIL PAY ITEM AND SHALL NOT BE MEASURED FOR SEPARATE PAYMENT.
2. REIL UNIT AND ITS LIGHT BASE MAY BE COMBINED INTO ONE CONCRETE FOUNDATION, BUT REIL SHALL NOT BE MOUNTED ON TOP OF LIGHT BASE.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL SIZES AND DIMENSIONS OF EQUIPMENT, INCLUDING POWER AND CONTROL CABLE LENGTHS, PRIOR TO CONSTRUCTION. SUBMIT DIMENSIONED SHOP DRAWINGS FOR APPROVAL.
4. COUNTERPOISE IS NOT SHOWN FOR CLARITY IN THIS DETAIL.



2 / EL511 — L-849 REIL CONDUIT LAYOUT PLAN

SCALE: NONE

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REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 11

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL511

SHEET NUMBER **54**

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REMOVE EXISTING AIRPORT ROTATING BEACON. INSTALL NEW L-802A(L) AIRPORT ROTATING BEACON.

1
EL512

ROTATING BEACON FIXTURE REPLACEMENT

SCALE: NONE

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JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 12

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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DRAWING NUMBER
EL512

SHEET NUMBER **55**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:08 PM Plotter used: AutoCAD PDF (General Documentation).pc3

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-1	RWY 16-34	99+90.00	85.00' RT	L-861E
RW-2	RWY 16-34	99+90.00	75.00' RT	L-861E
RW-3	RWY 16-34	99+90.00	65.00' RT	L-861E
RW-4	RWY 16-34	99+90.00	55.00' RT	L-861E
RW-5	RWY 16-34	99+90.00	55.00' LT	L-861E
RW-6	RWY 16-34	99+90.00	65.00' LT	L-861E
RW-7	RWY 16-34	99+90.00	75.00' LT	L-861E
RW-8	RWY 16-34	99+90.00	85.00' LT	L-861E
RW-9	RWY 16-34	101+85.80	85.00' LT	L-862
RW-10	RWY 16-34	103+81.60	85.01' LT	L-862
RW-11	RWY 16-34	105+77.40	85.01' LT	L-862
RW-12	RWY 16-34	107+73.20	85.02' LT	L-862
RW-13	RWY 16-34	109+69.01	85.02' LT	L-862
RW-14	RWY 16-34	111+64.81	85.02' LT	L-862
RW-15	RWY 16-34	113+60.61	85.03' LT	L-862
RW-16	RWY 16-34	115+56.41	85.03' LT	L-862
RW-17	RWY 16-34	117+52.21	85.03' LT	L-862
RW-18	RWY 16-34	119+48.01	85.04' LT	L-862
RW-19	RWY 16-34	121+43.82	85.04' LT	L-862
RW-20	RWY 16-34	123+39.62	85.05' LT	L-862

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-21	RWY 16-34	125+35.42	85.05' LT	L-862
RW-22	RWY 16-34	127+31.22	85.05' LT	L-862
RW-23	RWY 16-34	129+27.02	85.06' LT	L-862
RW-24	RWY 16-34	131+22.82	85.06' LT	L-862
RW-25	RWY 16-34	133+18.63	85.07' LT	L-862
RW-26	RWY 16-34	135+14.43	85.07' LT	L-862
RW-27	RWY 16-34	137+10.23	85.07' LT	L-862
RW-28	RWY 16-34	139+06.03	85.08' LT	L-862
RW-29	RWY 16-34	141+01.83	85.08' LT	L-862
RW-30	RWY 16-34	142+97.63	85.08' LT	L-862
RW-31	RWY 16-34	144+93.44	85.09' LT	L-862
RW-32	RWY 16-34	146+89.24	85.09' LT	L-862
RW-33	RWY 16-34	148+85.04	85.10' LT	L-862
RW-34	RWY 16-34	150+80.84	85.10' LT	L-861E
RW-35	RWY 16-34	150+80.84	75.10' LT	L-861E
RW-36	RWY 16-34	150+80.84	65.10' LT	L-861E
RW-37	RWY 16-34	150+80.84	55.10' LT	L-861E
RW-38	RWY 16-34	150+80.84	54.90' RT	L-861E
RW-39	RWY 16-34	150+80.84	64.90' RT	L-861E
RW-40	RWY 16-34	150+80.84	74.90' RT	L-861E

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-41	RWY 16-34	150+80.84	84.90' RT	L-861E
RW-42	RWY 16-34	148+85.04	84.90' RT	L-862
RW-43	RWY 16-34	146+89.24	84.91' RT	L-862
RW-44	RWY 16-34	144+93.44	84.91' RT	L-862
RW-45	RWY 16-34	142+97.64	84.92' RT	L-862
RW-46	RWY 16-34	141+02.34	84.92' RT	L-862
RW-47	RWY 16-34	139+06.03	84.92' RT	L-862
RW-48	RWY 16-34	137+10.23	84.93' RT	L-862
RW-49	RWY 16-34	135+14.43	84.93' RT	L-862
RW-50	RWY 16-34	133+18.63	84.93' RT	L-862
RW-51	RWY 16-34	131+22.97	84.98' RT	L-862
RW-52	RWY 16-34	129+27.03	84.94' RT	L-862
RW-53	RWY 16-34	127+31.22	84.95' RT	L-862
RW-54	RWY 16-34	125+35.42	84.95' RT	L-862
RW-55	RWY 16-34	123+39.62	84.95' RT	L-862
RW-56	RWY 16-34	121+43.82	84.96' RT	L-862
RW-57	RWY 16-34	119+48.02	84.96' RT	L-862
RW-58	RWY 16-34	117+52.22	84.97' RT	L-862
RW-59	RWY 16-34	115+56.41	84.97' RT	L-862
RW-60	RWY 16-34	113+60.61	84.97' RT	L-862

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-61	RWY 16-34	111+64.81	84.98' RT	L-862
RW-62	RWY 16-34	109+69.01	84.98' RT	L-862
RW-63	RWY 16-34	107+73.21	84.98' RT	L-862
RW-64	RWY 16-34	105+77.41	84.99' RT	L-862
RW-65	RWY 16-34	103+81.60	84.99' RT	L-862
RW-66	RWY 16-34	101+85.80	85.00' RT	L-862
RW-67	RWY 12-30	199+94.99	85.05' LT	L-861E
RW-68	RWY 12-30	199+94.99	75.05' LT	L-861E
RW-69	RWY 12-30	199+94.99	65.05' LT	L-861E
RW-70	RWY 12-30	199+94.99	55.05' LT	L-861E
RW-71	RWY 12-30	199+95.00	55.00' RT	L-861E
RW-72	RWY 12-30	199+95.00	65.00' RT	L-861E
RW-73	RWY 12-30	199+95.00	75.00' RT	L-861E
RW-74	RWY 12-30	199+95.00	85.00' RT	L-861E
RW-75	RWY 12-30	201+93.83	85.00' RT	L-862
RW-76	RWY 12-30	203+92.65	85.00' RT	L-862
RW-77	RWY 12-30	205+91.48	85.00' RT	L-862
RW-78	RWY 12-30	207+90.30	85.00' RT	L-862
RW-79	RWY 12-30	209+89.13	85.00' RT	L-862
RW-80	RWY 12-30	211+87.95	85.00' RT	L-862

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-81	RWY 12-30	213+86.78	85.00' RT	L-862
RW-82	RWY 12-30	215+85.60	85.00' RT	L-862
RW-83	RWY 12-30	217+84.43	85.00' RT	L-862
RW-84	RWY 12-30	219+83.26	85.00' RT	L-862
RW-85	RWY 12-30	221+82.08	85.00' RT	L-862
RW-86	RWY 12-30	223+80.91	85.00' RT	L-862
RW-87	RWY 12-30	225+79.73	85.00' RT	L-862
RW-88	RWY 12-30	227+78.56	85.00' RT	L-862
RW-89	RWY 12-30	229+77.38	85.00' RT	L-862
RW-90	RWY 12-30	231+76.21	85.00' RT	L-862
RW-91	RWY 12-30	233+75.04	85.00' RT	L-862
RW-92	RWY 12-30	235+74.03	85.01' RT	L-862
RW-93	RWY 12-30	237+72.69	85.00' RT	L-862
RW-94	RWY 12-30	239+71.41	85.09' RT	L-862
RW-95	RWY 12-30	241+70.34	85.00' RT	L-862
RW-96	RWY 12-30	243+69.16	85.00' RT	L-862
RW-97	RWY 12-30	245+67.99	85.00' RT	L-862
RW-98	RWY 12-30	247+66.81	85.00' RT	L-862
RW-99	RWY 12-30	249+65.64	85.00' RT	L-862
RW-100	RWY 12-30	251+64.47	85.00' RT	L-862

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-101	RWY 12-30	253+63.29	85.00' RT	L-862
RW-102	RWY 12-30	255+62.12	85.00' RT	L-862
RW-103	RWY 12-30	257+60.94	85.00' RT	L-862
RW-104	RWY 12-30	259+59.77	85.00' RT	L-862
RW-105	RWY 12-30	261+58.59	85.00' RT	L-862
RW-106	RWY 12-30	263+57.42	85.00' RT	L-862
RW-107	RWY 12-30	265+56.24	85.00' RT	L-862
RW-108	RWY 12-30	267+55.07	85.00' RT	L-861E
RW-109	RWY 12-30	267+55.07	75.00' RT	L-861E
RW-110	RWY 12-30	267+55.07	65.00' RT	L-861E
RW-111	RWY 12-30	267+55.07	55.00' RT	L-861E
RW-112	RWY 12-30	267+55.07	55.00' LT	L-861E
RW-113	RWY 12-30	267+55.07	65.00' LT	L-861E
RW-114	RWY 12-30	267+55.07	75.00' LT	L-861E
RW-115	RWY 12-30	267+55.07	85.00' LT	L-861E
RW-116	RWY 12-30	265+56.24	85.05' LT	L-862
RW-117	RWY 12-30	263+57.41	85.05' LT	L-862
RW-118	RWY 12-30	261+58.59	85.05' LT	L-862
RW-119	RWY 12-30	259+59.76	85.05' LT	L-862
RW-120	RWY 12-30	257+60.94	85.05' LT	L-862

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 13

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
EL513

SHEET NUMBER **56**

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Last plotted by: LeMay, Matthew, C Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 4/24/2026 2:08 PM Plotter used: AutoCAD PDF (General Documentation).pc3

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-121	RWY 12-30	255+62.11	85.05' LT	L-862
RW-122	RWY 12-30	253+63.29	85.05' LT	L-862
RW-123	RWY 12-30	251+64.46	85.05' LT	L-862
RW-124	RWY 12-30	249+65.63	85.05' LT	L-862
RW-125	RWY 12-30	247+66.81	85.05' LT	L-862
RW-126	RWY 12-30	245+67.98	85.05' LT	L-862
RW-127	RWY 12-30	243+69.16	85.05' LT	L-862
RW-128	RWY 12-30	241+70.33	85.05' LT	L-862
RW-129	RWY 12-30	239+71.53	85.17' LT	L-862
RW-130	RWY 12-30	237+72.68	85.05' LT	L-862
RW-131	RWY 12-30	235+73.85	85.05' LT	L-862
RW-132	RWY 12-30	233+75.03	85.05' LT	L-862
RW-133	RWY 12-30	231+76.20	85.05' LT	L-862
RW-134	RWY 12-30	229+77.38	85.05' LT	L-862
RW-135	RWY 12-30	227+78.55	85.05' LT	L-862
RW-136	RWY 12-30	225+79.73	85.05' LT	L-862
RW-137	RWY 12-30	223+80.90	85.05' LT	L-862
RW-138	RWY 12-30	221+82.08	85.05' LT	L-862
RW-139	RWY 12-30	219+83.25	85.05' LT	L-862
RW-140	RWY 12-30	217+84.42	85.05' LT	L-862

RUNWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
RW-141	RWY 12-30	215+85.60	85.05' LT	L-862
RW-142	RWY 12-30	213+86.77	85.05' LT	L-862
RW-143	RWY 12-30	211+87.95	85.05' LT	L-862
RW-144	RWY 12-30	209+89.12	85.05' LT	L-862
RW-145	RWY 12-30	207+90.30	85.05' LT	L-862
RW-146	RWY 12-30	205+91.47	85.05' LT	L-862
RW-147	RWY 12-30	203+92.65	85.05' LT	L-862
RW-148	RWY 12-30	201+93.82	85.05' LT	L-862

REIL LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
R-1	RWY 16-34	100+99.77	149.95' RT	L-849
R-2	RWY 16-34	100+99.76	149.95' LT	L-849
R-3	RWY 16-34	151+15.45	116.34' LT	L-849
R-4	RWY 16-34	151+15.45	116.13' RT	L-849
R-5	RWY 12-30	267+94.68	151.23' RT	L-849
R-6	RWY 12-30	267+94.68	151.23' LT	L-849

JUNCTION STRUCTURE LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	TYPE
J-1	TWY F	301+89.84	95.21' LT	2 CAN PLAZA
J-2	TWY F	301+89.84	93.73' RT	2 CAN PLAZA
J-3	RWY 16-34	132+87.95	95.06' LT	2 CAN PLAZA
J-4	RWY 16-34	135+56.73	95.07' LT	2 CAN PLAZA
J-5	RWY 16-34	141+96.45	128.00' LT	L-867B
J-6	RWY 16-34	143+94.95	128.01' LT	L-867B
J-7	RWY 16-34	142+49.39	119.92' RT	L-867B
J-8	RWY 16-34	140+14.47	119.93' RT	L-867B
J-9	RWY 16-34	133+59.57	99.99' RT	2 CAN PLAZA
J-10	RWY 16-34	130+97.91	94.98' RT	2 CAN PLAZA
J-11	RWY 12-30	218+17.06	95.00' RT	2 CAN PLAZA
J-12	RWY 12-30	218+17.10	95.09' LT	2 CAN PLAZA
J-13	TWY F	321+82.10	101.27' LT	L-867B
J-14	TWY F	320+23.96	94.69' LT	2 CAN PLAZA
J-15	TWY F	320+23.92	93.79' RT	2 CAN PLAZA

TAXIWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
TW-1	TWY F	300+15.19	32.33' LT	L-861T
TW-2	TWY F	300+52.64	9.80' RT	L-861T
TW-3	TWY F	301+01.91	37.24' RT	L-861T
TW-4	TWY F	301+57.31	46.73' RT	L-861T
TW-5	TWY F	302+07.39	46.56' RT	L-861T
TW-6	TWY F	303+42.73	46.52' RT	L-861T
TW-7	TWY F	305+25.70	46.49' RT	L-861T
TW-8	TWY F	307+09.62	46.85' RT	L-861T
TW-9	TWY F	308+94.74	47.09' RT	L-861T
TW-10	TWY F	310+77.30	46.93' RT	L-861T
TW-11	TWY F	312+61.93	46.91' RT	L-861T
TW-12	TWY F	314+45.08	46.85' RT	L-861T
TW-13	TWY F	316+30.36	47.00' RT	L-861T
TW-14	TWY F	318+13.93	46.95' RT	L-861T
TW-15	TWY F	319+97.99	47.05' RT	L-861T
TW-16	TWY F	321+34.82	47.23' RT	L-861T
TW-17	TWY F	321+85.02	52.64' RT	L-861T
TW-18	TWY F	321+84.38	52.33' LT	L-861T
TW-19	TWY F	321+34.25	48.13' LT	L-861T
TW-20	TWY F	319+98.17	48.14' LT	L-861T

TAXIWAY EDGE LIGHT LOCATION

FIXTURE ID	ALIGNMENT	STATION	OFFSET	FIXTURE TYPE
TW-21	TWY F	318+13.85	48.09' LT	L-861T
TW-22	TWY F	316+29.90	48.14' LT	L-861T
TW-23	TWY F	314+45.58	48.50' LT	L-861T
TW-24	TWY F	312+62.05	48.29' LT	L-861T
TW-25	TWY F	310+77.55	48.19' LT	L-861T
TW-26	TWY F	308+94.13	47.98' LT	L-861T
TW-27	TWY F	307+09.94	48.27' LT	L-861T
TW-28	TWY F	305+26.13	48.26' LT	L-861T
TW-29	TWY F	303+42.53	48.21' LT	L-861T
TW-30	TWY F	302+07.69	48.47' LT	L-861T
TW-31	TWY F	301+57.68	48.61' LT	L-861T
TW-32	TWY F	301+21.92	57.63' LT	L-861T
TW-33	TWY F	300+95.59	83.39' LT	L-861T
TW-34	TWY F	300+84.94	118.57' LT	L-861T
TW-35	RWY 12-30	225+55.19	702.11' LT	L-861T
TW-36	RWY 12-30	226+46.37	702.11' LT	L-861T
TW-37	RWY 12-30	227+36.40	689.15' LT	L-861T
TW-38	RWY 12-30	228+26.19	673.30' LT	L-861T

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS

AIRFIELD LIGHTING REHABILITATION

LIGHTING INSTALLATION DETAILS 14

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
EL514

SHEET NUMBER **57**

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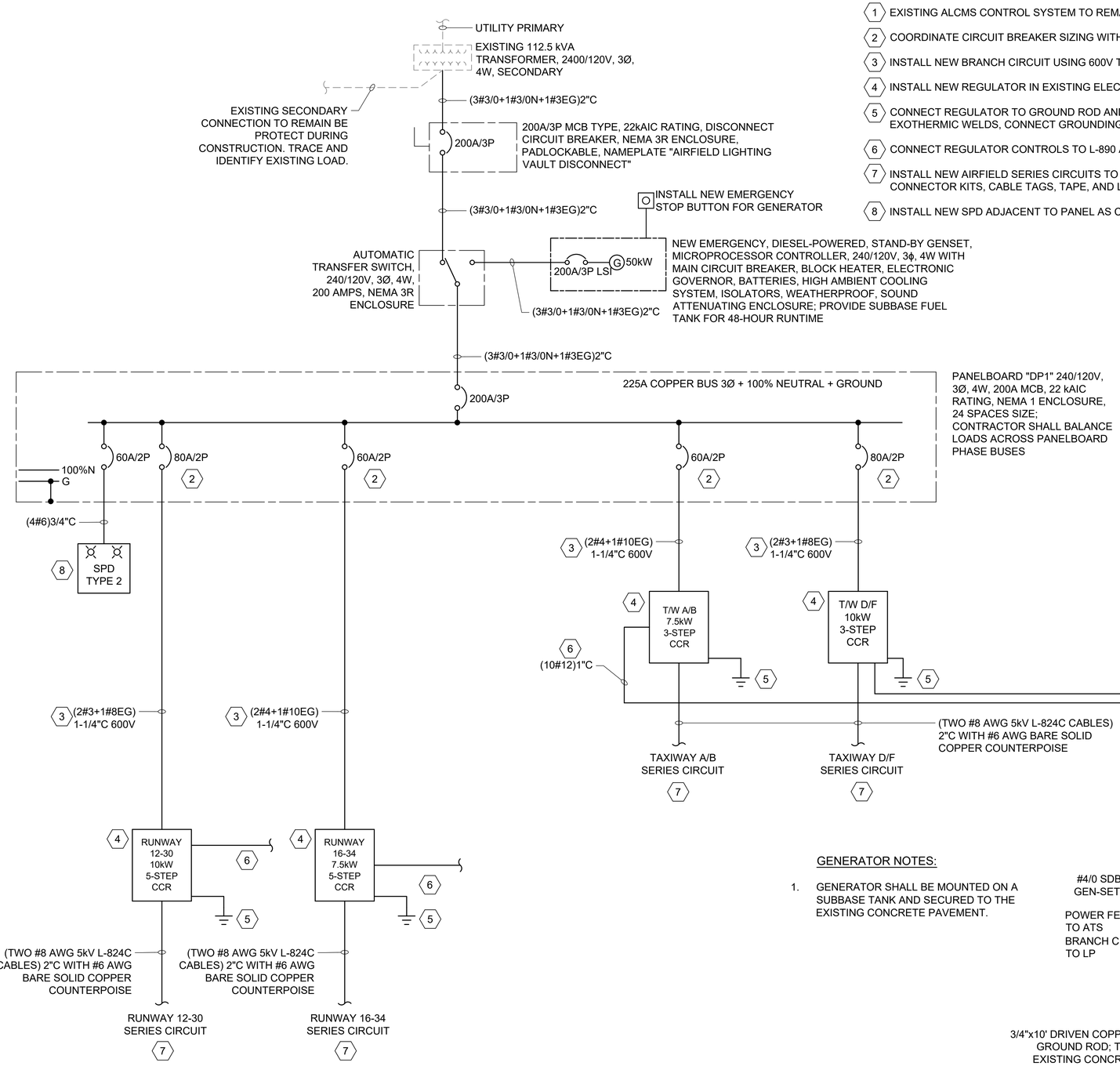


KEYED NOTES:

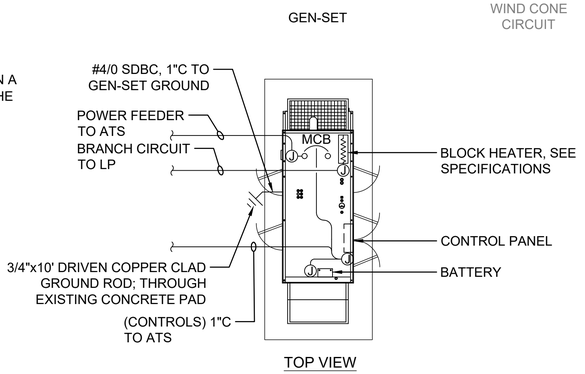
1. EXISTING ALCMS CONTROL SYSTEM TO REMAIN.
2. COORDINATE CIRCUIT BREAKER SIZING WITH REGULATOR MANUFACTURER (TYPICAL).
3. INSTALL NEW BRANCH CIRCUIT USING 600V TYPE THHN / THWN-2 CONDUCTORS (TYPICAL).
4. INSTALL NEW REGULATOR IN EXISTING ELECTRICAL VAULT. MAKE ALL FINAL CONNECTIONS.
5. CONNECT REGULATOR TO GROUND ROD AND COUNTERPOISE SYSTEM USING 1#6 AWG SDBC AND EXOTHERMIC WELDS, CONNECT GROUNDING SYSTEM TO BUILDING STEEL IN MINIMUM 2 PLACES.
6. CONNECT REGULATOR CONTROLS TO L-890 ALCMS CONTROL PANEL, MAKE ALL FINAL CONNECTIONS.
7. INSTALL NEW AIRFIELD SERIES CIRCUITS TO EQUIPMENT, MAKE ALL FINAL CONNECTIONS. INSTALL ALL CONNECTOR KITS, CABLE TAGS, TAPE, AND LABELS FOR COMPLETE SYSTEM.
8. INSTALL NEW SPD ADJACENT TO PANEL AS CLOSE AS POSSIBLE TO ITS CIRCUIT BREAKER.

LEGEND:

X X X X	REMOVE
- - - - - - - -	EXISTING
————	NEW
CCR	CONSTANT CURRENT REGULATOR
FDS	FUSED DISCONNECT SWITCH
GRSC	GALVANIZED RIGID STEEL CONDUIT
HOA	HAND-OFF-AUTO
LA	LIGHTNING ARRESTER
PEC	PHOTOELECTRIC CELL
PVC	POLYVINYL CHLORIDE
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
NFDS	NON-FUSED DISCONNECT SWITCH
SDBC	SOFT DRAWN BARE COPPER
SPD	SURGE PROTECTIVE DEVICE
TC	TIME CLOCK
ALCMS	AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM

GENERATOR NOTES:

1. GENERATOR SHALL BE MOUNTED ON A SUBBASE TANK AND SECURED TO THE EXISTING CONCRETE PAVEMENT.



1 EL601 — ONE-LINE DIAGRAM
SCALE: NONE

2 EL601 — GENERATOR INSTALLATION DETAIL
SCALE: NONE

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REGISTRATION NO. F-5713

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER
Digitally Signed 04/24/2026

REV.	DATE	DESCRIPTION	BY

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TEXAS
AIRFIELD LIGHTING REHABILITATION

ELECTRICAL VAULT ONE-LINE DIAGRAM

JOB NO.: 2400880
DATE: APR 2026
DESIGNED BY: MCL
DRAWN BY: CCC

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SHEET NUMBER **58**

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OFFER AND ACCEPTANCE FORM
OFFER TO CONTRACT

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer.

We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): 1, 2, 3, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

Marsh Waterproofing Inc.

Company Name

240 S Main ST, Suite 2

Address

Vidor TX 77662

City State Zip

Tim Marsh

Signature of Person Authorized to Sign

Tim Marsh

Printed Name

President

Title

For clarification of this offer, contact:

Tim Marsh - President

Name & Title

409-769-0459 409-769-1682

Phone Fax

office@marshwaterproofing.com

E-mail

REQUIRED FORM
Bidder: Please complete this form and include with bid submission.

ACCEPTANCE OF OFFER

The Offer is hereby accepted for the following items: Roofing Renovations to Jefferson County Courthouse

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as Contract No. IFB 26-021/MR, Roofing Renovations to Jefferson County courthouse. The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

COUNTERSIGNED:

5-19-2026

Jeff R. Branick, County Judge — **Date**
JEFFERSON COUNTY, TEXAS

ATTEST:

5-19-26

Roxanne Acosta Hellberg, County Clerk — **Date**
JEFFERSON COUNTY, TEXAS

COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS

Preliminary Tabulation
(IFB 26-021/MR) Roofing Renovations to Jefferson County Courthouse
Bid Opening: May 6, 2026

Item Description	Preferred Facilities Group, USA Amount	Preferred Facilities Group, USA Working Calendar Days	Texas Liqua Tech Services Amount	Texas Liqua Tech Services Working Calendar Days	Marsh Waterproofing Inc. Amount	Marsh Waterproofing Inc. Working Calendar Days	F.W. Walton, Inc. Amount	F.W. Walton, Inc. Working Calendar Days
Base Bid - Roofing Renovations to Jefferson County Courthouse	$ 433,000.00	No Response	$ 321,884.00	90	$ 245,000.00	180	$ 464,547.00	75
Alternative 1: Provide & Install new skylight system	$ 117,019.00		$ 172,368.00		$ 145,000.00		$ 132,716.00	
Unit Price No. 1: 22 ga. Galvanized Hook Strip (per 10 lf)	$ 20.00		$ 50.00		$ 50.00		$ 20.00	
Totals	$ 550,019.00		$ 494,252.00		$ 390,000.00		$ 597,263.00	

Preferred Facilities Group, USA, LLC	Texas Liqua Tech Services, Inc.	Marsh Waterproofing, Inc.	F.W. Walton, Inc.
P.O. Box 20658	1819 Milby St.	240 S Main St, Suite 2	8340 Mosley Road
Beaumont, TX 77720	Houston, TX 77003	Vidor, TX 77662	Houston, TX 77075
Attn: Michael Waidley	Attn: Charles Small	Attn: Tim Marsh	Attn: Tony Walton
409-842-8293	713-225-5325	409-769-0459	713-674-9777
pfg@pfg-usa.com	charles@liqatech.com	office@marshwaterproofing.com	twalton@fwwalton.com

Jefferson County makes no claim that this bid tabulation represents anything other than the information read aloud at the public opening. The County has not checked the bids for errors, or made any determinations that the solicitations meet all requirements. In the case of a discrepancy between information on this tabulation and the original hard-copy document, the original hard copy shall prevail.

CONTRACT RENEWAL FOR IFB 24-019/MR
TERM CONTRACT FOR MARINE MOTOR FUEL FOR JEFFERSON COUNTY

The County entered into a contract with Tri-Con, Inc. for one (1) year, from July 2, 2024 to July 1, 2025, with an option to renew the contract for up to a five (5) year period.

Pursuant to the contract, Jefferson County hereby exercises its second (1) one-year option to renew the contract for one (1) additional year from June 30, 2026 to June 29, 2027.

ATTEST:

Roxanne Acosta Hellberg, County Clerk

JEFFERSON COUNTY, TEXAS

Jeff Branick, County Judge

COMMISSIONERS COURT JEFFERSON COUNTY, TEXAS

CONTRACTOR:
Tri-Con, Inc.

Jody Spoonemore
(Name)

JEFFERSON COUNTY PURCHASING DEPARTMENT
Deborah Clark, Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 Phone: 409-835-8593 Fax: 409-835-8456

MEMORANDUM

To: Commissioners' Court

From: Deborah Clark
Purchasing Agent

Date: May 19, 2026

Re: Disposal of Salvage Property

Consider and approve, execute, receive and file disposition of salvage property as authorized by Local Government Code §263.152 (3), for broken or obsolete items.

Thank you.

JEFFERSON COUNTY, TEXAS
1149 PEARL STREET
BEAUMONT, TX 77701

DISPOSAL OF SALVAGE PROPERTY

May 19, 2026

DEPARTMENT	DESCRIPTION OF PROPERTY	SERIAL NO.	ASSET NO.
CONSTABLE PCT. 6	SHREDDER FELLOWES	291427	32734
CONSTABLE PCT. 6	ACROPRINT TIME/DATE STAMP	359982	34353
contact person: Samantha Redeaux			
J.P. PCT. 4	BROTHER EM-630 TYPEWRITER	L58194466	
contact person: Donna Picou			

COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS

ATTEST _____

DATE 5/19/26

Approved by Commissioners' Court: _____

JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	90400267		Unrepairable
Kenwood Radio	90400314		Unrepairable
Kenwood Radio	B1702556		Unrepairable
Kenwood Radio	B3800278		Unrepairable
Kenwood Radio	90700067		Unrepairable
Kenwood Radio	80300556		Unrepairable
Kenwood Radio	B6310489		Unrepairable
Kenwood Radio	60400087		Unrepairable

JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	B2A01284		Unrepairable
Kenwood Radio	80300603		Unrepairable
Kenwood Radio	B2400128		Unrepairable
Kenwood Radio	B1702553		Unrepairable
Kenwood Radio	B3A00833		Unrepairable
Kenwood Radio	60400291		Unrepairable
Kenwood Radio	B5100254		Unrepairable
Kenwood Radio	90800194		Unrepairable

340

JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	B5813267		Unrepairable
Kenwood Radio	90400288		Unrepairable
Kenwood Radio	B0400261		Unrepairable
Kenwood Radio	90700021		Unrepairable
Kenwood Radio	70200160		Unrepairable
Kenwood Radio	40202483		Unrepairable
Kenwood Radio	70200173		Unrepairable
Kenwood Radio	B1201814		Unrepairable

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JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	60700631		Unrepairable
Kenwood Radio	50303265		Unrepairable
Kenwood Radio	40202486		Unrepairable
Kenwood Radio	70200175		Unrepairable
Kenwood Radio	71000944		Unrepairable
Kenwood Radio	B0400259		Unrepairable
Kenwood Radio	20600319		Unrepairable
Kenwood Radio	60400083		Unrepairable

342

JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	80300619		Unrepairable
Kenwood Radio	50900164		Unrepairable
Kenwood Radio	B3A00837		Unrepairable
Kenwood Radio	80300596		Unrepairable
Kenwood Radio	20600657		Unrepairable
Kenwood Radio	33800274		Unrepairable
Kenwood Radio	B3800274		Unrepairable
Kenwood Radio	51202906		Unrepairable

JEFFERSON COUNTY PURCHASING DEPARTMENT

DISPOSAL OF SALVAGE PROPERTY

Date: 05-01-26

Department: Sheriff - Correctional facility

Contact Person: Captain Kenneth Harrell

Phone: 409-726-2555

Fax:

Department Head Approval:

Approved in Com. Court:

Description of Property	Serial No.	Asset No.	Condition of Property
Kenwood Radio	50900165		Unrepairable
Kenwood Radio	70200169		Unrepairable
Kenwood Radio	B5100257		Unrepairable
Kenwood Radio	B2A01002		Unrepairable
Kenwood Radio	80300682		Unrepairable
Kenwood Radio	B5100259		Unrepairable
Kenwood Radio	90700149		Unrepairable
Kenwood Radio	90700241		Unrepairable

JEFFERSON COUNTY PURCHASING DEPARTMENT

Deborah Clark, Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 Phone: 409-835-8593 Fax: 409-835-8456

MEMORANDUM

To: Commissioners' Court

From: Deborah Clark
Purchasing Agent

Date: May 19, 2026

Re: Disposal of Scrap Property

Consider and approve, execute, receive and file disposal of scrap metal property. Scrap property to be transported to a metal salvage company and there sold for such price as it may command and return funds to the County.

Thank you.

JEFFERSON COUNTY, TEXAS
1149 PEARL STREET
BEAUMONT, TX 77701

DISPOSAL OF SCRAP MATERIALS

May 19, 2026

DEPARTMENT	DESCRIPTION OF PROPERTY	VIN	ASSET NO.
CORRECTIONAL FACILITY	240 FLOOR MOUNTED BUNKS		
contact person: Captain Kenneth Harrell			
VETERAN SERVICE	ROTATING FILE CABINET		2124
VETERAN SERVICE	ROTATING FILE CABINET		2031
VETERAN SERVICE	ROTATING FILE CABINET		2125
VETERAN SERVICE	ROTATING FILE CABINET		
VETERAN SERVICE	ROTATING FILE CABINET		
contact person: Pamela Miller			

COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS

ATTEST _____
DATE 5/19/26

Approved by Commissioners' Court: _____

NAME	AMOUNT	CHECK NO. 346	TOTAL
JURY FUND			
DAWN DONUTS	87.00	539431	
CHAPMAN VENDING	229.75	539464	
			316.75**
ROAD & BRIDGE PCT.#1			
BEAUMONT TRACTOR COMPANY	2,317.57	539301	
ENTERGY	570.43	539324	
M&D SUPPLY	162.36	539334	
SEABREEZE CULVERT, INC.	95.00	539343	
ACE IMAGEWEAR	25.44	539346	
SOUTHERN TIRE MART, LLC	807.80	539369	
MOTOROLA SOLUTIONS INC	13,316.70	539372	
TRAILER HITCH DEPOT	35.00	539376	
UNITED STATES POSTAL SERVICE	1.03	539384	
ADVANCE AUTO PARTS	252.07	539419	
REPUBLIC SERVICES # 862	73.61	539430	
WALLER COUNTY ASPHALT	3,794.87	539434	
BEARCOM / KAY ELECTRONICS	222.96	539453	
EQUIPMENTSHARE.COM, INC	742.32	539459	
			22,417.16**
ROAD & BRIDGE PCT.#2			
BEAUMONT TRACTOR COMPANY	71.78	539301	
EASTEX RUBBER & GASKET	266.67	539312	
ENTERGY	600.90	539324	
RITTER @ HOME	11.58	539341	
SETZER HARDWARE, INC.	30.22	539344	
ACE IMAGEWEAR	20.76	539346	
S.E. TEXAS BUILDING SERVICE	520.00	539347	
AT&T	98.08	539361	
SOUTHERN TIRE MART, LLC	380.00	539369	
ASCO	1,288.67	539420	
REPUBLIC SERVICES # 862	83.13	539430	
BASE-SEAL INTERNATIONAL INC	1,980.00	539455	
AMAZON CAPITAL SERVICES	12.34	539481	
			5,364.13**
ROAD & BRIDGE PCT. # 3			
CINTAS, INC.	135.00	539304	
CITY OF PORT ARTHUR - WATER DEPT.	89.20	539306	
S.E. TEXAS BUILDING SERVICE	162.50	539347	
LOWE'S HOME CENTERS, INC.	702.69	539387	
CENTERPOINT ENERGY RESOURCES CORP	64.56	539395	
SAM'S CLUB DIRECT	173.30	539416	
SOUTHEAST TEXAS PARTS AND EQUIPMENT	293.71	539423	
MARTIN MARIETTA MATERIALS	11,104.36	539428	
REPUBLIC SERVICES # 862	73.61	539430	
ALL TERRAIN EQUIPMENT CO	296.92	539440	
TEXAS ASSOCIATION OF COUNTIES	85.00	539442	
GFL ENVIRONMENTAL	844.64	539496	
			14,025.49**
ROAD & BRIDGE PCT.#4			
CINTAS, INC.	131.71	539304	
M&D SUPPLY	111.89	539334	
SOUTHEAST TEXAS WATER	149.35	539356	
AT&T	56.04	539361	
TRI-CON, INC.	2,321.64	539366	
NATALIE ROBERTS	176.18	539402	
ON TIME TIRE	577.00	539415	
REPUBLIC SERVICES # 862	226.45	539430	
O'REILLY AUTO PARTS	2,284.29	539448	
AMERICAN WELDING AND GAS INC	169.34	539508	
			6,203.89**
ENGINEERING FUND			
VERIZON WIRELESS	111.60	539380	
FUNCTION 4 LLC	106.05	539437	
			217.65**
PARKS & RECREATION			

NAME	AMOUNT	CHECK NO. 347	TOTAL
CITY OF PORT ARTHUR - WATER DEPT.	75.66	539307	
ENTERGY	1,160.96	539324	
LOWE'S HOME CENTERS, INC.	238.14	539387	
SAM'S CLUB DIRECT	340.76	539416	
			1,815.52**
GENERAL FUND			
TAX OFFICE			
ACE IMAGEWEAR	44.70	539346	
SOUTHEAST TEXAS WATER	153.20	539354	
UNITED STATES POSTAL SERVICE	385.02	539384	
ROCHESTER ARMORED CAR CO INC	378.40	539407	
REPUBLIC SERVICES # 862	36.80	539430	
ODP BUSINESS SOLUTIONS, LLC	675.25	539475	
			1,673.37*
COUNTY HUMAN RESOURCES			
UNITED STATES POSTAL SERVICE	14.14	539384	
BAPTIST PHYSICIAN NETWORK	252.00	539386	
BLUE TRITON BRANDS INC	94.96	539503	
SIMPLIVERIFIED LLC	320.65	539509	
			681.75*
AUDITOR'S OFFICE			
SOUTHEAST TEXAS WATER	44.95	539357	
UNITED STATES POSTAL SERVICE	11.94	539384	
DANNA O'QUINN	26.10	539466	
US BANK NATIONAL ASSOCIATION	164.67	539505	
			247.66*
COUNTY CLERK			
JEFFERSON CTY. CLERK	10.50	539296	
FED EX	32.92	539317	
UNITED STATES POSTAL SERVICE	236.33	539384	
FUNCTION 4 LLC	374.00	539437	
ODP BUSINESS SOLUTIONS, LLC	225.16	539475	
AMAZON CAPITAL SERVICES	93.57	539481	
			972.48*
COUNTY JUDGE			
CHEROKEE COUNTY CLERK	890.00	539309	
TERI DAIGLE, CSR, RPR	200.00	539377	
UNITED STATES POSTAL SERVICE	3.54	539384	
GREGORY LAW FIRM	500.00	539411	
GREGORY LAW FIRM	500.00	539412	
MCGRIFF INSURANCE SERVICES, INC	71.00	539476	
THE LAW OFFICE OF CHRISTY L CAUTHEN	500.00	539487	
US BANK NATIONAL ASSOCIATION	463.00	539505	
			3,127.54*
RISK MANAGEMENT			
UNITED STATES POSTAL SERVICE	4.12	539384	
			4.12*
COUNTY TREASURER			
UNITED STATES POSTAL SERVICE	229.83	539384	
			229.83*
PRINTING DEPARTMENT			
FUNCTION 4 LLC	254.10	539437	
BOSWORTH PAPERS	276.80	539460	
			530.90*
PURCHASING DEPARTMENT			
UNITED STATES POSTAL SERVICE	5.18	539384	
CINTAS CORPORATION	111.40	539433	
FUNCTION 4 LLC	46.97	539437	
			163.55*
GENERAL SERVICES			
SPINDLETOP MHMR	38,984.75	539333	
SOUTHEAST TEXAS WATER	45.45	539359	

NAME	AMOUNT	CHECK NO.[348]	TOTAL
ROCHESTER ARMORED CAR CO INC	6,049.78	539407	
BOSWORTH PAPERS	2,740.00	539460	
MCGRIFF INSURANCE SERVICES, INC	4,608.35	539476	
OUTDOOR MANAGEMENT SERVICES	8,500.00	539495	
			60,928.33*
VOTERS REGISTRATION DEPT			
CDW COMPUTER CENTERS, INC.	806.55	539373	
UNITED STATES POSTAL SERVICE	934.01	539384	
			1,740.56*
ELECTIONS DEPARTMENT			
UNITED STATES POSTAL SERVICE	62.00	539384	
AT&T MOBILITY	1,646.07	539429	
AMG PRINTING & MAILING LLC	63.32	539439	
ODP BUSINESS SOLUTIONS, LLC	400.43	539475	
			2,171.82*
DISTRICT ATTORNEY			
FED EX	17.48	539316	
TEXAS DISTRICT & COUNTY ATTY ASSN.	1,000.00	539362	
UNITED STATES POSTAL SERVICE	111.95	539384	
RAYMOND SHEARER	216.50	539443	
ODP BUSINESS SOLUTIONS, LLC	287.66	539475	
AMAZON CAPITAL SERVICES	151.75	539481	
TOMMY COLEMAN	286.80	539484	
US BANK NATIONAL ASSOCIATION	892.79	539505	
ALTON BAISE	21.98	539511	
FARAH NIXON	500.00	539512	
			3,486.91*
DISTRICT CLERK			
FAST SIGNS, INC.	37.45	539315	
KIRKSEY'S SPRINT PRINTING	26.95	539332	
UNITED STATES POSTAL SERVICE	381.81	539384	
FUNCTION 4 LLC	600.00	539437	
			1,046.21*
CRIMINAL DISTRICT COURT			
DONALD W. DUESLER & ASSOC.	8,750.00	539311	
MARSHA NORMAND	8,750.00	539337	
KEVIN S. LAINE	4,375.00	539371	
JOHN D WEST	8,750.00	539379	
JASON ROBERT NICKS	4,375.00	539405	
TURK LAW FIRM	8,750.00	539418	
RAEGAN MINALDI	8,750.00	539493	
US BANK NATIONAL ASSOCIATION	695.00	539505	
			53,195.00*
58TH DISTRICT COURT			
SOUTHEAST TEXAS WATER	44.95	539358	
UNITED STATES POSTAL SERVICE	1.48	539384	
			46.43*
136TH DISTRICT COURT			
LEXIS-NEXIS	125.00	539385	
			125.00*
252ND DISTRICT COURT			
DOUGLAS M. BARLOW, ATTORNEY AT LAW	2,662.50	539300	
WENDELL RADFORD	900.00	539340	
KEVIN S. LAINE	4,375.00	539371	
CHARLES ROJAS	8,750.00	539375	
UNITED STATES POSTAL SERVICE	1.48	539384	
JASON ROBERT NICKS	4,375.00	539405	
ALLEN PARKER	8,750.00	539406	
BRITTANIE HOLMES	8,750.00	539417	
MARVIN LEWIS JR	8,750.00	539451	
UNITED STATES TREASURY	1,417.00	539489	
PRICE PLLC	4,000.00	539515	
			52,730.98*
279TH DISTRICT COURT			

NAME	AMOUNT	CHECK NO.[349]	TOTAL
ALISA RAUMAKER, CSR	163.40	539298	
RANDY SHELTON	353.00	539345	
SOUTHEAST TEXAS WATER	27.45	539360	
KELLEY BURNS	2,114.70	539478	
			2,658.55*
317TH DISTRICT COURT			
PHILLIP DOWDEN	325.00	539299	
A. MARK FAGGARD	1,050.00	539313	
WENDELL RADFORD	325.00	539340	
SOUTHEAST TEXAS WATER	79.07	539348	
			1,779.07*
JUSTICE COURT-PCT 1 PL 1			
SOUTHEAST TEXAS WATER	45.45	539352	
UNITED STATES POSTAL SERVICE	83.91	539384	
			129.36*
JUSTICE COURT-PCT 1 PL 2			
UNITED STATES POSTAL SERVICE	40.92	539384	
			40.92*
JUSTICE COURT-PCT 2			
THOMSON REUTERS-WEST	137.38	539421	
ODP BUSINESS SOLUTIONS, LLC	463.30	539475	
			600.68*
JUSTICE COURT-PCT 4			
AT&T	56.04	539361	
ODP BUSINESS SOLUTIONS, LLC	198.76	539475	
			254.80*
JUSTICE COURT-PCT 6			
UNITED STATES POSTAL SERVICE	60.84	539384	
DIRECTV, LLC	111.99	539468	
			172.83*
JUSTICE COURT-PCT 7			
ODP BUSINESS SOLUTIONS, LLC	50.97	539475	
			50.97*
JUSTICE OF PEACE PCT. 8			
CASH ADVANCE ACCOUNT	498.65	539331	
			498.65*
COUNTY COURT AT LAW NO.1			
SOUTHEAST TEXAS WATER	63.20	539351	
UNITED STATES POSTAL SERVICE	28.86	539384	
			92.06*
COUNTY COURT AT LAW NO. 2			
TODD W LEBLANC	350.00	539297	
CHARLES ROJAS	425.00	539375	
UNITED STATES POSTAL SERVICE	2.96	539384	
LANGSTON ADAMS	425.00	539388	
JOEL WEBB VAZQUEZ	425.00	539392	
LAURIE PEROZZO	350.00	539404	
JENNIFER DELAGE	350.00	539435	
LAW OFFICE OF GILES R COLE & ASSOC	825.00	539462	
UNITED STATES TREASURY	2,250.00	539489	
			5,402.96*
COUNTY COURT AT LAW NO. 3			
TODD W LEBLANC	425.00	539297	
JENNIFER DELAGE	1,525.00	539435	
			1,950.00*
COURT MASTER			
SOUTHEAST TEXAS WATER	38.95	539349	
			38.95*
MEDIATION CENTER			
TREVIPAY	418.33	539506	
			418.33*
COMMUNITY SUPERVISION			

NAME	AMOUNT	CHECK NO.	TOTAL
WARREN EQUIPMENT CO.	3,992.00	539367	
			3,992.00*
SHERIFF'S DEPARTMENT			
FED EX	12.29	539319	
W.W. GRAINGER, INC.	1,171.36	539321	
ENTERGY	687.96	539324	
AT&T	147.12	539361	
CDW COMPUTER CENTERS, INC.	13,297.40	539373	
UNITED STATES POSTAL SERVICE	1,515.69	539384	
HERRERA'S EMERGENCY LIGHTING	900.00	539389	
AIRPORT GULF TOWING LLC	255.00	539396	
RITA HURT	325.00	539414	
GALLS LLC	4,571.12	539427	
REPUBLIC SERVICES # 862	73.61	539430	
LAKE COUNTRY CHEVROLET, INC.	22,236.94	539445	
ODP BUSINESS SOLUTIONS, LLC	704.10	539475	
AMAZON CAPITAL SERVICES	2,200.32	539481	
BEAUMONT OCCUPATIONAL SERVICES	75.90	539485	
KOTZ TOWING AND RECOVERY	375.00	539513	
			48,548.81*
CRIME LABORATORY			
SOUTHEAST TEXAS WATER	84.90	539355	
THERMAL SCIENTIFIC, INC.	334.37	539364	
			419.27*
JAIL - NO. 2			
CITY OF BEAUMONT - WATER DEPT.	16.00	539305	
AT&T	39.88	539361	
TEXAS JAIL ASSOCIATION	378.00	539363	
REPUBLIC SERVICES # 862	5,943.52	539430	
LASALLE CORRECTIONS VI LLC	18,975.00	539450	
US BANK NATIONAL ASSOCIATION	625.00	539505	
			25,977.40*
JUVENILE PROBATION DEPT.			
UNITED STATES POSTAL SERVICE	18.20	539384	
			18.20*
JUVENILE DETENTION HOME			
CASH ADVANCE ACCOUNT	225.07	539331	
CHARMTEX INC.	444.00	539390	
BEN E KEITH COMPANY	4,226.14	539391	
A1 FILTER SERVICE COMPANY	359.00	539413	
AMERICAN RED CROSS	294.00	539426	
REPUBLIC SERVICES # 862	519.60	539430	
ADVANTAGE INTERESTS INC	868.06	539441	
BIG THICKET PLUMBING INC	1,071.55	539444	
LA COSTA DENTAL OF PORT ARTHUR PA	35.00	539447	
			8,042.42*
CONSTABLE PCT 1			
UNITED STATES POSTAL SERVICE	100.52	539384	
US BANK NATIONAL ASSOCIATION	1,052.18	539505	
			1,152.70*
CONSTABLE-PCT 2			
CASH ADVANCE ACCOUNT	207.00	539331	
			207.00*
CONSTABLE-PCT 4			
CASH ADVANCE ACCOUNT	541.60	539331	
AT&T	56.04	539361	
DISH NETWORK	99.43	539399	
EASTEX TACTICAL	1,600.89	539501	
US BANK NATIONAL ASSOCIATION	395.00	539505	
			2,692.96*
CONSTABLE-PCT 6			
GT DISTRIBUTORS, INC.	49.99	539320	
CASH ADVANCE ACCOUNT	354.90	539331	
UNITED STATES POSTAL SERVICE	4.73	539384	

NAME	AMOUNT	CHECK NO.[351]	TOTAL
TRANSUNION RISK AND ALTERNATIVE	120.00	539425	
			529.62*
CONSTABLE PCT. 8			
KIRKSEY'S SPRINT PRINTING	26.25	539332	
BLUE TRITON BRANDS INC	66.97	539502	
			93.22*
AGRICULTURE EXTENSION SVC			
SOUTHEAST TEXAS WATER	38.45	539353	
DAVID OATES	375.20	539432	
US BANK NATIONAL ASSOCIATION	90.00	539505	
TREVIPAY	59.44	539506	
			563.09*
HEALTH AND WELFARE NO. 1			
BROUSSARD'S MORTUARY	1,262.00	539302	
ENTERGY	70.00	539327	
UNITED STATES POSTAL SERVICE	75.55	539384	
EZEA D EDE MD	3,647.95	539457	
LISA WASHINGTON	247.95	539480	
			5,303.45*
HEALTH AND WELFARE NO. 2			
ENTERGY	70.00	539328	
EZEA D EDE MD	3,647.95	539457	
CHARTER COMMUNICATIONS	170.89	539473	
ODP BUSINESS SOLUTIONS, LLC	356.97	539475	
			4,245.81*
NURSE PRACTITIONER			
MCKESSON MEDICAL-SURGICAL INC	57.11	539374	
LESLIE RIGGS	166.75	539424	
SERVET MUHITTIN SATIR	1,000.00	539463	
			1,223.86*
INDIGENT MEDICAL SERVICES			
LOCAL GOVERNMENT SOLUTIONS LP	4,048.00	539400	
CARDINAL HEALTH 110 INC	11,735.33	539422	
			15,783.33*
EMERGENCY MANAGEMENT			
VERIZON WIRELESS	150.00	539382	
HERRERA'S EMERGENCY LIGHTING	810.00	539389	
TREVIPAY	39.54	539506	
			999.54*
MAINTENANCE-BEAUMONT			
W.W. GRAINGER, INC.	181.86	539321	
GRAYBAR ELECTRIC COMPANY, INC.	98.00	539322	
KIRKSEY'S SPRINT PRINTING	9.25	539332	
SANITARY SUPPLY, INC.	1,517.71	539342	
ACE IMAGEWEAR	256.22	539346	
TEXAS FIRE & COMMUNICATIONS	360.00	539378	
ALLIANCE MECHANICAL SERVICES	70,450.00	539393	
FIRETROL PROTECTION SYSTEMS INC	1,040.00	539403	
REPUBLIC SERVICES # 862	1,558.80	539430	
CINTAS CORPORATION	154.38	539433	
AMAZON CAPITAL SERVICES	61.02	539481	
SOUTHWESTERN PAINT&WALLPAPER CO INC	97.92	539482	
MASSEY SERVICES INC	163.00	539494	
			75,948.16*
MAINTENANCE-PORT ARTHUR			
ENTERGY	5,344.64	539324	
S.E. TEXAS BUILDING SERVICE	5,000.00	539347	
CHARTER COMMUNICATIONS	125.28	539471	
			10,469.92*
MAINTENANCE-MID COUNTY			
ENTERGY	2,159.43	539324	
RITTER @ HOME	99.99	539341	
SETZER HARDWARE, INC.	42.98	539344	

NAME	AMOUNT	CHECK NO.[352]	TOTAL
S.E. TEXAS BUILDING SERVICE	3,608.32	539347	
TRIANGLE BLUE PRINT CO., INC.	100.00	539365	
REPUBLIC SERVICES # 862	83.13	539430	
			6,093.85*
SERVICE CENTER			
CHUCK'S WRECKER SERVICE	145.00	539303	
DELL MARKETING L.P.	1,690.71	539310	
HI-LINE	685.14	539329	
J.K. CHEVROLET CO.	1,311.75	539330	
AT&T	98.08	539361	
TRI-CON, INC.	32,984.77	539366	
BUMPER TO BUMPER	1,279.15	539394	
MIGHTY OF SOUTHEAST TEXAS	95.04	539409	
ADVANCE AUTO PARTS	143.76	539419	
REPUBLIC SERVICES # 862	83.13	539430	
MIDNIGHT AUTO	359.85	539436	
US BANK NATIONAL ASSOCIATION	138.00	539505	
			39,014.38*
VETERANS SERVICE			
UNITED STATES POSTAL SERVICE	2.72	539384	
BLUE TRITON BRANDS INC	88.28	539504	
			91.00*
			448,600.56**
MOSQUITO CONTROL FUND			
CITY OF NEDERLAND	50.09	539308	
FALCON CREST AVIATION SUPPLY, INC.	446.97	539314	
ENTERGY	396.49	539324	
PHILPOTT MOTORS, INC.	39.55	539339	
ACE IMAGEWEAR	428.85	539346	
REPUBLIC SERVICES # 862	83.13	539430	
ALL TERRAIN EQUIPMENT CO	155.15	539440	
PARKER'S BUILDING SUPPLY	32.97	539479	
			1,633.20**
J.C. FAMILY TREATMENT			
MARY BEVIL	25.00	539456	
			25.00**
SECURITY FEE FUND			
GALLS LLC	107.89	539427	
			107.89**
SHSP/CCP2005/RURAL LAW EN			
LAKE COUNTRY CHEVROLET, INC.	41,338.31	539445	
PROFORCE LAW ENFORCEMENT	14,612.04	539467	
			55,950.35**
EMPG GRANT			
VERIZON WIRELESS	59.75	539382	
FUNCTION 4 LLC	368.13	539437	
			427.88**
JUVENILE PROB & DET. FUND			
VERIZON WIRELESS	65.55	539381	
			65.55**
COMMUNITY SUPERVISION FND			
PEGGY HARRISON	65.95	539370	
UNITED STATES POSTAL SERVICE	45.88	539384	
LOCAL GOVERNMENT SOLUTIONS LP	7,662.00	539400	
JCCSC	175.00	539408	
HEATHER MCGALLION	33.20	539410	
LLOYD GOSSELINK ROCHELLE & TOWNSEND	877.50	539449	
CHARTER COMMUNICATIONS	134.72	539472	
ODP BUSINESS SOLUTIONS, LLC	213.44	539475	
BAK GLOBAL LLC	200.00	539483	
LANGUAGELINE SOLUTIONS	25.62	539499	
			9,433.31**
COUNTY RECORDS MANAGEMENT			

NAME	AMOUNT	CHECK NO.[353]	TOTAL
ODP BUSINESS SOLUTIONS, LLC	45.28	539475	
AMAZON CAPITAL SERVICES	689.99	539481	
			735.27**
HURRICANE LEPC GRANTS			
US BANK NATIONAL ASSOCIATION	1,200.00	539505	
			1,200.00**
DEPUTY SHERIFF EDUCATION			
US BANK NATIONAL ASSOCIATION	395.00	539505	
			395.00**
CONST. PCT. 6 EDUCATION			
CASH ADVANCE ACCOUNT	1,445.94	539331	
			1,445.94**
HOTEL OCCUPANCY TAX FUND			
CINTAS, INC.	66.72	539304	
AT&T	112.06	539361	
ALLIANCE MECHANICAL SERVICES	449.92	539393	
DISH NETWORK	146.44	539398	
REPUBLIC SERVICES # 862	83.13	539430	
FUNCTION 4 LLC	281.75	539437	
COTTON CARGO	200.00	539454	
PLUMBING SOLUTIONS	200.00	539465	
GEORGE WEST	28.28	539470	
OUTFRONT MEDIA LLC	15,697.50	539488	
			17,265.80**
DISTRICT CLK RECORDS MGMT			
RMC IMAGING INC	17,748.00	539510	
			17,748.00**
AIRPORT FUND			
BEAUMONT TRACTOR COMPANY	7,845.04	539301	
FED EX	8.87	539318	
ENTERGY	13,054.84	539326	
NOACK LOCKSMITH	12.00	539336	
S.E. TEXAS BUILDING SERVICE	5,868.34	539347	
AT&T	451.28	539361	
WORTH HYDROCHEM OF THE GULF COAST	180.00	539368	
LOWE'S HOME CENTERS, INC.	15.57	539387	
BELT SOURCE	289.87	539397	
SOUTHEAST TEXAS PARTS AND EQUIPMENT	172.94	539423	
REPUBLIC SERVICES # 862	415.66	539430	
HARTJE GRAHAM AIR CONDITIONING	1,405.85	539446	
TITAN AVIATION FUELS	131,482.95	539452	
BLUEGLOBES, LLC	2,124.00	539477	
AMAZON CAPITAL SERVICES	41.76	539481	
MOWERS MORE INC	148.68	539498	
HD SUPPLY FACILITIES MAINTENANCE	446.94	539507	
			163,964.59**
SE TX EMP. BENEFIT POOL			
RETIREE FIRST	231,728.54	539490	
MEDICAL REVIEW INSTITUTE OF AMERICA	746.57	539491	
LANTERN SPECIALTY CARE	2,270.00	539500	
			234,745.11**
SETEC FUND			
HB NEILD AND SONS INC	910.00	539335	
REPUBLIC SERVICES # 862	3,390.00	539430	
			4,300.00**
LANGUAGE ACCESS FUND			
MASTERWORD SERVICES, INC	1,161.03	539469	
RUBEN ZAPATA	600.00	539486	
			1,761.03**
ARPA CORONAVIRUS RECOVERY			
NUTRITION & SERVICES FOR SENIORS	2,537.50	539338	
TIDAL BASIN GOVERNMENT CONSULTING	21,043.75	539458	
PREFERRED FACILITIES GROUP-USA, LLC	413,870.70	539461	

NAME	AMOUNT	CHECK NO.354	TOTAL
CARDINAL MEADOWS IMPROVEMENT DISTRI	217,836.89	539492	
GUARDIANSHIP FEE			655,288.84**
FRIENDS FOR LIFE	6,300.00	539497	
APPELLATE JUDICIAL SYSTEM			6,300.00**
9TH COURT OF APPEALS	2,375.00	539401	
MARINE DIVISION			2,375.00**
W.W. GRAINGER, INC.	596.95	539321	
ENTERGY	676.70	539324	
RITTER @ HOME	11.58	539341	
SETZER HARDWARE, INC.	2.32	539344	
SOUTHEAST TEXAS WATER	71.45	539350	
AT&T	118.44	539361	
BUMPER TO BUMPER	60.78	539394	
GALLS LLC	8,100.00	539427	
FERGUSON ENTERPRISES INC	16.33	539438	
SHERIFF - COMMISSARY			9,654.55**
NORTHERN JET SALES LLC	200,000.00	539514	
			200,000.00**
			1,883,783.46***

Resolution

STATE OF TEXAS	§	COMMISSIONERS COURT
	§	
COUNTY OF JEFFERSON	§	OF JEFFERSON COUNTY, TEXAS

BE IT REMEMBERED at a meeting of Commissioners' Court of Jefferson County, Texas, held on the 19th day of May, 2026, on motion made and duly seconded, the following Resolution was adopted:

In Recognition of Bonnie Eloise Rush Milam and in support of her nomination for a Congressional Gold Medal

WHEREAS Bonnie Eloise Rush Milam devoted her life to serving others through patriotism, leadership, music, and community service; and

WHEREAS, as founder and director of the internationally renowned Melody Maids of Beaumont, Texas, Mrs. Milam inspired and mentored generations of young women while bringing encouragement, hope, and goodwill to United States military personnel throughout the world from World War II through the Vietnam era; and

WHEREAS Mrs. Milam was affectionately known in military circles as a "petite atom bomb in a hoop skirt" in recognition of her tireless dedication, spirited leadership, and unwavering support of America's servicemen and women; and

WHEREAS, Mrs. Milam and the Melody Maids became recognized as Beaumont's Ambassadors of Goodwill, uplifting troops at home and abroad and inspiring countless individuals "to be better, to do better, and to live better"; and

WHEREAS, Mrs. Milam's enduring legacy is reflected in the lives of more than 1,500 Melody Maids and their descendants, who continue to embody her teachings of service, manners, morality, music, and civic responsibility; and

WHEREAS the extraordinary humanitarian contributions and patriotic service of Bonnie Eloise Rush Milam merit national recognition and distinction;

NOW, THEREFORE, BE IT RESOLVED that the Commissioners Court of Jefferson County, Texas, hereby honors and recognizes Bonnie Eloise Rush Milam for her extraordinary service, enduring legacy, and immeasurable contributions to her community, state, and nation, and proudly expresses its support for her nomination to receive the Congressional Gold Medal.

SIGNED this 19th day of May, 2026.

JUDGE JEFF R. BRANICK
County Judge

COMMISSIONER BRANDON WILLIS
Precinct No. 1

COMMISSIONER MICHAEL S. SINEGAL
Precinct No. 3

COMMISSIONER CARY ERICKSON
Precinct No. 2

COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

Proclamation

STATE OF TEXAS	§	COMMISSIONERS' COURT
	§	
COUNTY OF JEFFERSON	§	OF JEFFERSON COUNTY, TEXAS

BE IT REMEMBERED at a meeting of Commissioners' Court of Jefferson County, Texas, held on the 19th day of May, 2026, on motion made and seconded, the following Proclamation was adopted:

DRUG TREATMENT COURT

WHEREAS according to ALL RISE, treatment courts are the most successful justice system intervention in our nation's history for reducing crime by addressing substance use and mental health disorders; and

WHEREAS treatment courts save an average of more than $6,000 for every individual they serve; and

WHEREAS treatment courts provide a range of economic benefits to a community, such as reduced costs in court and prison expenditures, increased tax revenues, lowered foster care expenses, and decreased costs related to victimization; and

WHEREAS treatment courts combine accountability with evidence-based treatment; and

WHEREAS treatment courts annually refer more than 150,000 people to lifesaving treatment and recovery support services in community-wide partnerships together; and

WHEREAS according to All Rise, treatment courts significantly improve substance use and mental health disorder treatment outcomes and prevent fatal overdoses; and

WHEREAS treatment courts facilitate community-wide partnerships, bringing together public safety and public health; and

WHEREAS there are now more than 4,000 treatment courts nationwide; and

WHEREAS treatment courts demonstrate that when one person rises, we all rise.

THEREFORE, BE IT Proclaimed, that Jefferson County Commissioners Court declares that Drug Treatment Court Month be established during the month of May.

SIGNED this 19th day of May, 2026.

JUDGE JEFF R. BRANICK
County Judge

COMMISSIONER BRANDON WILLIS
Precinct No. 1

COMMISSIONER MICHAEL S. SINEGAL
Precinct No. 3

COMMISSIONER CARY ERICKSON
Precinct No. 2

COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

Clint Turner
Chief Deputy
E-Mail
Clint.Turner@jeffcotx.us

Tim Funchess
County Treasurer
1149 Pearl Street – Basement
Beaumont, Texas 77701

Office (409) 835-8509
Fax (409) 839-2347
E-Mail
tim.funchess@jeffcotx.us

May 12, 2026

Judge Jeff R. Branick and
Commissioners Court
Jefferson County Courthouse
Beaumont, Texas 77701

Gentlemen:

Enclosed is the Investment Schedule as of April 30, 2026, including interest earnings.

The weighted average yield to maturity on the County's investments is 3.882%. The 90 day Treasury discount rate on April 30, 2026 was 3.59% and the interest on your checking accounts for the month of April was 3.36%

Included in the attached report are the balances for the County's pledged collateral.

This report meets the requirements for investment officers in compliance with the Texas Government Code. Title 10, Section 2256.023.

This should be on the agenda May 19, 2026, to be received and filed.

Sincerely,

Tim Funchess

Tim Funchess,CCT,CIO
Enclosure

Agenda should read:
Receive and File Investment Schedule for April, 2026,
including the year to date total earnings on County funds.

JEFFERSON COUNTY
MONTH END APRIL 30, 2026 INVESTMENT SCHEDULE

SECURITY DESCRIPTION	SETTLEMENT DATE	PAR AMOUNT	AMOUNT PAID	PRICE PAID	EXP. YIELD	MATURITY Date	CALL DATE	# Days to mat	# Days Invested	CUSIP/C.D. NUMBER	BROKER DEALER	CURRENT VALUE	Current Price
INVESTMENTS													
TEXAS CLASS		$20,000,000.00	$20,000,000.00	100	3.540%		NONE			TX-01-0485-4001	TEXAS CLASS	$20,000,000.00	
CDs and Securities													
FAMCA 3.83%	22-Jan-26	$10,000,000.00	$10,000,000.00	100	3.830%	22-Jan-29	22-Jan-27	998	1096	31424W6X5	NATIONAL ALLIANCE	$9,876,100.00	$98.7610
FNMA 3.875%	26-Feb-26	$10,000,000.00	$10,000,000.00	100	3.875%	26-Feb-29	26-Aug-26	1033	1096	3136GCP66	NATIONAL ALLIANCE	$9,930,100.00	$99.3010
FFCB 3.94%	16-Mar-26	$5,000,000.00	$5,000,000.00	100	3.940%	16-Mar-29	16-Sep-26	1051	1096	3133EWGR5	NATIONAL ALLIANCE	$4,974,400.00	$99.4880
FNMA 4.11%	27-Mar-25	$5,300,000.00	$5,300,000.00	100	4.110%	24-Mar-28	24-Mar-27	694	1093	3136GADG1	NATIONAL ALLIANCE	$5,295,336.00	$99.9120
FNMA 4.01% (NEW)	23-Apr-26	$5,000,000.00	$5,000,000.00	100	4.010%	23-Apr-29	23-Oct-26	1089	1096	3136GD5D1	NATIONAL ALLIANCE	$4,981,700.00	$99.6340
FFCB 4.30%	30-Jun-25	$5,000,000.00	$5,000,000.00	100	4.300%	30-Jun-28	30-Jun-26	792	1096	3133ETMX2	NATIONAL ALLIANCE	$4,990,700.00	$99.8140
FHLB 4.25%	22-May-25	$4,105,000.00	$4,105,000.00	100	4.250%	22-Nov-27	22-May-26	571	914	3130B6JZ0	NATIONAL ALLIANCE	$4,103,481.15	$99.9630
FHLB 4.25%	14-Aug-25	$3,000,000.00	$3,000,000.00	100	4.250%	14-Aug-28	14-Aug-26	837	1096	3130B7BL7	NATIONAL ALLIANCE	$2,997,600.00	$99.9200
FHLB 4.00%	06-Nov-25	$5,000,000.00	$5,000,000.00	100	4.000%	06-Nov-28	06-May-26	921	1096	3130B8H39	NATIONAL ALLIANCE	$4,985,650.00	$99.7130

	TOTAL PAR	AMT. INVESTED	WEIGHTED AVG. YLD	EQUIVALENT TREAS. RATE	WEIGHTED AVG.	MATURITY	TOTAL MARKET VALUE
INVESTMENT ACCTS	$20,000,000.00	$20,000,000.00					$20,000,000.00
CDs and Securities	$52,405,000.00	$52,405,000.00	3.882%	3.910%	664	DAYS	$52,135,067.15
TOTALS ALL ACCTS:	$72,405,000.00	$72,405,000.00					$72,135,067.15

PLEDGE COLLATERAL REPORT STELLAR BANK
ALL COUNTY FUNDS
AS OF APRIL 30, 2026

MARKET VALUE OF PLEDGE SECURITIES	$250,000,000.00
BALANCE IN ALL ACCOUNTS:	$196,320,543.14
OVER OR (UNDER) AMOUNT:	$53,679,456.86
	127.34%

COMPLIANCE STATEMENT

This in an unaudited statement made in accordance with provisions of Government Code Title 10 Section 2256.023 The Public Funds Investment Act
The investment portfolios of Jefferson County comply with the strategies in the Jefferson County Investment Policy and Procedures.

Tim Funchess

Tim Funchess, Jefferson County Treasurer/ Investment Officer

APRIL 2026, JEFFERSON COUNTY INVESTMENT MATURITIES
MATURED SECURITIES AND INTEREST EARNED

SECURITY DESCRIPTION	PURCHASE DATE	PAR AMOUNT	AMOUNT INVESTED	PRICE PAID	EXPECT. YIELD	MATURITY DATE	Coupon Pay DATE	# DAYS INVEST.	CUSIP/C.D. NUMBER	BROKER DEALER	INTEREST EARNINGS	
INVESTMENTS												
TEXAS CLASS	02-Apr-25	$20,000,000.00	$20,000,000.00	100	3.539%		05-May-26				$58,300.12	
FHLB 4.25%	25-Oct-24	$1,700,000.00	$1,700,000.00	100	4.250%	22-Oct-27	22-Apr-26	1092	3130B3G72	NATIONAL ALLIANCE	$36,125.00	CALLED
FHLB 4.20%	25-Oct-24	$3,300,000.00	$3,300,000.00	100	4.200%	22-Oct-27	22-Apr-26	1092	3130B3FG3	NATIONAL ALLIANCE	$69,300.00	CALLED
CHECKING INTEREST												$163,725.12
POOLED CASH ACCT		APRIL INTEREST			3.36%			30	1004221717	STELLAR BANK	$420,790.43	
OTHER COUNTY ACCTS		APRIL INTEREST			3.36%			30		STELLAR BANK	$31,698.55	
TAX LICENSE ACCT		APRIL INTEREST			3.36%			30	1004224083	STELLAR BANK	$2,133.77	
TOTAL		$25,000,000.00	$25,000,000.00									$454,622.75
											$618,347.87	$618,347.87

FISCAL YEAR 2025-2026

YIELD TO MATURITY AND INTEREST EARNINGS

MONTH	90 DAY T. BILL RATE	INVESTMENT INTEREST EARNED	CHECKING ACCOUNT YIELD	TEXAS CLASS INTEREST	TEXAS CLASS YIELD
OCTOBER	3.730%	$483,448.31	3.610%		
NOVEMBER	3.730%	$547,156.23	3.480%		
DECEMBER	3.570%	$688,671.87	3.480%		
JANUARY	3.580%	$777,996.12	3.320%		
FEBRUARY	3.590%	$952,106.59	3.330%		
MARCH	3.610%	$781,503.65	3.340%		
APRIL	3.590%	$618,347.87	3.360%		
ANNUAL TOTALS		**$4,849,230.64**		**$0.00**	**$4,849,230.64**