

BRAZORIA COUNTY
PURCHASING DEPARTMENT



SUSAN P. SERRANO, CPPO, CPPB
Purchasing Director

April 14, 2026

McDonald Municipal & Industrial – A Division of C.F. McDonal Electric, Inc.
Attn: Wayne Berkenmeier
5044 Timber Creek Drive
Houston, TX 77017
WaynaB@mcdonaldinc.com

Re: Award for RFP #26-22 Terminal Building Standby Generator Project

Dear Mr. Berkenmeier:

Brazoria County is pleased to inform you that on April 14, 2026, Commissioners' Court awarded the above listed project to your company.

The term of this contract shall be effective upon execution by the County Judge and shall continue until completion of the project as stated in the Offer Sheet.

A purchase order and /or notice to proceed will follow. Do not proceed with delivery of services or materials prior to receiving a purchase order number from Brazoria Country.

A Certificate of Interested Parties, Form 1295 is required. Vendors are to log onto the Texas Ethics Commission's website https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm and fill out Form 1295. Once the form is completed online, the system will issue a certificate number. Please print, sign the form, and email it to Amanda Erickson at aerickson@brazoriacountytx.gov.

In addition, per Texas Local Government Code 176, completion of the Conflict of Interest Questionnaire, Form CIQ, is required if applicable. You may access the form and further information on our website at <http://brazoriacountytx.gov/departments/purchasing> under the Doing Business section, Conflict of Interest Reporting.

Per Texas Local Government Code Chapters 808, 809, and 2274, completion of the Boycott Verification Form is required, if applicable. You may access the form and further information on our website at <http://brazoriacountytx.gov/departments/purchasing> under the Doing Business section.

Please email the CIQ and Boycott Verification Form to Amanda Erickson at aerickson@brazoriacountytx.gov.

As a reminder, a copy of a current certificate of insurance shall be due to Brazoria County within ten (10) calendar days after receipt of notification of award. The contract shall not become effective until the certificate of insurance is received. Failure to provide said certificate may result in cancellation and/or termination of the contract. Please have the certificate of insurance names Brazoria County as an additional insured and a waiver of subrogation applies in favor of Brazoria County.

Per the solicitation, a performance and payment bond are required and due prior to the start of the project.

Thank you for your interest in Brazoria County. If you have any questions, please do not hesitate to contact me.

Very truly yours,

Natasha Stulberg, CPPB
Brazoria County Purchasing Director

Brazoria County Courthouse Campus Administration Building
237 E. Locust Street, Suite 406 - Angleton, TX 77515
(979) 864-1825

BRAZORIA COUNTY CONTRACT SHEET

THE STATE OF TEXAS
COUNTY OF BRAZORIA

This memorandum of agreement made and entered into on the 23rd day of September 2025, by and between Brazoria County in the State of Texas (hereinafter designated County), acting herein by County Judge L.M. "Matt" Sebesta, Jr., by virtue of an order of Brazoria County Commissioners' Court, and McDonald Municipal & Industrial – A Division of C.F. McDonal Electric, Inc of Houston, Texas.

WITNESSETH:

The Vendor and the County agree that the Instructions to Respondents, Specifications/Statement of Work, Standard Terms & Conditions, and all other requirements herein for **RFP #26-22 Terminal Building Standby Generator Project** as stated in the Request for Proposals Table of Contents hereto attached and made a part hereof, together with the bond (when required), vendor's response and negotiated pricing, shall constitute the full agreement and Contract between parties and for furnishing the items set out and described; the County agrees to pay the prices stipulated in the accepted offer.

The order of precedence shall be:

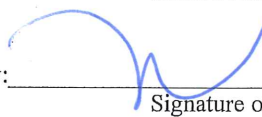
- Brazoria County **RFP #26-22 Terminal Building Standby Generator Project**
- Vendor's submittal to the above listed RFP and the final accepted pricing

It is further agreed that this Contract shall not become binding or effective until signed by the parties hereto and a purchase order authorizing the items desired has been issued.

Executed at Angleton, Texas this 21st day of May 2026.

By: 
County Judge Signature

By: L.M. "Matt" Sebesta, Jr.
Printed Name

By: 
Signature of Vendor

By: Wayne Berkenmeier - Vice President Special Projects
Printed Name and Title

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

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 CERTIFICATION OF FILING

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

McDonald Municipal & Industrial A Division of C.F. McDonald Electric, Inc.
Houston, TX United States

Certificate Number:
2026-1459995

Date Filed:
05/11/2026

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

Brazoria County

Date Acknowledged:
5/14/2026

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.

RFP #26-22
Terminal Building Standby Generator Project

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Stephenson, Larry	Houston, TX United States	X	
	Keller, Harry	Houston, TX United States	X	
	Berkenmeier, Wayne	Houston, TX United States	X	
	Dollar, Diane	Houston, TX United States	X	

5 Check only if there is NO Interested Party.

☐

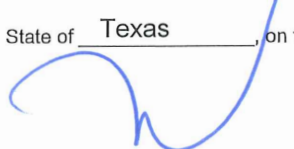
6 UNSWORN DECLARATION

My name is Wayne Berkenmeier, and my date of birth is 05/15/1970.

My address is 5044 Timber Creek Drive, Houston, Texas 77017 USA
(city) (state) (zip code) (country)

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

Executed in Harris County, State of Texas, on the 14th day of May, 2026.
(month) (year)



Signature of authorized agent of contracting business entity
(Declarant)

Boycott Verification

This verification is required pursuant to Sections 808, 809, 2271, and 2274 (87(R) Senate Bill 13 and 19 versions) of the Texas Government Code:

Definitions:

1. Per Government Code Chapter 808, "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 for ordinary business purpose
2. Per Government Code Chapter 809, "Boycott energy company" means, without an ordinary business purpose, 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 with a company because the company:
 - (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or
 - (B) does business with a company described by Paragraph (A).
3. Per Government Code Chapter 2274 (87(R) Senate Bill 19), "Discriminate against a firearm entity or firearm trade association":
 - (A) means, with respect to the entity or association, to:
 - (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association;
 - (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association;
 - (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association;
4. "Company" has the meaning assigned by Texas Government Code Sections 808.001(2), 809.001(2), and 2274.001(2) (87(R) Senate Bill 19).

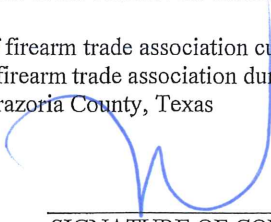
This verification is only required for a contract that is between a governmental entity and a company with 10 or more full-time employees; and has a value of \$100,000 or more that is to be paid wholly or partly from public funds of the governmental entity. If your contract value or number of employees does not reach that threshold, please provide a written certification of the contract amount and number of employees.

I, Wayne Berkenmeier (Person name), the undersigned representative of (Company or Business Name) McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc. (hereinafter referred to as Company) being an adult over the age of eighteen (18) years of age, do hereby depose and verify under oath that the company named-above,

- (A) does not boycott Israel currently;
- (B) will not boycott Israel during the term of the contract the named Company, business or individual with Brazoria County Texas, Texas;
- (C) does not boycott energy companies currently;
- (D) will not boycott energy companies during the term of the contract the named Company, business or individual with Brazoria County, Texas;
- (E) does not discriminate against a firearm entity of firearm trade association currently; and
- (F) will not discriminate against a firearm entity of firearm trade association during the term of the contract the named Company, business or individual with Brazoria County, Texas

05/14/2026

DATE


SIGNATURE OF COMPANY REPRESENTATIVE

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

FORM CIQ

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.

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

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 is being disclosed.

NONE

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer 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 or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes

☒ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with 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.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 _____
Signature of vendor doing business with the governmental entity

05/14/2026

Date



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
03/30/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Risk Services - Leavitt Insurance Agencies 2190 North Loop West #309 Houston TX 77018		CONTACT NAME: Stephanie Castle, CIC, ACSR, AINS PHONE (A/C, No, Ext): (713) 581-2102 FAX (A/C, No): (866) 699-9142 E-MAIL ADDRESS: stephanie-castle@leavitt.com																						
INSURED C F McDonald Electric Inc 5044 Timber Creek Drive Houston TX 77017		<table border="1"><thead><tr><th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A:</td><td>Phoenix Insurance Company</td><td>25623</td></tr><tr><td>INSURER B:</td><td>Travelers Indemnity Company of America</td><td>25666</td></tr><tr><td>INSURER C:</td><td>Travelers Property Casualty Company of America</td><td>25674</td></tr><tr><td>INSURER D:</td><td>Travelers Indemnity Company of CT</td><td>25682</td></tr><tr><td>INSURER E:</td><td>St Paul Surplus Lines Insurance Company</td><td>30481</td></tr><tr><td>INSURER F:</td><td></td><td></td></tr></tbody></table>		INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A:	Phoenix Insurance Company	25623	INSURER B:	Travelers Indemnity Company of America	25666	INSURER C:	Travelers Property Casualty Company of America	25674	INSURER D:	Travelers Indemnity Company of CT	25682	INSURER E:	St Paul Surplus Lines Insurance Company	30481	INSURER F:		
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INSURER F:																								

COVERAGES

CERTIFICATE NUMBER: 26-27 COI

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS														
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☐ LOC ☐ OTHER:		DT-CO-A9854158-PHX-26	04/01/2026	04/01/2027	<table border="1"><tr><td>EACH OCCURRENCE</td><td>\$ 1,000,000</td></tr><tr><td>DAMAGE TO RENTED PREMISES (Ea occurrence)</td><td>\$ 300,000</td></tr><tr><td>MED EXP (Any one person)</td><td>\$ 5,000</td></tr><tr><td>PERSONAL & ADV INJURY</td><td>\$ 1,000,000</td></tr><tr><td>GENERAL AGGREGATE</td><td>\$ 2,000,000</td></tr><tr><td>PRODUCTS - COMP/OP AGG</td><td>\$ 2,000,000</td></tr><tr><td></td><td>\$</td></tr></table>	EACH OCCURRENCE	\$ 1,000,000	DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000	MED EXP (Any one person)	\$ 5,000	PERSONAL & ADV INJURY	\$ 1,000,000	GENERAL AGGREGATE	\$ 2,000,000	PRODUCTS - COMP/OP AGG	\$ 2,000,000		\$
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GENERAL AGGREGATE	\$ 2,000,000																			
PRODUCTS - COMP/OP AGG	\$ 2,000,000																			
	\$																			
B	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ HIRED AUTOS ONLY ☒ Incl HNO ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS ONLY		810-A9854331-26-26-G	04/01/2026	04/01/2027	<table border="1"><tr><td>COMBINED SINGLE LIMIT (Ea accident)</td><td>\$ 1,000,000</td></tr><tr><td>BODILY INJURY (Per person)</td><td>\$</td></tr><tr><td>BODILY INJURY (Per accident)</td><td>\$</td></tr><tr><td>PROPERTY DAMAGE (Per accident)</td><td>\$</td></tr><tr><td></td><td>\$</td></tr></table>	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000	BODILY INJURY (Per person)	\$	BODILY INJURY (Per accident)	\$	PROPERTY DAMAGE (Per accident)	\$		\$				
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	\$																			
C	☒ UMBRELLA LIAB ☒ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☒ RETENTION \$ 10,000		CUP-C5295657-26-NF	04/01/2026	04/01/2027	<table border="1"><tr><td>EACH OCCURRENCE</td><td>\$ 10,000,000</td></tr><tr><td>AGGREGATE</td><td>\$ 10,000,000</td></tr><tr><td></td><td>\$</td></tr></table>	EACH OCCURRENCE	\$ 10,000,000	AGGREGATE	\$ 10,000,000		\$								
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AGGREGATE	\$ 10,000,000																			
	\$																			
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N ☒ N	N/A	UB-A985440A-26-26-G	04/01/2026	04/01/2027	<table border="1"><tr><td>☒ PER STATUTE ☐ OTH-ER</td><td></td></tr><tr><td>E.L. EACH ACCIDENT</td><td>\$ 1,000,000</td></tr><tr><td>E.L. DISEASE - EA EMPLOYEE</td><td>\$ 1,000,000</td></tr><tr><td>E.L. DISEASE - POLICY LIMIT</td><td>\$ 1,000,000</td></tr></table>	☒ PER STATUTE ☐ OTH-ER		E.L. EACH ACCIDENT	\$ 1,000,000	E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000	E.L. DISEASE - POLICY LIMIT	\$ 1,000,000						
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E	Pollution Liability Professional Liability		ZCE-91P01636	04/01/2026	04/01/2027	<table border="1"><tr><td>Pollution - Ea. Condition</td><td>\$10,000,000</td></tr><tr><td>Pollution - Aggregate</td><td>\$10,000,000</td></tr><tr><td>Prof - Ea. Error Omission</td><td>\$2,000,000</td></tr></table>	Pollution - Ea. Condition	\$10,000,000	Pollution - Aggregate	\$10,000,000	Prof - Ea. Error Omission	\$2,000,000								
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DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Terminal Building Standby Generator Project
RFP # 26-22

CERTIFICATE HOLDER

CANCELLATION

Brazoria County 237 E. Locust Angleton TX 77515	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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AGENCY CUSTOMER ID: _____

LOC #: _____



ADDITIONAL REMARKS SCHEDULE

Page ____ of ____

AGENCY Risk Services - Leavitt Insurance Agencies		NAMED INSURED C F McDonald Electric Inc	
POLICY NUMBER			
CARRIER	NAIC CODE		
EFFECTIVE DATE:			

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance: Notes

Complete Named Insured: C F McDonald Electric, Inc. ,
McDonald Municipal & Industrial, A Division of C F McDonald Electric, Inc.

The General Liability, Automobile, Pollution and Umbrella policies include blanket automatic insured endorsement provision that provides additional insured status to the certificate holder only when there is a written contract between the named insured and the certificate holder that requires such status.

The General Liability and Automobile liability policies contain a special endorsement with "Primary and Noncontributory" wording.

The General Liability, Automobile, Pollution, Worker's Compensation and Umbrella policies include a blanket automatic waiver of subrogation endorsement that provides this feature only when there is a written contract between the named insured and the certificate holder that requires it.

The General Liability, Automobile, Worker's Compensation, Pollution and Umbrella policies include a blanket notice of cancellation to certificate holders endorsement, providing for 30 days' notice if the policy is cancelled by the company other than for nonpayment of premium, 10 days' notice after the policy is cancelled for nonpayment of premium. Notice is sent to certificate holders with mailing addresses on file with the agent of the company.

Workers compensation coverage includes maritime and USL&H endorsements.

Pollution coverage includes mold, subject to the policy's exclusions, limits, retentions, terms and conditions.

Umbrella is follow form on underlying policies (General Liability, Automobile, Employers Liability), subject to its own exclusions, terms and conditions.

MERCHANTS
BONDING COMPANY™

MERCHANTS BONDING COMPANY (MUTUAL) P.O. BOX 14498, DES MOINES, IOWA 50306-3498
PHONE: (800) 678-8171 FAX: (515) 243-3854

Performance Bond

Bond No. 101821513

CONTRACTOR:

(Name, legal status and address)

McDonald Municipal and Industrial - A
Division of C.F. McDonald Electric, Inc.
5044 Timber Creek Drive
Houston, TX 77017

OWNER:

(Name, legal status and address)

Brazoria County
237 E. Locust
Angleton, TX 77515

CONSTRUCTION CONTRACT

Date:

Amount: Two hundred ninety-eight thousand, five hundred fifteen and zero cents

Description:

(Name and location)

RFP #26-22 Terminal Building Standby Generator Project

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$298,515.00

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*
McDonald Municipal and Industrial - A Division of
C.F. McDonald Electric, Inc.

Signature: _____

Name Wayne Berkenmeier
and Title: Vice President Special Projects

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Risk Services of Louisiana, Inc dba Risk Services - Leavitt Insurance Agencies
2190 North Loop West, Suite 309
Houston, TX 77018
(713) 581-2102

SURETY

Company: *(Corporate Seal)*
Merchants Bonding Company (Mutual)

Signature: _____

Name Maria Pallares
and Title: Attorney-In-Fact

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

This document combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

Printed in cooperation with American Institute of Architects (AIA). The language in this document conforms exactly to the language used in AIA Document A312-Performance Bond-2010 edition.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract:

§ 5.2 Undertake to perform and complete the Construction Contract itself through its agents or independent contractors:

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4 and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____
(Corporate Seal)

Company: _____
(Corporate Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

Address:

Address:

MERCHANTS
BONDING COMPANY™

MERCHANTS BONDING COMPANY (MUTUAL) P.O. BOX 14498, DES MOINES, IOWA 50306-3498
PHONE: (800) 678-8171 FAX: (515) 243-3854

Payment Bond

Bond No. 101821513

CONTRACTOR:

(Name, legal status and address)

McDonald Municipal and Industrial - A Division of C.F. McDonald
Electric, Inc.
5044 Timber Creek Drive
Houston, TX 77017

OWNER:

(Name, legal status and address)

Brazoria County
237 E. Locust
Angleton, TX 77515

SURETY:

*(Name, legal status and principal place
of business)*

Merchants Bonding Company (Mutual)
6700 Westown Parkway, West Des Moines, Iowa 50266

CONSTRUCTION CONTRACT

Date:

Amount: Two hundred ninety-eight thousand, five hundred fifteen and zero cents

Description:

(Name and location)

RFP #26-22 Terminal Building Standby Generator Project

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$298,515.00

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*
McDonald Municipal and Industrial- A Division of
C.F. McDonald Electric, Inc.

Signature: _____

Name Wayne Berkenmeier
and Title: Vice President Special Projects

SURETY

Company: *(Corporate Seal)*
Merchants Bonding Company (Mutual)

Signature: _____

Name Maria Pallares
and Title: Attorney-In-Fact

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Risk Services of Louisiana, Inc dba Risk Services - Leavitt Insurance Agencies
2190 North Loop West, Suite 309
Houston, TX 77018
(713) 581-2102

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

This document combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

Printed in cooperation with American Institute of Architects (AIA). The language in this document conforms exactly to the language used in AIA Document A312-Payment Bond-2010 edition.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3., the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed: and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2. or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

Signature: _____

Name and Title: _____

Address: _____

MERCHANTS

BONDING COMPANY™

POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, and MERCHANTS NATIONAL INDEMNITY COMPANY, an assumed name of Merchants National Bonding, Inc., (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Amanda Naquin; Lisa Marroquin; Maria Pallares; Randi Meche; Russell Gourgues; Stephanie Castle; Stephanie Lucien; Summer Clay; Vladimir Chemadurov

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the By-Laws adopted by the Board of Directors of the Companies.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

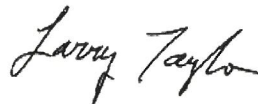
In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner - Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 8th day of September, 2025.

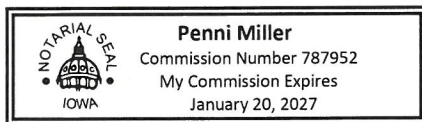


MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.
MERCHANTS NATIONAL INDEMNITY COMPANY

By 

STATE OF IOWA
COUNTY OF DALLAS ss.

On this 8th day of September, 2025, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission
does not invalidate this instrument)


Notary Public

I, Elisabeth Sandersfeld, Secretary of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this _____ day of _____, 2025.




Secretary



MERCHANTS BONDING COMPANY (MUTUAL) • MERCHANTS NATIONAL BONDING, INC.
P.O. Box 14498 • DES MOINES, IOWA 50306-3498 • (800) 678-8171 • (515) 243-3854 FAX

IMPORTANT NOTICE

Have a complaint or need help?

If you have a problem with a claim or your premium, call your insurance company first. If you can't work out the issue, the Texas Department of Insurance may be able to help.

Even if you file a complaint with the Texas Department of Insurance, you should also file a complaint or appeal through your insurance company. If you don't, you may lose your right to appeal.

Merchants Bonding Company (Mutual)

To get information or file a complaint with your insurance company:

Call: Compliance Officer at 800-678-8171

Toll-free: 1-800-678-8171

Email: regulatory@merchantsbonding.com

Mail: P.O. Box 14498, Des Moines, IA 50306-3498

To get insurance information you may also contact your agent:

Risk Services- Leavitt Insurance Agencies

Call: 3184843315

Mail: 2190 North Loop West, Suite 309 Houston, TX 77018

The Texas Department of Insurance

To get help with an insurance question or file a complaint with the state:

Call with a question: 1-800-252-3439

File a complaint: www.tdi.texas.gov

Email: ConsumerProtection@tdi.texas.gov

Mail: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091

BRAZORIA COUNTY RESPONDENT CERTIFICATION FORM

Note: In order to sign the documents electronically and insert an authorized signature into the PDF, you will need to use the latest version of Adobe Reader. Be aware that such a signature will have the full legal force of a handwritten signature under Texas law. Additionally, all documents with company name and authorized/contact person, and their title with the company, must be identical and match the W-9 with the company's legal name. Documents with different company names may be considered non-responsive.

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

LEGAL NAME OF CONTRACTING COMPANY

74-1540453

FEDERAL I.D. # (Company or Corporation)

004928230

DUN & BRADSTREET D-U-N-S NUMBER

TKYJJDMT2D49

SAM.GOV UEI NUMBER

713-921-1368

TELEPHONE NUMBER

713-921-5109

FACSIMILE NUMBER

Wayne Berkenmeier

CONTACT PERSON

Vice President Special Projects

TITLE

5044 Timber Creek Drive

COMPLETE MAILING ADDRESS

Houston, Texas

CITY & STATE

77017

ZIP CODE

5044 Timber Creek Drive

COMPLETE STREET ADDRESS

Houston, Texas

CITY & STATE

77017

ZIP CODE

WayneB@mcdonaldinc.com

EMAIL ADDRESS

CERTIFICATION

By my signature hereon, I certify that the Goods and/or Services that I propose to furnish will meet or exceed every specification contained herein, and that I have read each and every page of the Specifications/Statement of Work, other requirements, as well as, the Standard Terms & Conditions and Bid Table. Further, I agree that if my offer is accepted, I shall perform as required in these Contract documents. I am aware that, once accepted by Brazoria County, my offer becomes a binding Contract in accordance with the provisions herein of the aforementioned Contract documents, and that I will not be permitted to attempt enforcement of any other Contract or Contract provisions.

SIGNATURE

"must be authorized to execute on behalf of company"

01/22/2026

DATE

Wayne Berkenmeier -

Typewritten or Printed Name

Vice President Special Projects

Title

BRAZORIA COUNTY BIDDER/RESPONDENT'S AFFIRMATION

This form must be completed, signed, and returned by Bidder/Respondent

NOTE: FAILURE TO SIGN AND RETURN THIS FORM WITHIN 10 DAYS OF AWARD NOTIFICATION MAY RESULT IN THE TERMINATION OF ANY RESULTING PURCHASE ORDER OR CONTRACT.

1. Bidder/Respondent affirms that they are duly authorized to execute this Contract, that this company, corporation, firm, partnership or individual has not prepared this bid/offer in collusion with any other bidder, and that the contents of this bid/offer as to prices, terms or conditions of said bid/offer have not been communicated by the undersigned nor by any employee or Director to any other person engaged in this type of business prior to the official opening of this bid/offer.
2. Bidder/Respondent hereby assigns to purchaser any and all claims for overcharges associated with this Contract which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and which arise under the antitrust laws of the State of Texas, Tex. Bus. & Com. Code, Section 15.01, et seq.
3. Pursuant to §262.0276 (a) of the Texas Local Government Code and subject to Brazoria County Court Order No. 36 of October 28, 2003, Bidder/Respondent, hereby affirms that Bidder/Respondent:

(Please check all that are applicable)

☒ Does not own taxable property in Brazoria County.

☒ Does not owe any ad valorem taxes to Brazoria County or is not otherwise indebted to Brazoria County.

BIDDER/RESPONDENT'S SDNs/BLOCKED PERSONS AFFIRMATION

Pursuant to §2155.077 of the Texas Government Code and subject to Brazoria County Court Order No19 of August 9, 2005, Bidder/Respondent, hereby affirms that Bidder/Respondent:

(Please check all that are applicable)

☒ Is not excluded from doing business at the federal level.

☒ Is not listed as Specially Designated Nationals (SDN)s/Blocked Persons (individuals and companies owned or controlled by or acting for or on behalf of targeted Countries; or individuals, groups and entities, such as terrorists and narcotics traffickers designated under programs that are not country-specific).

2. Brazoria County may not make procurement transactions with SDNs/Blocked Persons.

If any additional information is required regarding these requirements, please contact The Brazoria County Purchasing Department PRIOR to execution.

Bidder/Respondent Company Name McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

Signature of Company Official
Authorizing the Bid/Offer

Date 01/22/2026

Company Official
(Printed Name) Wayne Berkenmeier

Official's Position Vice President Special Projects

WORKERS' COMPENSATION REQUIREMENTS

BIDDER/RESPONDENT INSTRUCTIONS:

READ THIS ENTIRE DOCUMENT CAREFULLY. FOLLOW ALL INSTRUCTIONS. YOU ARE RESPONSIBLE FOR FULFILLING ALL REQUIREMENTS AND SPECIFICATIONS. BE SURE YOU UNDERSTAND THEM.

The following requirements and specifications supersede all other Requirements where applicable.

Workers' Compensation Insurance Coverage

A. Definitions

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 (TWCC-81, TWCC-82, TWCC-83, or TWCC-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.

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.

Persons providing services on the project ("subcontractor" in §406.096) – includes all persons or entities performing all or part of the services 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, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity or employees of any entity with furnishes persons to provide services on the project. "Services" include, 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.

- B. The contractor shall provide coverage, based on proper 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 employees of the contractor providing services on the project, for the duration of the project.
- C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- D. 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.
- E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
 - (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
 - (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 of coverage ends during the duration of the project.
- F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. 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.
- H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, 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.
- I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
 - (1) provide coverage, base on proper 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 of its employees providing services on the project, for the duration of the project;
 - (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;
 - (3) provide the contractor, prior to the end of the 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;
 - (4) obtain from each other person with whom it contracts, and provide to the contractor:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and

- (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificated of coverage on file for the duration of the project and for one (1) year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew of should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
- (7) contractually require each person with whom it contracts, to perform as required by paragraphs (9.1) - (9.7), with the certificates of coverage to be provided to the person for whom they are providing services.
- J. 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 on 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 of, 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 administration penalties, criminal penalties, civil penalties, or other civil actions.
- K. The contractor's failure to comply with any of these provision 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.

If awarded a contract for RFP #«26-22, by my signature below, I certify that I will provide workers' compensation insurance coverage for each employee employed on this project. I also certify that each of my subcontractors will also provide workers compensation for each employee employed on this project.

SIGNATURE

Wayne Berkenmeier

Typewritten or Printed Name

01/22/2026

DATE

Vice President Special Projects

Title

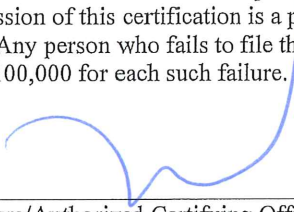
CERTIFICATION REGARDING LOBBYING

Certifications 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 within 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.



Signature/Authorized Certifying Official

Wayne Berkenmeier - Vice President Special Projects

Typed Name and Title

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

Applicant / Organization

01/22/2026

Date Signed

Approved by OMB

0348-0046

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

(See reverse for public burden disclosure)

Type of Federal Action: _____ a. contract _____ b. grant _____ c. cooperative agreement _____ d. loan _____ e. loan guarantee _____ f. loan insurance	Status of Federal Action: _____ a. bid/offer/application _____ b. initial award _____ c. post-award	Report Type: _____ a. initial filing _____ b. material change
Name and Address of Reporting Entity: _____ Prime _____ Subawardee Tier _____, if Known: Congressional District, if known:		If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime: Congressional District, if known:
Federal Department/Agency:		7. Federal Program Name/Description: CFDA Number, if applicable: _____
Federal Action Number, if known:		9. Award Amount, if known: \$ _____
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):		b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI): NONE
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		Signature: _____ Print Name: <u>Wayne Berkenmeier</u> Title: <u>Vice President Special Projects</u> Telephone No.: <u>713-921-1368</u> Date: <u>01/22/2026</u>
Federal Use Only		Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

Note: If this form is not applicable to your company, please mark the form N/A and sign the highlighted signature field above.

VENDOR TO INSERT EXCEPTIONS TO
STANDARD TERMS & CONDITIONS & SPECIAL
REQUIREMENTS HERE (IF APPLICABLE)

 X Company does not have exceptions *(If applicable, check here)*

Or

 Company does have exceptions *(If applicable, check here and list exceptions here for consideration. Brazoria County will review all exceptions listed and will formally communicate as to if any exceptions are accepted by the County. If exceptions are accepted by the County, they will be added in the form of an addendum.)*

NON-COLLUSION AFFIDAVIT

THE STATE OF TEXAS

OWNER, BRAZORIA COUNTY

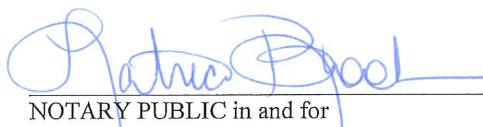
Before me, the undersigned authority, on this day personally appeared Wayne Berkenmeier

who being by me duly sworn upon oath says: that he is duly qualified and authorized to make this affidavit for and on behalf of
McDonald Municipal & Industrial
A Division of C.F. McDonald Electric, Inc. ("Contractor"), of and is fully cognizant of the fact herein set out: that Contractor has
not, either directly or indirectly, entered into any agreement with OWNER in any collusion: or otherwise taken any action in restraint
of free competitive bidding in connection with the contract for the above referenced project.

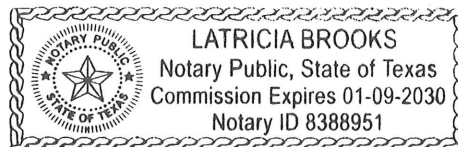


Wayne Berkenmeier - Vice President Special Projects
Name Title

SWORN TO AND SUBSCRIBED BEFORE ME by the said Wayne Berkenmeier, this 22nd day of
January, 2026, to certify which witness my hand and seal of office.



NOTARY PUBLIC in and for
State of Texas
Printed Name: Latricia Brooks
My Commission Expires: 01/09/2030



MERCHANTS BONDING COMPANY™

MERCHANTS BONDING COMPANY (MUTUAL) P.O. BOX 14498, DES MOINES, IOWA 50306-3498
PHONE: (800) 678-8171 FAX: (515) 243-3854

Bid Bond

CONTRACTOR:

(Name, legal status and address)

McDonald Municipal and Industrial - A Division of C.F. McDonald Electric, Inc.
5044 Timber Creek Drive
Houston, TX 77017

OWNER:

(Name, legal status and address)

Brazoria County
237 E. Locust Street, Suite 406
Angleton, TX 77515

BOND AMOUNT: 5 % of Amount Bid

PROJECT:

(Name, location or address, and Project number, if any)

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

Bond Number:

SURETY:

(Name, legal status and principal place of business)

Merchants Bonding Company (Mutual)
A Corporation
6700 Westown Parkway, West Des Moines, IA 50266

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 17th day of December, 2025.

McDonald Municipal and Industrial - A Division of
C.F. McDonald Electric, Inc.

(Witness) Michelle Brooks

(Principal)

Wayne Berkenmeier

(Title)

(Seal)

Vice President Special Projects

(Witness) Stephanie Castle

Merchants Bonding Company (Mutual)

(Surety)

(Seal)

(Title) Maria Pallares

Attorney-in-Fact

CON 0657 (2/15)

Printed in cooperation with American Institute of Architects (AIA). The language in this document conforms exactly to the language used in AIA Document A310-Bid Bond-2010

MERCHANTS BONDING COMPANY™ POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, and MERCHANTS NATIONAL INDEMNITY COMPANY, an assumed name of Merchants National Bonding, Inc., (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Amanda Naquin; Lisa Marroquin; Maria Pallares; Randi Meche; Russell Gourgues; Stephanie Castle; Stephanie Lucien; Summer Clay; Vladimir Chemadurov

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the By-Laws adopted by the Board of Directors of the Companies.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship or obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner - Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 8th day of September, 2025.

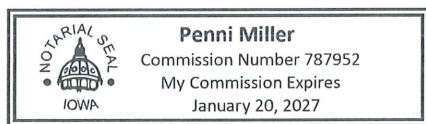


MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.
MERCHANTS NATIONAL INDEMNITY COMPANY

By

STATE OF IOWA
COUNTY OF DALLAS ss.

On this 8th day of September, 2025, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission
does not invalidate this instrument)

Notary Public

I, Elisabeth Sandersfeld, Secretary of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 17th day of December, 2025.



Secretary



MERCHANTS BONDING COMPANY (MUTUAL) • MERCHANTS NATIONAL BONDING, INC.
P.O. BOX 14498 • DES MOINES, IOWA 50306-3498 • (800) 678-8171 • (515) 243-3854 FAX

IMPORTANT NOTICE

Have a complaint or need help?

If you have a problem with a claim or your premium, call your insurance company first. If you can't work out the issue, the Texas Department of Insurance may be able to help.

Even if you file a complaint with the Texas Department of Insurance, you should also file a complaint or appeal through your insurance company. If you don't, you may lose your right to appeal.

Merchants Bonding Company (Mutual)

To get information or file a complaint with your insurance company:

Call: Compliance Officer at 800-678-8171

Toll-free: 1-800-678-8171

Email: regulatory@merchantsbonding.com

Mail: P.O. Box 14498, Des Moines, IA 50306-3498

To get insurance information you may also contact your agent:

Risk Services- Leavitt Insurance Agencies

Call: 3184843315

Mail: 2190 North Loop West, Suite 309 Houston, TX 77018

The Texas Department of Insurance

To get help with an insurance question or file a complaint with the state:

Call with a question: 1-800-252-3439

File a complaint: www.tdi.texas.gov

Email: ConsumerProtection@tdi.texas.gov

Mail: MC 111-1A, P.O. Box 149091, Austin, TX 78714-9091



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

12/17/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Risk Services of Louisiana 333 Texas Street, Suite 1000 Shreveport LA 71101	CONTACT NAME: Michelle McCall PHONE (A/C, No, Ext): (318) 797-2422 FAX (A/C, No): (318) 795-4892 E-MAIL ADDRESS: michelle-mccall@leavitt.com																					
INSURED C F McDonald Electric Inc McDonald Municipal & Industrial 5044 Timber Creek Drive Houston TX 77017	<table><tr><th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr><tr><td>INSURER A:</td><td>The Phoenix Insurance Company</td><td>25623</td></tr><tr><td>INSURER B:</td><td>The Charter Oak Fire Insurance Company</td><td>25615</td></tr><tr><td>INSURER C:</td><td>Travelers Indemnity Company of Connecticut</td><td>25682</td></tr><tr><td>INSURER D:</td><td>St Paul Surplus Lines Insurance Company</td><td>30481</td></tr><tr><td>INSURER E:</td><td>Travelers Property Casualty Co. of America</td><td>25674</td></tr><tr><td>INSURER F:</td><td></td><td></td></tr></table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A:	The Phoenix Insurance Company	25623	INSURER B:	The Charter Oak Fire Insurance Company	25615	INSURER C:	Travelers Indemnity Company of Connecticut	25682	INSURER D:	St Paul Surplus Lines Insurance Company	30481	INSURER E:	Travelers Property Casualty Co. of America	25674	INSURER F:		
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INSURER E:	Travelers Property Casualty Co. of America	25674																				
INSURER F:																						

COVERAGES**CERTIFICATE NUMBER:** 2025 LIAB**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☒ LOC OTHER:			DT-CO-A9854158-PHX	04/01/2025	04/01/2026	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS ONLY			810-A9854331	04/01/2025	04/01/2026	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
E	☒ UMBRELLA LIAB ☒ EXCESS LIAB DED RETENTION \$			CUP-B1-693789-25-MF	04/01/2025	04/01/2026	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	UB00A985440A	04/01/2025	04/01/2026	☒ PER STATUTE E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	Professional Liability Pollution Liability			ZCE016R04646-25-SK	04/01/2025	04/01/2026	Prof each error omission 1,000,000 Poll - each condition 10,000,000 Poll aggregate 10,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Terminal Building Standby Generator Project
RFP # 26-22**CERTIFICATE HOLDER****CANCELLATION**Brazoria County
237 E. Locust Street Ste 406

Angleton

TX 77515

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

AGENCY CUSTOMER ID: _____

LOC #: _____

**ADDITIONAL REMARKS SCHEDULE**

Page ____ of ____

AGENCY Risk Services of Louisiana		NAMED INSURED C F McDonald Electric Inc	
POLICY NUMBER		EFFECTIVE DATE:	
CARRIER	NAIC CODE		

ADDITIONAL REMARKS**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,****FORM NUMBER:** 25 **FORM TITLE:** Certificate of Liability Insurance: Notes

Complete Named Insured: C F McDonald Electric, Inc. ,
McDonald Municipal & Industrial, A Division of C F McDonald Electric, Inc.

The General Liability, Automobile, Pollution and Umbrella policies include blanket automatic insured endorsement provision that provides additional insured status to the certificate holder only when there is a written contract between the named insured and the certificate holder that requires such status.

The General Liability and Automobile liability policies contain a special endorsement with "Primary and Noncontributory" wording.

The General Liability, Automobile, Pollution, Worker's Compensation and Umbrella policies include a blanket automatic waiver of subrogation endorsement that provides this feature only when there is a written contract between the named insured and the certificate holder that requires it.

The General Liability, Automobile, Worker's Compensation and Umbrella policies include a blanket notice of cancellation to certificate holders endorsement, providing for 30 days' notice if the policy is cancelled by the company other than for nonpayment of premium, 10 days' notice after the policy is cancelled for nonpayment of premium. Notice is sent to certificate holders with mailing addresses on file with the agent of the company.

Workers compensation coverage includes maritime and USL&H endorsements.

Pollution coverage includes mold, subject to the policy's exclusions, limits, retentions, terms and conditions.

Umbrella is follow form on underlying policies, subject to its own exclusions, terms and conditions.

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

FORM CIQ

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.

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

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 is being disclosed.

NONE

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer 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 or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☒ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with 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.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity
Wayne Berkenmeier

01/22/2026

Date

**TEXAS GOVERNMENT CODE 552, SUBCHAPTER J
ACKNOWLEDGEMENT FORM**

**Respondent acknowledges having read and understood the following law,
effective January 1, 2020**

SIGNATURE

"must be authorized to execute on behalf of company"

01/22/2026

DATE

Wayne Berkenmeier

Typewritten or Printed Name

Vice President Special Projects

Title

SUBCHAPTER J. ADDITIONAL PROVISIONS RELATED TO CONTRACTING INFORMATION

Sec. 552.371. CERTAIN ENTITIES REQUIRED TO PROVIDE CONTRACTING INFORMATION TO GOVERNMENTAL BODY IN CONNECTION WITH REQUEST. (a) This section applies to an entity that is not a governmental body that executes a contract with a governmental body that:

(1) has a stated expenditure of at least \$1 million in public funds for the purchase of goods or services by the governmental body; or

(2) results in the expenditure of at least \$1 million in public funds for the purchase of goods or services by the governmental body in a fiscal year of the governmental body.

(b) This section applies to a written request for public information received by a governmental body that is a party to a contract described by Subsection (a) for contracting information related to the contract that is in the custody or possession of the entity and not maintained by the governmental body.

(c) A governmental body that receives a written request for information described by Subsection (b) shall request that the entity provide the information to the governmental body. The governmental body must send the request in writing to the entity not later than the third business day after the date the governmental body receives the written request described by Subsection (b).

(d) Notwithstanding Section 552.301:

(1) a request for an attorney general's decision under Section 552.301(b) to determine whether contracting information subject to a written request described by Subsection (b) falls within an exception to disclosure under this chapter is considered timely if made not later than the 13th business day after the date the governmental body receives the written request described by Subsection (b);

(2) the statement and copy described by Section 552.301(d) is considered timely if provided to the requestor not later than the 13th business day after the date the governmental body receives the written request described by Subsection (b);

(3) a submission described by Section 552.301(e) is considered timely if submitted to the attorney general not later than the 18th business day after the date the governmental body receives the written request described by Subsection (b); and

(4) a copy described by Section 552.301(e-1) is considered timely if sent to the requestor not later than the 18th business day after the date the governmental body receives the written request described by Subsection (b).

(e) Section 552.302 does not apply to information described by Subsection (b) if the governmental body:

(1) complies with the requirements of Subsection (c) in a good faith effort to obtain the information from the contracting entity;

(2) is unable to meet a deadline described by Subsection (d) because the contracting entity failed to provide the information to the governmental body not later than the 13th business day after the date the governmental body received the written request for the information; and

(3) if applicable and notwithstanding the deadlines prescribed by Sections 552.301(b), (d), (e), and (e-1), complies with the requirements of those subsections not later than the eighth business day after the date the governmental body receives the information from the contracting entity.

(f) Nothing in this section affects the deadlines or duties of a governmental body under Section 552.301 regarding information the governmental body maintains, including contracting information.

Sec. 552.372. BIDS AND CONTRACTS. (a) A contract described by Section 552.371 must require a contracting entity to:

(1) preserve all contracting information related to the contract as provided by the records retention requirements applicable to the governmental body for the duration of the contract;

(2) promptly provide to the governmental body any contracting information related to the contract that is in the custody or possession of the entity on request of the governmental body; and

(3) on completion of the contract, either:

(A) provide at no cost to the governmental body all contracting information related to the contract that is in the custody or possession of the entity; or

(B) preserve the contracting information related to the contract as provided by the records retention requirements applicable to the governmental body.

(b) Unless Section 552.374(c) applies, a bid for a contract described by Section 552.371 and the contract must include the following statement: "The requirements of Subchapter J, Chapter 552, Government Code, may apply to this (include "bid" or "contract" as applicable) and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter."

(c) A governmental body may not accept a bid for a contract described by Section 552.371 or award the contract to an entity that the governmental body has determined has knowingly or intentionally failed to comply with this subchapter in a previous bid or contract described by that section unless the governmental body determines and documents that the entity has taken adequate steps to ensure future compliance with the requirements of this subchapter.

Sec. 552.373. NONCOMPLIANCE WITH PROVISION OF SUBCHAPTER. A governmental body that is the party to a contract described by Section 552.371 shall provide notice to the entity that is a party to the contract if the entity fails to comply with a requirement of this subchapter applicable to the entity. The notice must:

(1) be in writing;

(2) state the requirement of this subchapter that the entity has violated; and

(3) unless Section 552.374(c) applies, advise the entity that the governmental body may terminate the contract without further obligation to the entity if the entity does not cure the violation on or before the 10th business day after the date the governmental body provides the notice.

Sec. 552.374. TERMINATION OF CONTRACT FOR NONCOMPLIANCE. (a) Subject to Subsection (c), a governmental body may terminate a contract described by Section 552.371 if:

- (1) the governmental body provides notice under Section 552.373 to the entity that is party to the contract;
- (2) the contracting entity does not cure the violation in the period prescribed by Section 552.373;
- (3) the governmental body determines that the contracting entity has intentionally or knowingly failed to comply with a requirement of this subchapter; and
- (4) the governmental body determines that the entity has not taken adequate steps to ensure future compliance with the requirements of this subchapter.

(b) For the purpose of Subsection (a), an entity has taken adequate steps to ensure future compliance with this subchapter if:

- (1) the entity produces contracting information requested by the governmental body that is in the custody or possession of the entity not later than the 10th business day after the date the governmental body makes the request; and
- (2) the entity establishes a records management program to enable the entity to comply with this subchapter.

(c) A governmental body may not terminate a contract under this section if the contract is related to the purchase or underwriting of a public security, the contract is or may be used as collateral on a loan, or the contract's proceeds are used to pay debt service of a public security or loan.

Sec. 552.375. OTHER CONTRACT PROVISIONS. Nothing in this subchapter prevents a governmental body from including and enforcing more stringent requirements in a contract to increase accountability or transparency.

Sec. 552.376. CAUSE OF ACTION NOT CREATED. This subchapter does not create a cause of action to contest a bid for or the award of a contract with a governmental body.

Added by Acts 2019, 86th Leg., R.S., Ch. 1216 (S.B. 943), Sec. 9, eff. January 1, 2020.

PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES AND EQUIPMENT CERTIFICATION FORM

(Vendor to sign form if applicable to telecommunications)

The undersigned vendor hereby represents and warrants that the equipment, systems, and/or services which it will provide to Brazoria County do not use covered telecommunications equipment or services (as defined in Section 889 John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY 2019 NDAA), Pub. L. No. 115-232 (2018)) as a substantial or essential component of any system, or as critical technology of any system.

Additionally, the undersigned vendor hereby represents and warrants that the equipment, systems, and/or services it will provide are not prohibited from being procured using grant funds under section 889 of the FY 2019 NDAA.

Further, per 2 CFR 200.216 (b) & (c)

(b) As described in section 889 of Public Law 115-232, "covered telecommunications equipment or services" means any of the following:

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment;
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country;
- (c) For the purposes of this section, "covered telecommunications equipment or services" also include systems 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.

McDonald Municipal & Industrial
A Division of C.F. McDonald Electric, Inc.

COMPANY NAME

SIGNATURE OF COMPANY REPRESENTATIVE

Wayne Berkenmeier

PRINTED NAME

Vice President Special Projects

TITLE

01/22/2026

DATE

AUTHORIZED NEGOTIATOR

If your company is selected to enter into negotiations with the County, please list the name and contact information for the individual or individuals that will be negotiating a possible contract on behalf of your company.

Name: Wayne Berkenmeier

Title: Vice President Special Projects

Email Address: WayneB@mcdonaldinc.com

Phone Number: 713-921-1368

Name: Harry Keller

Title: Vice President

Email Address: harry.k@mcdonaldinc.com

Phone Number: 713-921-1368

Responses

Success: All data is valid!

Status	#	Description	Quantity Required	Numeric	
				Lump Sum Price	Total Cost
Success: All values provided	#0-1	install a 300 kW, 480V three-phased permanent diesel generator with sub-base fuel tank and weather/sound enclosure, foundation, maintenance concrete pad, and two (2) automatic transfer switches to support the Airport terminal and Fixed Based Operator (FBO) support hangar at the Texas Gulf Coast Regional Airport located at 8000 Airport Way, Angleton, Texas.	1	\$ 298,515.00	\$ 298,515.00
Basket Total					\$ 298,515.00
Grand Total					\$ 298,515.00

MINUTES OF MEETING
OF
BOARD OF DIRECTORS
OF
C. F. McDONALD ELECTRIC, INC.

A meeting of the Board of Directors of the Corporation as held on this date at the time and place set forth in the written Waiver of Notice signed by the President, fixing such time and place.

The following Corporate Officers were present:

Larry G. Stephenson, President

Harry Keller, Vice President

Diane Dollar, Secretary/Treasurer

Wayne Berkenmeier, Vice President Special Projects

The meeting was called to order by Larry G. Stephenson.

On the day, July 16, 2025, it was moved, seconded, and unanimously carried that the Board reaffirm the resolution dated May 1, 2014, authorizing Wayne Berkenmeier to sign, alone, any and all bid proposals, contracts, and other legal documents of C.F. McDonald Electric, Inc. and/or McDonald Municipal and Industrial, a division of C.F. McDonald Electric, Inc.

On the day, July 16, 2025 it was moved, seconded, and unanimously carried that Latricia Michelle Brooks, as Assistant to the Secretary, shall have the authority to Attest, Witness, Notarize or otherwise Authenticate the signature of Wayne Berkenmeier and/or McDonald Municipal and Industrial a Division of C. F. McDonald Electric, Inc., provided, however, Latricia Michelle Brooks shall **NOT** have the authority to sign, alone, any bid proposals, contracts or other legal documents binding C.F. McDonald Electric, Inc. and/or McDonald Municipal and Industrial a Division of C.F. McDonald Electric, Inc.

There being no further business to come before the meeting, upon motion dually made, seconded, and unanimously carried, it was adjourned

Larry G. Stephenson
President

Attest:


Diane Dollar



Page 1 of 3

January 22, 2026

Brazoria County

Ref: Bid for "RFP #26-22 Terminal Building Standby Generator" project

To: Whom it may concern;

Below is our response to the "Evaluation Criteria" section of the Bid Package for the above referenced project (Section 9.0 found on RFP page 8).

Introductory Letter

Please let this letter serve as an introduction to McDonald Municipal and Industrial (MM&I) – A Division of C. F. McDonald Electric, Inc. C.F. McDonald Electric was founded in 1956, and MM&I was founded in 2014. We are a corporation in the State of Texas. You can reach us by phone at 713-921-1368. Our corporate office is in Houston, Texas. MM&I was created in 2014 to provide "turnkey" construction services on projects that include significant electrical work. We exclusively bid and complete construction projects as the Prime Contractor (general contractor). Our current and past projects include all scopes of work including but not limited to concrete, asphalt, masonry, structural steel, roofing, plumbing, coatings, mechanical, electrical, etc. We have provided services for water and wastewater facilities, TDCJ prisons, universities, cities, state, and federal facilities all over the State of Texas. We currently have 167 electrical workers, 10 estimator/project managers and 2 professional engineers on staff. We complete an average of \$85M in construction projects annually, with a major focus on installing emergency generators, transfer switches, and docking stations. In the past 30 years, we have installed more than 750 standby generators, and we currently have 53 on order for similar contracted generator installation/replacement projects. We install more industrial (non-residential) generators along the Texas Gulf Coast than any other contractor in our industry.

In response to the scoring/ranking of bidders I offer the following:

Price – 30 points

We believe that our price is competitive and fair. Our prices cover a complete turnkey installation of a fully operational system. If we are awarded the contract and no major revisions/additions are made to the scope of work there will be no change orders on the project as we have included everything required in our quote whether it is shown on the drawings or not as our vast experience allows us to know what exactly is required for a “turn key” installation.

Qualifications – 30 points

As stated above, we have completed the installation of hundreds of generators at many different types of facilities. This experience will allow us to complete the project efficiently without disrupting airport operations. Our quoted price includes additional funds to cover after-hours labor for necessary outages if needed in order to maintain airport operations.

Installation Timeline and Customer Service Approach – 30 points

Based on the current projected lead times for the generator and automatic transfer switches, we expect to be 100% complete with all work in 245 days. All possible work, including underground conduits, gas lines, generator pads, grounding, and other tasks that do not require the generators and transfer switches, will be completed before their arrival.

We pride ourselves in customer service and we know that it is good as 95% of our customers are repeat customers. We have installed MANY generators for MANY customers over the last 15 years and they keep awarding us new projects. We are available anytime day or night as we have a 24 hour 7 day a week answering service for emergency service needs. Please feel free to contact anyone on the list of references that are included in this bid proposal as I am confident that every one of them will have great things to say about our customer service.

References – 5 points

We take great pride in our references, and encourage you to contact any of them for insight into their experience with our firm, as each will be able to provide positive feedback regarding our services. The attached list of references is provided for your use.

Preference Recycled Materials – 5 points

We have a comprehensive recycling plan at MM&I. All recycled materials removed during our projects are hauled to our warehouse for disassembly, sorting, and delivery to various recycling facilities and scrap facilities. This process is used for all copper, steel, aluminum and plastics removed from our job sites. Any concrete that is removed from our job sites by our subcontractors is hauled to a concrete recycling facility. Nothing that can be recycled is sent to a land fill by MM&I.

After reviewing our price, our qualifications, and our references we hope that you find our offer to be the best value for Brazoria County. Please contact me anytime at 713-202-4887 or WayneB@McDonaldinc.com if you have any questions or if you need any additional information.

Sincerely,

Wayne Berkenmeier

Wayne Berkenmeier

Vice President

Completed Projects

Job #	Project	Description	Contract \$	End Date	Owner/Rep	Phone #
027302	Timberlake ID	MCC Building Replacement	\$743,803.12	6/25	Gerald Gehman	713-942-2722
027402	WHC No. 10	Sands Trail LS Rehabilitation	\$451,469.00	5/25	Paul Anderson	713-337-7410
027207	City of Alice	Well No. 1 Electrical Project	\$1,368,469.00	5/25	City of Alice	361-668-7210
027505	Grand Mission	Construction of LS No.1 Rehab & Generator	\$502,369.00	6/25	Caitlyn Luhs	713-353-7271
026046	Pecan Grove	South Pump Station Generator Replacement	\$929,969.00	6/25	Jennifer Elms	713-376-2141
026050	Port of Houston	Reroute electrical conduit at Barbours Cut Terminal	\$7,406,197.00	7/25	Josh Keller	713-670-2668
027450	Metro	West BOF Generator Replacement	\$1,005,997.00	7/25	Joe Duran	713-652-4359
028675	Cy-Champ Utility	Lift Station Generator	\$75,679.00	7/25	Rene Hurtado	225-802-5818
026879	City of Copperas Cove	Furnish 6 Generators and Multiple Transfer Switches	\$1,715,570.00	5/25	Scott Osburn	254-547-0751
026199	Pecan Grove	WWTP Electrical Improvements	\$823,219.00	5/25	Jennifer Elms	713-376-2141
028829	Fort Bend No. 149	Three {3} Lift Station Generators	\$406,469.00	7/25	Chad Hablinski	713-428-2400
026036	Port of Houston	Purchase of electrical substation equipment	\$2,743,000.00	6/25	Port of Houston	713-670-2400
026965	City of Texas City	Lift Station No. 30 Improvements	\$726,049.00	6/25	Kim Golden	409-643-5936
026589	Reid Road	MCC Building Replacement	\$960,315.00	8/25	Rachel Broom	713-485-8111
027965	Cypresswood	SCADA	\$236,469.00	6/25	Craig Everett	713-462-3178
027377	Port Freeport	Fiber Optic	\$363,469.00	4/25	Jason Hull	832-544-6865
027363	River Ranch	Provide Generator & ATS	\$198,369.00	4/25	City of River Ranch	281-290-6500
026975	City of Harker Heights	Blower & Generator Replacement	\$1,831,938.00	8/25	Bob Thornhoff	512-328-6736
026198	City of Carrollton	Generator Replacement	\$959,024.00	8/25	Andrew Mata	214-361-7900
028237	Mt. Houston Road	Lift Station No. 3 Rehab & Generator	\$665,469.00	8/25	Hussain Ifikher	713-341-4702
027960	Rolling Creek	WWTP Electrical Improvements	\$733,252.00	8/25	City of Rolling Creek	832-467-1599
029438	Harris Count MUD No. 387	Lift Station No. 4 Improvements	\$238,619.00	8/25	Crystal Swink	832-590-7244
026779	Travis County WCID No. 10	Generator Install	\$766,099.00	8/25	James McDermott	267-808-8891
027840	City of Edinburg	Downtown WTP Generator Install	\$951,962.00	9/25	Gerardo Carmona	956-388-8212
028823	Waller County MUD No. 20	WWTP and Water Plant Generators and ATS	\$343,719.00	9/25	Waller County MUD	281-231-3200

McDonald Municipal Industrial - A Division of C.F. McDonald Electric, Inc.
5044 Timber Creek Drive
Houston, Texas 77017
713-921-1368 (P)

**VENDOR TO INSERT EXCEPTIONS TO
STANDARD TERMS & CONDITIONS & SPECIAL
REQUIREMENTS HERE (IF APPLICABLE)**

 X Company does not have exceptions *(If applicable, check here)*

Or

 Company does have exceptions *(If applicable, check here and list exceptions here for consideration. Brazoria County will review all exceptions listed and will formally communicate as to if any exceptions are accepted by the County. If exceptions are accepted by the County, they will be added in the form of an addendum.)*

VENDOR TO INSERT EXCEPTIONS HERE

BRAZORIA COUNTY
ADDENDUM NUMBER 1
RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

PLEASE INCLUDE THIS SIGNED ADDENDUM WITH YOUR SEALED RFP PACKAGE.

This Addendum modifies the RFP#26-22 package as follows:

1. Definitions: All definitions set forth in the Contract shall have the same meaning unless stated otherwise in this Addendum.
2. The following questions have been submitted for clarification:
 - 2.1 **BRAZORIA COUNTY CLARIFICATION:**
If your company is listed under a cooperative contract, you will still need to complete and submit a response to the RFP in Bonfire. In Exhibit B, please provide the name of the Cooperative Contract as well as the contract number that you are providing pricing for.
3. All other terms and conditions of the RFP are to remain unchanged.

Please refer any questions regarding this RFP to the Brazoria County Purchasing Department at (979) 864-1825 or bidclarifications@brazoriacountytx.gov.

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

LEGAL NAME OF CONTRACTING COMPANY

713-921-1368

TELEPHONE NUMBER

713-921-5109

FACSIMILE NUMBER

SIGNATURE

Wayne Berkenmeier - Vice President Special Projects
NAME AND TITLE PRINTED

*Addendum approved by:



Susan P. Serrano, CPPO, CPPB
County Purchasing Director

12/15/2025

Date

BRAZORIA COUNTY
ADDENDUM NUMBER 2
RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

PLEASE INCLUDE THIS SIGNED ADDENDUM WITH YOUR SEALED RFP PACKAGE.

This Addendum modifies the RFP#26-22 package as follows:

1. Definitions: All definitions set forth in the Contract shall have the same meaning unless stated otherwise in this Addendum.
2. The following questions have been submitted for clarification:
 - 2.1 Vendor Question: "What is the location of the annunciator panel and what is the size of the conduit?"

Brazoria County Answer: Please refer to plan sheet EG101 for location of annunciator panel and size of the conduit (see keyed notes 4 and 5).
 - 2.2 Vendor Question: "Does the County have a preferred vendor for the generator?"

Brazoria County Answer: The plans and specifications were prepared to reflect County preferred vendor(s) (Kohler and Cummins). However, the documents are not sole source or limited sources, rather prepared to reflect minimum performance parameters. Bidders are encouraged to submit vendor clarification request prior to submitting bid for review by the County.
 - 2.3 Vendor Question: "Can a bore be used in lieu of trenching?"

Brazoria County Answer: Yes, but at no additional cost. Contractors will be required to submit a request to substitute bore for trenching for review and approval by the Engineer, County, and Airport.
 - 2.4 Brazoria County Clarification:

The Prevailing Wage Rate for Construction Type: Building was updated on January 2, 2026. The updated wage rate is now posted in Bonfire and labeled as Addendum No.2 Updated Prevailing Wage Rate. Please refer to the updated rates when submitting your response.
3. A pre-offer meeting and site visit was held on Tuesday, January 6, 2026 at 10:00 a.m.. at the Texas Gulf Coast Regional Airport.

The following vendors were in attendance:
BV Underground LLC
Prism Electric
Texpro Generator Service
4. All other terms and conditions of the RFP are to remain unchanged.

Please refer any questions regarding this RFP to the Brazoria County Purchasing Department at (979) 864-1825 or bidclarifications@brazoriacountytx.gov.

McDonald Municipal & Industrial -A Division of C.F. McDonald Electric, Inc.

LEGAL NAME OF CONTRACTING COMPANY

713-921-1368

TELEPHONE NUMBER

713-921-5109

FACSIMILE NUMBER

Wayne Berkenmeier - Vice President Special Projects

SIGNATURE

NAME AND TITLE PRINTED

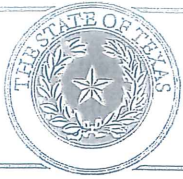
*Addendum approved by:



Susan P. Serrano, CPPO, CPPB
County Purchasing Director

01/8/2026

Date



TEXAS DEPARTMENT OF LICENSING & REGULATION

Licensing Division • PO Box 12157 • Austin, Texas 78711 • (512) 463-6599 • Fax (512) 475-2871

www.tdlr.texas.gov

C F MCDONALD ELECTRIC INC
5044 TIMBER CREEK DR
HOUSTON, TX 77017-5954

The Texas Department of Licensing and Regulation (TDLR) is responsible for licensing and regulating a broad range of occupations, businesses, facilities, and equipment in Texas. Our purpose is to protect the health and safety of Texans and ensure they are served by qualified professionals. We foster a predictable regulatory climate and avoid unreasonable government interference. In all of these endeavors, we:

- are open and transparent;
- apply clear, consistent, and common-sense standards;
- keep costs low and efficiency high; and
- deliver exceptional customer service.

TDLR's Mission:

To earn the trust of Texans every day by providing innovative regulatory solutions for our licensees and those they serve.

TDLR's Vision:

To be the best at creating 'next' practices that deliver low-cost licensing and regulatory services and an exceptional customer experience.

TDLR's Core Values:

Accountability
Customer Service
Innovation
Integrity
Open and Free Communication
Respect
Teamwork

For assistance contact Customer Service
Customer.service@tdlr.texas.gov
512-463-6599
800-803-9202 (toll free statewide)

Visit us on the web at www.tdlr.texas.gov

STATE OF TEXAS
C F MCDONALD ELECTRIC INC

ELECTRICAL CONTRACTOR

LICENSE NUMBER 18339
EXPIRES 08/12/2026



TEXAS DEPARTMENT OF LICENSING & REGULATION



TEXAS DEPARTMENT OF LICENSING & REGULATION

Licensing Division • PO Box 12157 • Austin, Texas 78711 • (512) 463-6599 • Fax (512) 475-2871

www.tdlr.texas.gov

LARRY G STEPHENSON
5044 TIMBER CREEK DR
HOUSTON, TX 77017-5954

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TDLR's Vision:

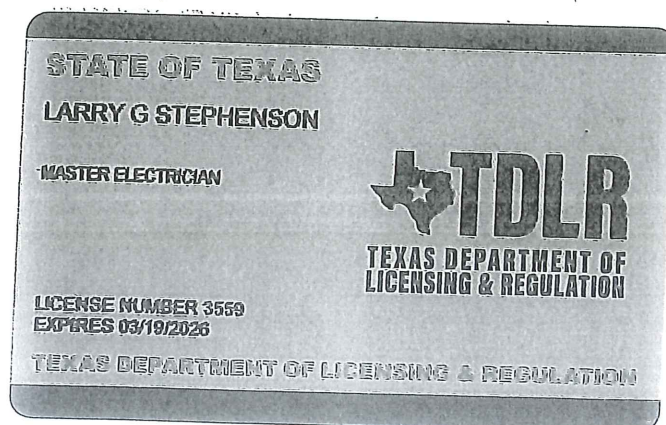
To be the best at creating 'next' practices that deliver low-cost licensing and regulatory services and an exceptional customer experience.

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512-463-6599
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Entities

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Responsibility

Showing 1 - 1 of 1 results

MCDONALD C F ELECTRIC INC [Active Registration](#)

Unique Entity ID
TXJLDM12049

CAGE Code
0HRT6

Physical Address
5044 TIMBER CREEK DR,
HOUSTON, TX 77017 USA

Sort by

Relevance

Entity

Expiration Date
Feb 12, 2026

Purpose of Registration
All Awards

Responses

Success: All data is valid!

				Numeric	
Status	#	Description	Quantity Required	Lump Sum Price	Total Cost
Success: All values provided	#0-1	install a 300 kW, 480V three-phased permanent diesel generator with sub-base fuel tank and weather/sound enclosure, foundation, maintenance concrete pad, and two (2) automatic transfer switches to support the Airport terminal and Fixed Based Operator (FBO) support hangar at the Texas Gulf Coast Regional Airport located at 8000 Airport Way, Angleton, Texas.	1	\$ 298,515.00	\$ 298,515.00
Basket Total					\$ 298,515.00
Grand Total					\$ 298,515.00



**BRAZORIA COUNTY
PURCHASING DEPARTMENT
237 E. LOCUST STREET, SUITE 406
ANGLETON, TEXAS 77515
TEL: 979-864-1825 FAX: 979-864-1034**

**BRAZORIA COUNTY
REQUEST FOR PROPOSAL COVER SHEET**

The REQUEST FOR PROPOSAL (RFP) and accompanying documents are for your convenience in submitting an offer for the referenced products and/or services for BRAZORIA COUNTY.

“RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT”

**Sealed Hard Copy or Electronic offers shall be received no later than:
THURSDAY, JANUARY 22, 2026 at 11:00 A.M. LOCAL TIME**

***PROPOSAL OPENING WILL BE AVAILABLE VIA ZOOM. MEETING LINK IS AVAILABLE ON THE PROJECT DETAILS PAGE IN BONFIRE UNDER “IMPORTANT EVENTS”. BONFIRE LINK:**

<https://brazoriacounty.bonfirehub.com/portal/?tab=login>

IF SUBMITTING AN ELECTRONIC SEALED OFFER:

PREFERRED METHOD IS USING THE “BONFIRE” ELECTRONIC BIDDING PLATFORM.

USE LINK, <https://brazoriacounty.bonfirehub.com/portal/?tab=login>,

CLICK THE HELP BUTTON PROVIDED IN THE BONFIRE WEBSITE AS NEEDED.

IF SUBMITTING A HARD COPY SEALED OFFER:

THE PHYSICAL ADDRESS FOR COURIERS, HAND DELIVERIES AND THE US POSTAL SERVICE IS:

SUSAN SERRANO, CPPO, CPPB
PURCHASING DIRECTOR
BRAZORIA COUNTY COURTHOUSE CAMPUS ADMINISTRATION BUILDING
237 E. LOCUST STREET, SUITE 406
ANGLETON, TEXAS 77515

PLEASE USE THE RETURN LABEL PROVIDED WITH THIS SOLICITATION:

*****Please note: US Postal Service mailing address***

The U.S. mail may not deliver to the physical address shown above. Respondents who prefer to use the U.S. mail may submit their offers using the U.S. Postal Service mailing address shown above.

However, packages delivered by the U.S. Postal Service to the Brazoria County mailing address are subject to delays that may cause a response to be rejected due to missing a solicitation receipt deadline.

Responses delivered to the mailing address are routed through the County mailroom and may not reach the required location in time for the bid / offer opening.

Respondents using the U.S. mail should take this possible delay into account when using the U.S. mail.

BRAZORIA COUNTY is very conscious and extremely appreciative of the time and effort you have expended to submit an offer. We would appreciate it if you would indicate on any “No Offer” response, any requirement of this RFP which may have influenced your decision to “No Offer”. If your response to this RFP is a “No Offer” response, please complete the Statement of No Offer in this RFP package and submit.

Any prospective respondent desiring any explanation or interpretation of the solicitation must make a written request online through Bonfire electronic platform or email the project facilitator as shown in Section “Questions Due Date (for Clarifications)”, which must be received by the Purchasing Department at least five (5) business days prior to the scheduled time for the offer opening. Any information given to a prospective respondent concerning this solicitation will be furnished promptly to all other known prospective respondents as a written amendment/addendum to the solicitation. Brazoria County reserves the right to accept or reject any or all bids/offers as it deems in its best interest and to waive any formalities.

It is the Respondent’s responsibility to verify the issuance of Addenda in regard to this Offer. All Addenda shall be submitted to all known respondents and shall be posted on the Bonfire electronic bidding platform at <https://brazoriacounty.bonfirehub.com/portal/?tab=login>. Brazoria County shall not be responsible for failed internet connections or power interruptions.

All required Offer documents shown on the Table of Contents, including any Addenda Receipt Forms which may have been issued, must be submitted in the Bonfire electronic bidding platform or a sealed envelope included in a hard copy submittal, marked with the bidder’s company name, the Offer name, number and due date.



SUSAN SERRANO, CPPO, CPPB
Purchasing Director
Brazoria County Courthouse Campus Administration Building
237 E. Locust Street, Suite 406
Angleton, Texas 77515

Published Dates: December 9, 2025 & December 16, 2025

BRAZORIA COUNTY CONTRACT SHEET

THE STATE OF TEXAS COUNTY OF BRAZORIA

This memorandum of agreement made and entered into on the _____ day of _____, 2026, by and between Brazoria County in the State of Texas (hereinafter designated County), acting herein by County Judge L.M. "Matt" Sebesta, Jr., by virtue of an order of Brazoria County Commissioners' Court, and _____ (company name) (hereinafter designated Vendor / Contractor).

WITNESSETH:

The Vendor and the County agree that the Instructions to Respondents, Specifications/Statement of Work, Standard Terms & Conditions, and all other requirements herein for RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT as stated in the Request for Proposal Table of Contents hereto attached and made a part hereof, together with the bond (when required), vendor's response and negotiated pricing, shall constitute the full agreement and Contract between parties and for furnishing the items set out and described; the County agrees to pay the prices stipulated in the accepted offer.

The order of precedence shall be:

- Brazoria County RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT
- Vendor's submittal to the above listed RFP and the final accepted pricing

It is further agreed that this Contract shall not become binding or effective until signed by the parties hereto and a purchase order authorizing the items desired has been issued.

Executed at Angleton, Texas this _____ day of _____ 2026.

By: _____
County Judge Signature

By: _____
Printed Name

By: _____
Signature of Vendor

By: _____
Printed Name and Title

SIGNATURE REQUIRED BY
VENDOR UPON AWARD

REQUEST FOR PROPOSAL TABLE OF CONTENTS

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

All documents included in this Table of Contents represent components which comprise this bid/offer package and subsequent awarded executed contract. The documents shown in Exhibit A and Exhibit B are required to be submitted in your bid/offer package. ***It is the respondent's responsibility to be thoroughly familiar with all requirements and specifications. Be sure you understand the requirements before you return your bid/offer packet.***

The “Exhibit A - Required Forms” and “Exhibit B – Additional Requirements” below are required to be uploaded into the Bonfire electronic procurement portal system or included with your hard copy submittal in one (1) large sealed envelope or box with the Brazoria County Return Label affixed.

FAILURE TO RETURN THE FOLLOWING FORMS MAY DEEM YOUR PROPOSAL AS NON-RESPONSIVE.

EXHIBIT A – REQUIRED DOCUMENTS

- RESPONDENT CERTIFICATION FORM
- BIDDER/RESPONDENT’S AFFIRMATION & SDNs/BLOCKED PERSONS AFFIRMATION
- WORKERS COMPENSATION REQUIREMENTS
- CERTIFICATION REGARDING LOBBYING FORM
- EXCEPTIONS TO STANDARD TERMS & CONDITIONS & SPECIAL REQUIREMENTS *(if applicable)* (If vendor has any exceptions to the RFP terms & conditions or special requirements, they must be included with the RFP submittal in order to be considered)
- NON COLLUSION AFFIDAVIT
- BID BOND
- CONFLICT OF INTEREST QUESTIONNAIRE – FORM CIQ *(if applicable)*
- TEXAS GOVERNMENT CODE 552, SUBCHAPTER J ACKNOWLEDGEMENT FORM
- PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES AND EQUIPMENT CERTIFICATION FORM *(Vendor to sign form if applicable to telecommunications)*
- AUTHORIZED NEGOTIATOR
- VENDOR DATA SHEET & W-9 FORM

EXHIBIT B – VENDOR’S RESPONSE

- BID TABLE
- VENDOR RESPONSE TO EVALUATION CRITERIA
- EXCEPTIONS TO STANDARD TERMS & CONDITIONS & SPECIAL REQUIREMENTS *(if applicable)* (If vendor has any exceptions to the RFP terms & conditions or special requirements, they must be included with the RFP submittal in order to be considered)
- SIGNED ADDENDA *(if applicable)*

Attachments to the RFP:

- Exhibit A – Required Documents
- Exhibit B – Vendor’s Response
- Attachment A – Bid Table
- Attachment B – Specifications
- Attachment C – Plans
- Attachment D – Child Support Forms
- Attachment E – BABAA Self-Certification Form

BRAZORIA COUNTY SPECIFICATIONS / SCOPE OF WORK

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

The following requirements and specifications shall be in addition to the other requirements contained herein and shall supersede the other requirements where applicable.

Specifications can be found in Attachment B

BRAZORIA COUNTY INSTRUCTIONS TO RESPONDENTS

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

The following requirements and specifications shall be in addition to the other requirements contained herein and shall supersede the other requirements where applicable.

1.0 THE CONTRACT:

The Contract consists of all documents included in this Request for Proposal Number 26-22, as well as addenda issued prior to execution of the Contract and modifications issued after execution of the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may only be amended or modified under the terms of this Contract. Brazoria County may make partial or complete awards to one or more vendors (if applicable) whichever is in the best interest of the County.

2.0 PROJECT DESCRIPTION

The awarded contract shall install a 300 kW, 480V three-phased permanent diesel generator with sub-base fuel tank and weather/sound enclosure, foundation, maintenance concrete pad, and two (2) automatic transfer switches to support the Airport terminal and Fixed Based Operator (FBO) support hangar at the Texas Gulf Coast Regional Airport located at 8000 Airport Way, Angleton, Texas.

Project Timeline: 45 calendar days for construction, excluding delivery period for generator.

Estimated Budget: \$300,000.00

3.0 ESTIMATED PROJECT TIMELINE *(dates may be subject to change)*

Step One –

Publicly advertised (1st Notice)

December 9, 2025

Publicly advertised (2nd Notice)

December 16, 2025

Response Open/Due date by 11:00 a.m. C.S.T.

January 22, 2026

Step Two – Interviews *(if requested by evaluation committee)*

TBD

Interviews with short-listed candidates

Negotiations *(if requested by the evaluation committee)*

TBD

Enter into negotiations with highest ranked firm

Award - Contract approval by Commissioner's Court

February 2026

4.0 QUESTIONS DUE DATE (FOR CLARIFICATIONS)

Any prospective respondent desiring any explanation or interpretation of the proposal must make a written request which must be received by the Purchasing Department on or before Tuesday, January 13, 2026. The request must be emailed to bidclarifications@brazoriacountytx.gov. Emails must include the project name and number in the subject field.

All responses to questions or clarification requests will be answered in the form of an addendum after the question deadline and no later than 5 business days prior to the opening/closing date of the solicitation.

5.0 PRE-OFFER MEETING AND SITE VISIT

A pre-offer meeting will be held on Tuesday, January 6, 2026 at 10:00 a.m. at the Texas Gulf Coast Regional Airport located at 8000 Airport Way, Angleton, Texas. Attendance is not mandatory in order to submit an offer; however, it is highly recommended. Interested parties are encouraged to download all the proposal documents prior to attending the meeting.

6.0 PROPOSAL REQUIREMENTS

The proposal includes instructions to respondents, specifications and contract documents. It is the responsibility of each Respondent before submitting a proposal to examine the contract documents thoroughly.

RFP SUBMISSIONS MAY BE PROVIDED IN ONE OF TWO WAYS, AS EXPLAINED BELOW:

If submitting an RFP Electronic Document Submission (using the Bonfire electronic platform)

Respondent shall fill out and upload the “Exhibit A Required Forms” and “Exhibit B Additional Requirements” into the Bonfire electronic platform. An authorized representative of the company **MUST** sign all required forms. See “Exhibit A Required Forms” for instructions on signing electronically.

If submitting an RFP Hard Copy Document Submission

One (1) original hard copy shall be submitted, which will consist of “Exhibit A Required Forms” and “Exhibit B Additional Requirements”.

The hard copy submission shall be sealed in an envelope or box for delivery to the Brazoria County Purchasing Director per instructions herein. All documents included in the response and the outside of the envelope and/or box must be labeled with the vendor name and the RFP number. A Return Label is also provided in this solicitation.

7.0 PREVAILING WAGE RATES

Chapter 2258 of the Texas Government Code requires state agencies, cities, counties, independent school districts, and all other political subdivisions that engage in public work projects using public funds to include prevailing wage rate in the project request for proposal documents and Contract.

Current prevailing wage rates are incorporated in the Contract documents as attached.

8.0 CONTRACT AWARD / EVALUATION PROCESS

An evaluation committee will examine all responses to this Request for Proposals. Responses that do not conform to the instructions given or that do not address all the questions and services specified may be eliminated from consideration. Brazoria County, however, reserves the right to accept such a response if it is determined to be in the County’s best interest to do so.

Brazoria County may initiate discussions with respondents. Additional information will be accepted during this period from respondents who responded to the original request. Respondents may NOT initiate discussions. Brazoria County expects to conduct discussions with respondent personnel authorized to enter into contractual obligations.

Brazoria County shall rank responses in accordance with the Evaluation Criteria and will review proposal content and its conformance to requirements. Following an initial evaluation, the evaluation team may recommend award without further discussion with one or more respondents or may conduct discussions and interviews with top-ranked responsible respondent(s).

During the discussion / interview and negotiations, the evaluation team may allow the respondent(s) to submit a best and final offer. Final offers shall be evaluated on the same criteria used in the first evaluation.

The award of the contract shall be made to the responsible respondent whose proposal is determined to be the lowest and best evaluated offer resulting from negotiations, taking into consideration the relative importance of price and other evaluation factors set forth in this request for proposal.

“Lowest and best” means an offer providing the best value for the County considering associated direct and indirect costs, including transport, maintenance, reliability, life cycle, warranties and customer service after a sale.

Brazoria County is not bound to accept the lowest priced proposal if that proposal is judged not to provide the best value for the County.

Proposals will be opened publicly to identify the names of the respondents. Other contents of the proposals will not be disclosed prior to award or rejection by Brazoria County.

Brazoria County reserves the right to reject any and all proposals and is not obligated to award a contract pursuant to this request for proposal.

8.1 Purchasing Preference Recycled Material

8.1.1 Per the Texas Administrative Code, Title 30 Environmental Quality, Part 1 Texas Commission on Environmental Quality, Chapter 328, Subchapter K, Rule § 328.203, regarding Waste Minimization and Recycling, the County is required to give preference to vendors that offer products made from recycled materials. This preference is only given if the products meet the County's specifications of quality and quantity. Preferences will be applied in accordance with state and federal procurement statutes and rules.

8.1.2 The County relies on vendors to correctly represent the products offered in response to a solicitation and will not be responsible for incorrect information provided by an offeror/vendor. Categories of recycled products and recommended percentages of post-consumer materials and total recovered materials content can be found in the Environmental Protection Agency's Comprehensive Procurement Guidelines here: [EPA Procurement Guidelines for Products](#).

8.2 Financial Statements

If your company is either shortlisted or deemed the highest ranked, you may be required to submit your current and prior 2 years financial statements for review. This ensures Brazoria County that your company, if awarded, has the financial capacity to perform its obligations under for the entirety of the contract.

Failure to provide financial statements may deem your submission as non-responsive.

9.0 EVALUATION CRITERIA

The criteria used to evaluate the proposals shall be:

Price - Price submitted in offer	30 points
Qualifications- Provide qualifications and experience your company has with similar projects	30 points
Installation Timeline and Customer Service Approach- Provide a narrative of the installation timeline and your company's customer service approach	30 points
References- Provide a minimum of five (5) references for similar services to local government agencies and/or other entities within the last five (5) year.	5 points
Preference Recycled Material- Vendor is to include the proposed product/material MSDS with their submission	5 points

Bonus Scoring (15 point scale)

9.1 **Bonus Points-Interview (If requested by evaluation committee)**

Your score may be adjusted up to a maximum of 15 points-total overall possible evaluation points=15

9.1.1 Response to Questions & Answers (0-10 points)

9.1.2 Interview preparedness & adherence to interview (0-5 points)

10.0 CONTRACT TERM

Award of Contract shall begin upon execution of the Contract Sheet by the County Judge and shall continue until completion of the project as stated on the Offer Sheet contained herein.

Brazoria County retains the option to solicit new proposals at any time if in its best interest.

11.0 PROJECT MANAGER

Jeff Bilyeu, Texas Gulf Coast Regional Airport

The County will maintain oversight to ensure that contractors perform in accordance with the terms, conditions and specifications of the contract.

12.0 INCLEMENT WEATHER FOR HARD COPY SUBMITTALS:

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a proposal submission deadline, the closing will automatically be postponed until the next business day the County is open and at the time shown on the Cover Sheet.

If inclement weather conditions or any other unforeseen event causes delays in carrier 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 if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgment call to extend any deadline.

13.0 INSURANCE REQUIREMENTS

Vendor shall furnish certificates of insurance to County evidencing compliance with the insurance requirements hereof for the duration of the project. Certificates shall indicate name of Vendor, name of insurance company, policy number, term of coverage and limits of coverage.

Insurance shall be placed with insurers having an A.M. Best's rating of no less than A. Such insurance must be issued by a casualty company authorized to do business in the State of Texas, and in standard form approved by the Board of Insurance Commissioners of the State of Texas, with coverage provisions insuring the public from loss or damage that may arise to any person or property by reason of services rendered by Vendor.

Insurance required herein shall be maintained in full force and effect during the life of this contract and shall be issued on an occurrence basis. Vendor shall require that any and all subcontractors that are not protected under the Vendor's own insurance policies take and maintain insurance of the same nature and in the same amounts as required of Vendor and provide written proof of such insurance to Vendor. Proof of renewed/replacement coverage shall be provided upon expiration, termination, or cancellation of any policy. Vendor shall not allow any subcontractor to commence work on the subcontract until such insurance required for the subcontractor has been obtained and approved.

In the event that the insurance is renewed during the duration of the contract, Vendor shall furnish certificate of insurance to the County evidencing renewal of policy within 30 days of renewal. Vendor shall provide County with at least 30 days prior written notice of any reduction in the limit of liability by endorsement of the policy, cancellation or non-renewal of the insurance coverage required under this Agreement.

Certificates of Insurance, fully executed by a licensed representative of the insurance company written or countersigned by an authorized Texas state agency, shall be filed with the County Purchasing Agent within ten (10) business days of issuance of notification from the County Purchasing Agent to Bidder that the contract is being activated as written proof of such insurance and further provided that Bidder shall not commence work under this contract until it has obtained all insurance required herein and provided written proof as required herein.

WAIVER OF SUBROGATION:

All policies of insurance shall waive all rights of subrogation against Brazoria County, its officers, employees and agents.

ADDITIONALLY INSURED:

Further, on vendor's certificate of insurance supplied to Brazoria County, Brazoria County shall be listed as additionally insured with the exception of workers compensation insurance. The certificate holder shall be as follows:

Brazoria County
237 E. Locust Street, Suite 401
Angleton, TX 77515

14.0 LIQUIDATED DAMAGES, TERMINATION AND DELAYS

14.1 If the Vendor shall fail to fully complete the work within the time specified on the Bid Table (subject however to extensions of time duly granted in the manner and for the causes specified in the herein) the Vendor shall be charged by Brazoria County as liquidated and ascertained damages the sum of five hundred and ninety (\$590.00) dollars for each working day that the work remains incomplete beyond the time herein fixed for the completion, it being hereby expressly and mutually agreed that from the nature of the case it would be impracticable and extremely difficult to fix the actual damage which would or will be suffered in the event that the Vendor should fail to fully complete the work within the time specified, and it being further agreed that said charge herein provided for is reasonable and proper in the premises. The amount so charged may be deducted by Brazoria County from any moneys which might otherwise be or become payable to the Vendor.

14.2 Excusable Delays.

The right of the Vendor to proceed shall not be terminated nor shall the Vendor be charged with liquidated or ascertained damages for any delays in the completion of the work due to:

- Controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, national defense, or any other national emergency; or
- Causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Vendor, including, but not limited to, acts of God or of the public enemy, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.

Provided, however, the Vendor shall promptly notify Brazoria County Project Manager within ten (10) days in writing of the cause of any delay. Upon receipt of such notification, the Brazoria County Project Manager shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this Contract, the delay is determined by the Brazoria County Project Manager to be excusable, Brazoria County shall extend the time for completing the work for a period of time commensurate with the period of excusable delay. Any delay by the Vendor in not notifying the Brazoria County Project Manager shall not be excused.

15.0 CHANGE ORDERS

Due to budget constraints, change orders will be limited to those revisions that are due to unforeseen conditions and are approved by Brazoria County. Vendors are advised to fully understand the scope of work and to review the specifications and drawings in order to submit any requests for clarifications prior to the proposal opening.

In the event a change order is required and approved by Brazoria County, said changes shall be incorporated into this Contract in the form of a change order. All change orders shall be subject to the review and approval of Brazoria County Commissioner's Court, or the Court's designee, and shall be in accordance with the Local Government Code.

Any discrepancies which may be discovered between actual conditions and those represented by the specifications or drawings shall be reported at once to the Brazoria County Project Manager and work shall not proceed except at the Vendor's risk, until written instructions have been received by him from the Brazoria County Project Manager.

16.0 FINAL INSPECTION

When the work included in this Contract is substantially completed, the Vendor shall notify the Project Manager in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The Project Manager will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

Per Brazoria County, substantial completion is defined as a designated portion of a construction project that is sufficiently complete in accordance with the contract for the owner to occupy and / or utilize it for its intended use, without undue interference.

17.0 PAYMENTS TO VENDOR

17.1 Retainage

The Vendor shall prepare his invoice or application for payment for partial payment(s) as of the last day of the month and submit the invoice or pay application to the Project Architect and /or Brazoria County Project Manager for his approval. The amount of the payment due the Vendor shall have five percent (5%) deducted to be retained until final payment.

17.2 Final Payment

After final inspection and acceptance by Brazoria County of all work under the Contract, the Vendor shall prepare his – invoice or application for payment for final payment which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Contract. The total amount of the final payment due the Vendor under this Contract shall be the amount computed as described above less all previous payments.

17.3 Purchase Orders:

17.3.1 The awarded vendor must receive a proper Purchase Order Number from Brazoria County prior to the start date of the project.

17.4 Invoices or Pay Applications

17.4.1 Invoices or pay applications shall be mailed to the address on the Purchase Order.

17.4.2 All invoices or pay applications must reference the appropriate Purchase Order number.

17.4.3 Invoices or pay applications shall include additional detailed information such as an itemized listing of the items ordered.

17.4.4 Pay applications will need to be signed and approved by all parties prior to receipt for payment.

17.5 Pricing:

17.5.4 All prices shall be firm and shall not be subject to escalation for the term of this contract except as specifically stated herein.

17.6 Substitutions:

17.6.4 Substitutions will not be allowed without the prior written consent of the purchaser and /or Purchasing Department.

17.6.5 Vendor substitutions shall be of equal or better quality at equal or less price than the original item requested and shall be accepted with prior written approval only.

18.0 DISADVANTAGED BUSINESSES

Disadvantaged businesses, particularly the State of Texas Comptroller's Office VetHUB Program, are encouraged to participate in the bid/RFP processes. Although Brazoria County does not certify HUB vendors, Brazoria County recognizes the certifications of other governmental entities. If you are certified by a government entity, please upload the certificate with your response electronically in the Bonfire electronic platform or include a hard copy of your certificate in your submittal.

Per Code of Federal Regulations, Title 2, § 200.321, "Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms", if awarded vendor is a prime contractor and subcontractors are to be let by prime contractor, the following affirmative steps are required of the prime contractor:

- (1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- (4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
- (5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

Brazoria County must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

19.0 SYSTEM FOR AWARD MANAGEMENT (SAM)

The System for Award Management (SAM) is the official registration required prior to bidding on a contract with any federal government agency, including local governments who receive federal funds.

Prior to award, Brazoria County will check www.sam.gov, the System for Award Management (SAM), to ensure that the proposed vendor has not been debarred. Vendor shall provide their Unique Entity ID number to Brazoria County in order to check www.sam.gov for debarment. If you do not have a Unique Entity ID number, you can request a number for free by visiting <https://sam.gov/content/entity-registration>. For additional information about the change from DUNS to Unique Entity ID visit <https://www.gsa.gov/about-us/organization/federal-acquisition-service/office-of-systems-management/integrated-award-environment-iae/iae-systems-information-kit/unique-entity-id-is-here>. Brazoria County is unable to conduct business with vendors who have been debarred.

If you do not have a Unique Entity ID number, you can request a number for free by visiting <https://sam.gov/content/entity-registration>. For additional information about the change from DUNS to Unique Entity ID visit <https://www.gsa.gov/about-us/organization/federal-acquisition-service/office-of-systems-management/integrated-award-environment-iae/iae-systems-information-kit/unique-entity-id-is-here>.

Brazoria County is unable to conduct business with vendors who have been debarred.

If the procurement is using federal funds, the awarded vendor is required to hold an active status on the SAM.gov website, applicable, <https://sam.gov/content/home>, and with the Texas Comptroller Taxable Entity website <https://mycpa.cpa.state.tx.us/coa/>.

If the procurement is using County funds, and your company is not registered on the SAM.gov website, the County is asking that your company obtain a registration. If your company has a current Unique Entity Identifier number on the SAM.gov website, the County is requesting that your company obtain a registration.

20.0 AWARD LETTER / NOTICE TO PROCEED

After the award has been made in Commissioner's Court, an award letter will be sent to the vendor with information on how to submit any required documentation needed to finalize the award. Once all required bonds, insurance, and other applicable forms have been submitted to the Purchasing Department, the Project Manager will contact the awarded vendor and set up the project kick-off meeting, if applicable.

21.0 DISCLOSURE OF CERTAIN RELATIONSHIP

Texas Local Government Code chapter 176 requires that any vendor or person who enters or seeks to enter into a contract with a local governmental entity (including any agent of such person or vendor) disclose in the Questionnaire Form CIQ the vendor or person's employment, affiliation, business relationship, family relationship or provision of gifts that might cause a conflict of interest with a local governmental entity. By law, this questionnaire must be completed and filed with the records administrator of Brazoria County no later than the seventh business day after the date the person engages or communicates with Brazoria County or becomes aware of facts that require the completion of the questionnaire pursuant to Texas Local Government Code section 176.006.

A person commits an offense if the person knowingly violations Texas Local Government Code section 176.006. An offense under this section is a Class C misdemeanor.

A copy of House Bill 23 which amended the Texas Local Government Code Chapter 176 is available at: <http://www.capitol.state.tx.us/tlodocs/84R/billtext/html/HB00023F.HTM>

Texas Local Government Code Chapter 176 can be found here: <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>

Questionnaire Form CIQ is included in this bid/offer.

By submitting a response to this request, the vendor or person represents compliance with the requirements of Texas Local Government Code chapter 176. If required, completed forms should be sent with your proposal, as well as to:

Brazoria County Courthouse
County Clerk's Office
111 E. Locust Street, Suite 200
Angleton, TX 77515

22.0 CERTIFICATE OF INTERESTED PARTIES

Effective January 1, 2016, all contracts and contract amendments, extensions, or renewals executed by the Commissioners Court will require the completion of Form 1295 "Certificate of Interested Parties" pursuant to Government Code § 2252.908. Form 1295 must be completed by awarded vendor at time of signed contract submission.

Form 1295 and definitions are included in this bid/offer for your information.

All responding vendors may access a video from the Texas Ethics Commission which explains the process on how to submit Form 1295. The video link is available on the Brazoria County Purchasing website at <http://brazoriacountytexas.gov/departments/purchasing/doing-business>.

23.0 BACKGROUND CHECKS AND NON-DISCLOSURE AGREEMENTS:

It is the policy of the County that contractor employees and subcontractors that will complete work in sensitive areas on Brazoria County property be subject to a criminal background check. The County reserves the right to determine a sensitive area and the appropriateness of a criminal background check for any contractor employee or subcontractor.

Non-Disclosure Agreements (NDA) may also be required by Brazoria County. NDAs will be provided to contractor employees and any subcontractors by the Purchasing Department and must be signed and returned in a time frame determined by Purchasing Department

24.0 BUILD AMERICA, BUY AMERICA ACT (BABAA)

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 (BABAA) shall file the required certification to the non-federal entity with each bid or offer for an infrastructure project, unless a domestic preference requirement is waived by FEMA. 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 requirement. Such disclosures shall be forwarded to the recipient who, in turn, will forward the disclosures to FEMA, the federal awarding agency; subrecipients will forward disclosures to the pass-through entity, who will, in turn, forward the disclosures to FEMA.

25.0 ADDITIONAL REQUIREMENTS, FEDERAL

25.1 Remedies

“If the bidder/vendor fails to comply with the terms and conditions of this Agreement, Brazoria County may take one or more of the following actions, as appropriate to the circumstance:

- (a) Temporarily withhold payments pending the bidder/vendor commencing in good-faith corrective action to cure the deficiency;
- (b) Permanently withhold payments; and/or
- (c) Take any and all other remedies that may be legally available.

25.2 Access to Records and Record Retention

“Retention of Records. The contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case contractor agrees to maintain same until the FEMA or applicable Federal Administrator, Brazoria County, the Comptroller General of the United States, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related to the litigation or settlement of claims.”

Access to Records. The following access to records requirements apply to this contract:

- 1) The contractor agrees to provide Brazoria County, any State or Federal Agency, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.
- 1) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- 2) The contractor agrees to provide any State or Federal Agency, Brazoria County, the Comptroller General of the United States, or any of their authorized representatives or their authorized representatives access to construction or other work sites pertaining to the work being completed under this contract.

25.3 Debarment and Suspension

“Suspension and Debarment

- (1) The contractor is required to verify that none of the contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into. (3) This certification is a material representation of fact relied upon by Brazoria County. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Texas Department of Emergency Management and Brazoria County, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.”

25.4 Procurement of Recovered Materials (Solid Waste Disposal Act) (2 CFR 200.323):

Application:

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014]

- 1) 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

- (i) Competitively within a timeframe providing for compliance with the contract performance schedule;

(ii) Meeting contract performance requirements; or

(iii) At a reasonable price.

Information about this requirement is available at EPA's Comprehensive Procurement Guidelines web site, <http://www3.epa.gov/epawaste/conserve/tools/cpg/index.htm>

The list of EPA-designate items is available at <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>

25.5 Domestic Preferences for Procurements (2 CFR 200.322)

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, 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 including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) "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.

(2) "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.

25.6 DHS Seal, Logo and Flags

"The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA or Federal Administrator preapproval."

25.7 Compliance with Federal Law, Regulations, and Executive Orders

"This is an acknowledgement that FEMA (or applicable Federal Administrator) financial assistance will be used to fund the contract only. The contractor will comply with all applicable federal law, regulations, executive orders, FEMA (or applicable Federal Administrator), policies, procedures, and directives."

25.8 No Obligation by Federal Government

"The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract."

25.9 Program Fraud and False or Fraudulent Statements or Related Acts

"The contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the contractor's actions pertaining to this contract."

25.10 Termination for Cause and Convenience

Termination with Cause:

"Upon written notice to the Contractor of a defect or breach of this Agreement, Contractor has five (5) business days to cure any defect(s) or breach(es) cited in said notice. If Contractor fails to cure the defect(s) or breach(es) within the five (5) business days allowed, Brazoria County may terminate this Agreement. Nevertheless, Brazoria County reserves the right to provide written notice to the Contractor that this Agreement shall continue if Contractor has in good-faith commenced efforts to cure said defect(s) or breach(es) and Contractor agrees, in writing, to continue to act without undue delay to cure said defect(s) or breach(es)."

Termination Without Cause:

This contract may be terminated by either the County or the Contractor at any time, without cause, by providing the other Party at least thirty (30) calendar days' prior written notice.

25.11 Clean Air Act

- (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.
- (2) The contractor agrees to report each violation to Brazoria County and understands and agrees that Brazoria County will, in turn, report each violation as required to assure notification to the applicable federal program Administrator, and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by the applicable federal program Administrator.

25.12 Federal Water Pollution Control Act

- (1) The contractor agrees to comply with all applicable standards, orders or regulations issued 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 Brazoria County and understands and agrees that Brazoria County will, in turn, report each violation as required to assure notification to Brazoria County and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by the applicable federal program Administrator.”

25.13 Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer of employee of Congress, or an employee of a member of Congress in connection with obtaining and Federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

25.14 Energy Efficiency

The Contractor shall comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201)

25.15 Equal Opportunity:

Standard. Except as otherwise provided under 41 C.F.R. Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 C.F.R. § 60- 1.3 must include the equal opportunity clause provided under 41 C.F.R. § 60- 1.4(b), in accordance with Executive Order 11246, Equal Employment Opportunity (30 Fed. Reg. 12319, 12935, 3 C.F.R. 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

C.F.R. Part 60 (Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor). See 2 C.F.R. Part 200, Appendix II, ¶ C.

b. Key Definitions.

1) Federally Assisted Construction Contract. The regulation at 41 C.F.R.

§ 60-1.3 defines a “federally assisted construction contract” as any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.

(2) Construction Work. The regulation at 41 C.F.R. § 60-1.3 defines “construction work” as the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction

§ 60–1.4 Equal opportunity clause.

Government contracts. Except as otherwise provided, each contracting agency shall include the following equal opportunity clause contained in section 202 of the order in each of its Government contracts (and modifications thereof if not included in the original contract):

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 orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of 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:

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.

25.16 Davis-Bacon Act and Copeland Anti-Kickback Act

(1) Minimum wages.

(i) All [laborers](#) and mechanics [employed](#) or working upon [the site of the work](#) (or under the [United States Housing Act of 1937](#) or under the [Housing Act of 1949](#) in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the [Secretary](#) of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of [wages](#) and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the [wage determination](#) of the [Secretary](#) of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such [laborers](#) and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the [Davis-Bacon Act](#) on behalf of [laborers](#) or mechanics are considered [wages](#) paid to such [laborers](#) or mechanics, subject to the provisions of [paragraph \(a\)\(1\)\(iv\)](#) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such [laborers](#) and mechanics shall be paid the appropriate wage rate and fringe benefits on the [wage determination](#) for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). [Laborers](#) or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the [employer's](#) payroll records accurately set forth the time spent in each classification in which work is performed. The [wage determination](#) (including any additional classification and wage rates conformed under [paragraph \(a\)\(1\)\(ii\)](#) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at [the site of the work](#) in a prominent and accessible place where it can be easily seen by the workers.

(ii)

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

(1) The work to be performed by the classification requested is not performed by a classification in the [wage determination](#); and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the [wage determination](#).

(B) If the contractor and the [laborers](#) and mechanics to be [employed](#) in the classification (if known), or their representatives, and the [contracting officer](#) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the [contracting officer](#) to the [Administrator](#) of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The [Administrator](#), or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the [contracting officer](#) or will notify the [contracting officer](#) within the 30-day period that additional time is necessary.

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

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

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

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the [wages](#) of any [laborer](#) or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the [Secretary](#) of Labor has found, upon the written request of the contractor, that the

applicable standards of the [Davis-Bacon Act](#) have been met. The [Secretary](#) of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The (write in name of [Federal Agency](#) or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this [contract](#) or any other Federal [contract](#) with the same prime contractor, or any other federally-assisted [contract](#) subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay [laborers](#) and mechanics, including [apprentices](#), trainees, and helpers, [employed](#) by the contractor or any subcontractor the full amount of [wages](#) required by the [contract](#). In the event of failure to pay any [laborer](#) or mechanic, including any [apprentice](#), [trainee](#), or helper, [employed](#) or working on [the site of the work](#) (or under the [United States Housing Act of 1937](#) or under the [Housing Act of 1949](#) in the construction or development of the project), all or part of the [wages](#) required by the [contract](#), the (Agency) may, after written notice to the contractor, [sponsor](#), applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all [laborers](#) and mechanics working at [the site of the work](#) (or under the [United States Housing Act of 1937](#), or under the [Housing Act of 1949](#), in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of [wages](#) paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the [Davis-Bacon Act](#)), daily and weekly number of hours worked, deductions made and actual [wages](#) paid. Whenever the [Secretary](#) of Labor has found under [29 CFR 5.5\(a\)\(1\)\(iv\)](#) that the [wages](#) of any [laborer](#) or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the [Davis-Bacon Act](#), the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the [laborers](#) or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing [apprentices](#) or [trainees](#) under approved programs shall maintain written evidence of the registration of [apprenticeship programs](#) and certification of [trainee](#) programs, the registration of the [apprentices](#) and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)

(A) The contractor shall submit weekly for each week in which any [contract](#) work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the [agency](#) is a party to the [contract](#), but if the [agency](#) is not such a party, the contractor will submit the payrolls to the applicant, [sponsor](#), or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under [29 CFR 5.5\(a\)\(3\)\(i\)](#), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each [employee](#) (e.g., the last four digits of the [employee's](#) social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the [agency](#) is a party to the [contract](#), but if the [agency](#) is not such a party, the contractor will submit them to the applicant, [sponsor](#), or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the [sponsoring](#) government [agency](#) (or the applicant, [sponsor](#), or owner).

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

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, [29 CFR part 5](#), the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, [29 CFR part 5](#), and that such information is correct and complete;

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

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

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

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and [section 231](#) of title 31 of the United States Code.

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

(4) Apprentices and trainees -

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

(ii) Trainees. Except as provided in [29 CFR 5.16](#), [trainees](#) will not be permitted to work at less than the predetermined rate for the work performed unless they are [employed](#) pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of [trainees](#) to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every [trainee](#) must be paid at not less than the rate specified in the approved program for the [trainee's](#) level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable [wage determination](#). [Trainees](#) shall be paid fringe benefits in accordance with the provisions of the [trainee](#) program. If the [trainee](#) program does not mention fringe benefits, [trainees](#) shall be paid the full amount of fringe benefits listed on the [wage determination](#) unless the [Administrator](#) of the Wage and Hour Division determines that there is an [apprenticeship program](#) associated with the corresponding journeyman wage rate on the [wage determination](#) which provides for less than full fringe benefits for [apprentices](#). Any [employee](#) listed on the payroll at a [trainee](#) rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the [wage determination](#) for the classification of work actually performed. In addition, any [trainee](#) performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the [wage determination](#) for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize [trainees](#) at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of [29 CFR part 3](#), which are incorporated by reference in this [contract](#).

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in [29 CFR 5.5\(a\)\(1\)](#) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the [contract](#) clauses in [29 CFR 5.5](#).

(7) Contract termination: debarment. A breach of the [contract](#) clauses in [29 CFR 5.5](#) may be grounds for termination of the [contract](#), and for debarment as a contractor and a subcontractor as provided in [29 CFR 5.12](#).

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

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

(10) Certification of eligibility.

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

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

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

25.17 “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. pt. 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 any State and or Federal Agency may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

(3) 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.”

25.18 Contract Work Hours and Safety Standards Act

(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.

(1) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The State, Federal agency, loan or grant recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract

Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

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

25.19 Rights to Inventions Made Under a Contract or Agreement

Application:

a. Stafford Act Disaster Grants. This requirement does not apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of “funding agreement.”

b. State or Federal award meets the definition of “funding agreement” under 37 C.F.R.

§ 401.2(a) and the non-Federal entity 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 non-Federal entity must comply with the requirements of 37 C.F.R. 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 7 FEMA. See 2 C.F.R. Part 200, Appendix II, ¶ F.

c. The regulation at 37 C.F.R. § 401.2(a) currently defines “funding agreement” as any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

BRAZORIA COUNTY BID TABLE SUBMITTAL INSTRUCTIONS

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

Please follow the instructions found in Item 1.0 if you are submitting your bid electronically using Bonfire electronic bidding platform

1.0 ONLINE OFFER SUBMISSION (*PREFERRED METHOD OF SUBMISSION*)

RESPONDENTS ARE TO DOWNLOAD AND FILL OUT THE ONLINE BID TABLE FROM BONFIRE AND THEN UPLOAD THE COMPLETED TABLE INTO BONFIRE TO BE INCLUDED WITH THEIR ONLINE PROPOSAL SUBMISSION.

Please follow the instructions found in Item 2.0 if you are submitting a sealed hard copy proposal

2.0 HARD COPY PROPOSAL SUBMISSION

RESPONDENTS ARE TO INCLUDE WITH THEIR SEALED HARD COPY PROPOSAL, A PRINTED COPY OF ATTACHMENT A BID TABLE.

GENERAL: Brazoria County reserves the right to accept or reject any or all bids and waive all technicalities.
All delivered items should be priced – FOB Destination Full Freight Allowed. Brazoria County will not pay for any additional transportation and/or shipping charges.

BRAZORIA COUNTY STATEMENT OF NO OFFER

RFP #26-22 TERMINAL BUILDING STANDBY GENERATOR PROJECT

If Respondent is not submitting on the goods and/or services as stated in this RFP, please download and complete this form.

Mail the form to:

Brazoria County Administration Building, Purchasing Department, 237 E. Locust Street, Suite 406, Angleton, Texas 77515.

Or email to: aerickson@brazoriacountytx.gov

NAME OF FIRM: _____

ADDRESS: _____

SIGNATURE: _____

TELEPHONE: _____ DATE: _____

The above has declined to submit a response for the following reason(s) [please check all that apply]:

- ☐ Specifications too "restrictive", i.e., goods offered by our company do not meet stated specifications.
- ☐ Specifications unclear (please explain below).
- ☐ We do not offer this commodity and/or service or an equivalent.
- ☐ Insufficient time to respond to the RFP.
- ☐ Our schedule would not permit us to perform.
- ☐ Cannot meet insurance requirements.

Remarks: _____

BRAZORIA COUNTY

STANDARD TERMS AND CONDITIONS

1. **FUNDING:** Funds for payment have been provided through the Brazoria County budget approved by the Commissioners Court for the current fiscal year only. State of Texas statutes prohibit the obligation and expenditure of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that may arise past the end of the current Brazoria County fiscal year shall be subject to budget approval.
2. **DELIVERY:** Items ordered from this offer may require delivery to various locations throughout Brazoria County, as specified in this offer or at time of order. All delivery and freight charges (F.O.B. Brazoria County designated location) are to be included in the offer price except as noted herein.
3. **AWARD OF CONTRACT:** Brazoria County reserves the right to reject any or all offers, and to select any part or parts thereof without accepting the entire offer. All solicitations may be compared with contracts available to the County through other sources such as Interlocal Agreements and other appropriate sources. Brazoria County may purchase through the source that provides the best value to the County. The successful Respondent will be notified of award as promptly as a thorough analysis of offers will permit, and shall have ten (10) calendar days following date of notification of award in which to supply payment and performance bonds and certificate of insurance as may be required herein.
 - 3.1 Brazoria County hereby notifies Respondents that pursuant to Texas Local Government Code §262.0276 (effective September 1, 2003) Brazoria County is prohibited from entering into a contract or other transaction which requires approval by the Commissioners Court with an individual, sole proprietorship, corporation, non-profit corporation, partnership joint venture, limited corporation or other entity which is indebted to the County. Further, that this Contract may be terminated and payment withheld if awarded Respondent becomes indebted to the County during the term of the Contract.
4. **EQUAL EMPLOYMENT:** All contracts will be awarded by Brazoria County without consideration as to race, religion, sex, national origin or disability of bidder. Successful bidders are required to adhere to the provisions of 42 USCA Sec. 12101 et seq., Americans with Disabilities Act.
5. **CONTRACT:** The Contract consists of the Instructions to Respondents, Specifications/Statement of Work, Standard Terms & Conditions, all well as all other documents included in the Request for Proposal Number 26-22 as stated in the Request for Proposal Package Checklist, and any drawings and other specifications, as well as addenda issued prior to execution of the Contract, other documents listed in the Contract, and modifications issued after execution of the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. No invoices will be paid prior to acceptance of Contract by Brazoria County. No different or additional terms will become a part of this Contract, except as agreed upon by all parties hereto.
6. **INTERLOCAL PARTICIPATION:** It is hereby made a precondition of any offer for a Contract for supplies or services and a part of these specifications, that the submission of any offer in response to this request constitutes an offer made under the same conditions, for the same price, and for the same effective period as this offer, to any other governmental entity having an interlocal agreement with Brazoria County.
 - 6.1 It is further understood, that any other governmental entity that elects to use a Brazoria County semi-annual or annual award will issue its own Contracts or purchase orders and will require separate billing.
7. **DEFAULT OF RESPONDENT:** If successful respondent defaults by failing to supply payment and performance bonds and/or certificate of insurance within the ten (10) day period allotted, award shall pass to the next respondent who provides the best value to Brazoria County upon the approval of Commissioners' Court.
 - 7.1 Respondent, in submitting this offer, agrees that Brazoria County shall not be liable for damages in the event that the County declares the respondent in default.
8. **ADDENDA:** Any interpretations, corrections or changes to these Contract documents and specifications will be made by addenda. Sole issuing authority of addenda shall be vested in the Brazoria County Purchasing Director. Addenda will be mailed to all that are known to have received a copy of the offer package and/or Contract. Respondents shall acknowledge receipt of all addenda.
9. **SALES TAX:** Brazoria County is exempt by law from payment of Texas Sales Tax and Federal Excise Tax.
10. **ETHICAL CONDUCT:** The respondent shall not offer or accept gifts or anything of value, nor enter into any business arrangement with any employee, official, or Director of Brazoria County. No public official shall have interest in this Contract, in accordance with Texas Local Government Code Annotated Title 5, Subtitle C, Chapter 171.

- 10.1** The Respondent affirms that the only person or parties interested in this offer as principals are those named herein, and that this offer is made without collusion with any other person, firm, or corporation.

11. MINIMUM STANDARDS FOR RESPONSIBLE PROSPECTIVE BIDDERS: A prospective bidder must affirmatively demonstrate bidder's responsibility. A prospective bidder must meet the following requirements:

- 1) Have adequate financial resources, or the ability to obtain such resources as required;
- 2) Be able to comply with the required or proposed delivery schedule;
- 3) Have a satisfactory record of performance;
- 4) Have a satisfactory record of integrity and ethics;
- 5) Be otherwise qualified and eligible to receive an award.

- 11.1** Brazoria County may request representation and other information sufficient to determine bidder's ability to meet these minimum standards listed above.

12. REFERENCES: During an analysis of all offers, Brazoria County may request Respondent to supply a list of three (3) references to which like services or materials have been supplied by Respondent. If requested, references should include name of firm, address, telephone number and name of representative.

13. INSURANCE: Prior to acceptance of contract by Brazoria County, the successful Respondent must furnish a Certificate of Insurance from an approved insurance carrier for the coverage indicated.

14. SILENCE OF SPECIFICATIONS: The apparent silence of the specifications contained as a part of this package as to any detail or to the apparent omission of a 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.

15. INDEMNIFICATION: The successful Respondent (herein after referred to as Contractor), shall defend, indemnify, and save harmless Brazoria County and all its officers, Directors, officials, 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 of any negligent act or fault 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 of omission, neglect, or misconduct of said Contractor; or because any claims or amount recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising recovered under the Worker's Compensation Act, or any other law, ordinance, order, or decree; or of any Director, employee, subcontractor, or supplier in the execution of, or performance under, any Contract which may result from award of bid/offer.

- 15.1** Further, Contractor indemnifies and will indemnify and save harmless Brazoria County from liability, claim or demand on their part, their Directors, servants, customers, employees, subcontractors, or any employees or agents of subcontractors, whether such liability, claim, or demand arise from event or casualty happening within the job site itself or elsewhere. Contractor shall pay any judgment with costs which may be obtained against Brazoria County growing out of such injury or damages.

- 15.2** Money due the Contractor under and by virtue of his Contract as may be considered necessary by the County for such purpose may be retained for the use of the County, or in case no money is due, his surety may be held until such suit or suits action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to the effect furnished to the County, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

16. 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 with 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.

17. PURCHASE ORDERS REQUIRED: All orders for materials or work must be authenticated by a purchase order issued by the Brazoria County Purchasing Department. Invoices not bearing a purchase order number will not be paid.

18. TESTING: All materials being used in fulfillment of this Contract are subject to inspection or test at any time during their preparation, delivery, or use. At the option of the County Purchasing Director, they may be sampled and tested in order to determine compliance with the governing specifications. Materials not conforming to the requirements of these specifications shall not be used in fulfillment of this Contract with Brazoria County. The County reserves the right to immediately terminate any Contract found not to be in compliance with governing specifications as a result of testing by the County.

19. WAGES: Contractor shall pay or cause to be paid, without cost or expense to Brazoria County, all Social Security, Unemployment and Federal Income Withholding Taxes of all employees; and all such employees shall be paid wages and benefits as required by Federal and/or State law. Contracts involving construction work or supply of materials in place shall abide by the provisions of Article 5159d Texas Revised Civil Statutes Annotated.

20. TERMINATION OF CONTRACT:

Termination with Cause:

“Upon written notice to the Contractor of a defect or breach of this Agreement, Contractor has five (5) business days to cure any defect(s) or breach(es) cited in said notice. If Contractor fails to cure the defect(s) or breach(es) within the five (5) business days allowed, Brazoria County may terminate this Agreement. Nevertheless, Brazoria County reserves the right to provide written notice to the Contractor that this Agreement shall continue if Contractor has in good-faith commenced efforts to cure said defect(s) or breach(es) and Contractor agrees, in writing, to continue to act without undue delay to cure said defect(s) or breach(es).

Termination Without Cause:

This contract may be terminated by either the County or the Contractor at any time, without cause, by providing the other Party at least thirty (30) calendar days’ prior written notice.

21. DELIVERY OF NOTICES: Any notice provided by this Contract (or required by law) to be given to the Contractor by Brazoria County shall be conclusively deemed to have been given and received on the next day after such written notice has been deposited in the mail in Angleton, Texas, by Registered or Certified mail with sufficient postage affixed thereto, addressed to the Contractor at the address so provided; provided this shall not prevent the giving of actual notice in any other manner.

22. DELIVERY TICKETS: Delivery tickets shall accompany each order shipped, and shall show Contractor’s name and address, delivery location, Brazoria County purchase order number and descriptive information as to item and quantity delivered.

23. HAZARDOUS SUBSTANCES: State law requires that shipments of hazardous substances shall include MATERIAL SAFETY DATA SHEETS (MSDS). MSDS must be supplied with the first order shipped under any contract, and at any time MSDS is revised.

24. PAYMENT: Payment shall be made upon receipt and/or acceptance in accordance with the terms of this Contract by the County of items(s) ordered, and receipt of a valid invoice in accordance with Texas Government Code chapter 2251. Contractor is required to pay subcontractors within ten (10) days.

25. CONTRACTOR’S LIABILITY: 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 his manner or method of executing the work, including the Contractor’s agents, employees, subcontractors, and any employees or agents of subcontractors, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

25.1 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, including the Contractor’s agents, employees, subcontractors, and any employees or agents of subcontractors, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as he may be directed, or he shall make good such damage or injury in an acceptable manner.

26. DEFECTIVE MATERIALS: Unless otherwise stated herein, items supplied under this Contract shall be subject to the County’s approval. Items found defective or not meeting specifications shall be picked up and replaced by the Contractor at the next service day at no expense to the County. If item is not picked up within one (1) week after notification, the item will become a donation to the County for disposition.

27. WARRANTY: Contractor shall warrant that all items and services shall conform to the proposed specifications, all warranties as stated in the Uniform Commercial Code, and be free from all defects in material, workmanship and title. Contractor and the County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code. Further, Contractor shall provide additional warranty requirements as defined in the Scope of Work attached. Respondents must provide all warranty terms and conditions in response package.

28. ASSIGNMENT: Contractor shall not sell, assign, transfer or convey this Contract, in whole or in part, without the prior written consent of Brazoria County.

29. GOVERNING LAW: Contractor is advised that these requirements shall be fully governed by the laws of the State of Texas and that Brazoria County may request and rely on advice, decisions and opinions of the Attorney General of Texas and the County Attorney concerning any portion of these requirements. All disputes arising out of this agreement will be resolved in Brazoria County, Texas.

All documents are subject to the Public Information Act requirements.

30. DRAWINGS: All drawings, plans, and specifications are hereby attached and made a part of this Contract.

31. RIGHT TO AUDIT: At any time during the term of this Contract and for a period of four (4) years thereafter, the State of Texas, Brazoria County, and/or other federal, State and local agencies which may have jurisdiction over this contract and/or purchase order, at reasonable times and at its expense reserve the right to audit successful bidder's records and books. If needed for audit, original or independently certified copies of off-site records will be provided to auditors at successful respondent's expense within two (2) weeks of written request.

32. BID BOND: If required by the County, all respondents must submit with bid, a Bid Bond for at least five percent (5%) of the total bid price, if the bid exceeds \$100,000 in Contract price or if the Contract includes construction of public work. Such Bid Bond issued by a surety, acceptable to Brazoria County, authorized to do business in the State of Texas, is a guaranty that the respondent will enter into a contract with Brazoria County (as outlined in the Instructions/Specifications/Statement of Work and attachments) and that offer will furnish the requisite performance and payment bonds as may be required.

33. PERFORMANCE AND PAYMENT BONDS: In the event the total accepted proposal price exceeds \$25,000 the successful respondent must provide to the office of the County Purchasing Director, a payment bond, and if the price exceeds \$100,000 the successful respondent must also provide a performance bond, each in the amount of one hundred percent (100%) of the total contract sum within ten (10) calendar days after receipt of notification of bid/proposal award.

Such bonds shall be executed by a corporate surety or corporate sureties in accordance with Article 7.19-1, Vernon's Texas Insurance Code. Such corporate surety/sureties shall be duly authorized and admitted to do business in the State of Texas and licensed in the State of Texas to issue fidelity and surety bonds with a Best Rating of "A" or better and have a bonding capacity adequate for the prescribed amount. Brazoria County reserves the right to accept or reject any surety company proposed by the respondent. In the event Brazoria County rejects the proposed surety company, the respondent will be afforded five (5) additional days to submit the required bonds issued by a surety company acceptable to Brazoria County.

34. APPLICABLE LAW: All applicable laws and regulations of the State of Texas and ordinances and regulations of Brazoria County shall apply.

35. COMPLIANCE WITH APPLICABLE LAWS: Respondent shall at all times observe and comply with all federal, state, local and municipal ordinances, rules, regulations, relating to the provision of the services contracted to be provided by respondent hereunder or which in any manner affect this Contract.

36. FORCE MAJEURE: Neither the County nor the successful respondent shall be deemed in violation of this Agreement if either is prevented from performing its obligations hereunder for any reason beyond its control, including but not limited to, acts of God, civil or military authority, acts of public enemy, war riots, rebellions, accidents, fires, explosions, earthquakes, floods, or catastrophic failure of public transportation; provided however, that in the event of strikes or labor disputes, an inability to procure raw materials, equipment, power or supplies, or the enactment of any law, order, proclamation, regulation, ordinance, demand, or other requirement of any governmental agency or intergovernmental body, which prevents, restricts, interferes or delays with the performance of this Contract, the party so affected, upon giving notice to the other party, shall be excused from such performance to the extent of such prevention, restriction, delay or interference, so long as the party so affected shall use reasonable efforts under the circumstance to avoid or remove such causes of nonperformance, and shall continue performance hereunder with the utmost dispatch whenever such causes are removed.

37. SEVERABILITY: If any provision of this Contract is held to be unenforceable for any reason, the unenforceability thereof shall not affect any other provision contained herein, and the remainder of the Contract shall remain in full force and effect, and enforceable in accordance with its terms.

38. QUANTITIES: Brazoria County requests purchase prices for the items identified in this offer, and in accordance with the specifications provided herein. The quantities provided are given as a guideline only for the purpose of offer preparation. These quantities shall not be construed as the total number of purchases for the Contract. This estimated figure may increase and/or decrease throughout the year. No guarantee is expressed or implied as to the total quantity of items to be purchased under this Contract.

38.1 Brazoria County reserves the right to add or delete like or related items at any time during the term of this Contract. The additions or deletions shall be incorporated into the contract in the form of an addendum. Additional items shall be priced in accordance with this contract with appropriate discounts being applied.

- 39. PURCHASE FROM OTHER SOURCES:** Brazoria County reserves the right to purchase goods and/or services specified herein, or of equal or like kind, through contracts established by other governmental agencies or thorough separate procurement actions due to the unique or special needs of Brazoria County. Further, the County reserves the right to obtain such goods and/or services from others without penalty or prejudice to the County or the respondent and such action shall not invalidate in whole or in part this Contract or any rights or remedies Brazoria County may have hereunder.
- 40. AGREEMENT TO NOT BOYCOTT ISRAEL:** By agreeing to this Purchase Order [or if no formal agreement, by providing the good(s) / services(s)] the vendor verifies it does not boycott Israel and will not boycott Israel, as defined by Chapter 808 of the Texas Government Code, during the term of this contract [during the time necessary to provide the good(s) / services(s)].
- 41. TEXAS GOVERNMENT CODE 552, SUBCHAPTER J:** Effective January 1, 2020, the requirements of Subchapter J, Chapter 552, Texas Government Code, may apply to this contract and the Contractor agrees that the contract can be terminated if the Contractor knowingly or intentionally fails to comply with a requirement of that subchapter.
- 42. PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES AND EQUIPMENT CERTIFICATION (2 CFR 200.216):** By agreeing to this purchase order (or if no formal agreement, by providing goods/services) the vendor represents and warrants that the equipment, systems, and/or services which it will provide to Brazoria County do not use covered telecommunications equipment or services (as defined in Section 889 John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY 2019 NDAA), Pub. L. No. 115-232 (2018)) as a substantial or essential component of any system, or as critical technology of any system. Additionally, the vendor represents and warrants that the equipment, systems, and/or services it will provide are not prohibited from being procured using grant funds under section 889 of the FY 2019 NDAA.
- 43. AGREEMENT TO NOT BOYCOTT ENERGY COMPANIES:** By agreeing to this Purchase Order [or if no formal agreement, by providing the good(s) / services(s)] the vendor verifies it does not boycott energy companies and will not boycott energy companies, as defined by Chapter 809 of the Texas Government Code, during the term of this contract [during the time necessary to provide the good(s) / services(s)].
- 44. AGREEMENT TO NOT DISCRIMINATE AGAINST A FIREARM ENTITY OR TRADE ASSOCIATION:** By agreeing to this Purchase Order [or if no formal agreement, by providing the good(s) / services(s)] the vendor verifies it does not discriminate against a firearm entity or trade association and will not discriminate against a firearm entity or trade association, as defined by Chapter 2274 of the Texas Government Code, during the term of this contract [during the time necessary to provide the good(s) / services(s)].
- 45. DEBRIEF, PROTEST AND APPEAL PROCUDURES:** Please see page 20 of 48, section D. of the Brazoria County Policy and Procedure Manual which can be found on the Brazoria County Purchasing Department's "Doing Business" webpage, <https://www.brazoriacountytx.gov/departments/purchasing/doing-business>.
- 46. DISCLOSURE OF INTERESTED PARTIES FORM 1295:** A person or business, who enters into a contract with the County, meeting the conditions according to Texas Local Government Code Sec. 2252.908, is required to file Form 1295 with Texas Ethics Commission. A contract entered into by a governmental entity is voidable for failure to provide the disclosure of interested parties if the entity submits written notice to the business entity of the failure to submit the form and the business entity has not provided the form on, or before, the 10th business day after the business entity receives written notice to submit the Form 1295. **This form is not required unless there is a contract between the vendor and the Brazoria County. Do not submit this form unless you receive an award letter from the County.**

BRAZORIA COUNTY SPECIAL REQUIREMENTS

RESPONDENT INSTRUCTIONS:

READ THIS ENTIRE DOCUMENT CAREFULLY. FOLLOW ALL INSTRUCTIONS. YOU ARE RESPONSIBLE FOR FULFILLING ALL REQUIREMENTS AND SPECIFICATIONS. BE SURE YOU UNDERSTAND THEM.

The following requirements and specifications supersede other requirements where applicable.

General

The requirements set forth below are intended to outline the basic operating parameters and procedures required to provide goods and/or services to Brazoria County as described herein. It is not the intention to describe every item required. In the performance of this Contract, the successful respondent represents it is familiar with the condition under which Brazoria County operates and represents that it has the resources, knowledge and skills to properly support the County's needs consistent with these special conditions and the Contract documents.

The County reserves the right to modify this Contract and Scope of Work as necessary to develop and maintain specifications / statement of work that meets the County's needs. Such modifications shall be mutually agreed upon and shall be incorporated into this Contract as an addendum. Brazoria County shall not be responsible for any additional charge that is not stated in this Contract or mutually agreed to prior to such work or service is performed and/or invoiced.

The Specifications/Statement of Work provided in this package is to be used as a guide in developing an offer to this RFP. The information contained herein is not intended to be restrictive and the County will consider alternate offers submitted by respondent. Alternate offers shall be clearly marked with the proposed alternates and or exceptions to the Specifications/Statement of Work and shall include all pricing/cost advantages if applicable. Respondents are expected to include any additional requirements that may have been inadvertently left out of the attached Specifications/Statement of Work.

All offers inclusive of pricing shall remain firm for acceptance for a period of ninety (90) days from opening date unless otherwise specified by Brazoria County.

Prices offered shall reflect the full Specifications/Statement of Work as defined per the RFP documents, inclusive of all associated costs for insurance, taxes, overhead, profit and bonding, if required and so identified.

Respondent must include all incidental costs in his pricing. Brazoria County will not provide or allow for parking or travel reimbursements for the respondent's employees. Respondent's offices, administration and/or place of business will not be on Brazoria County premises and will be the respondent's responsibility. Only those costs shown on the Pricing/Delivery Sheet and confirmed by a purchase order will be paid.

It is also understood that any and all persons who provide services under Contract to Brazoria County, resulting from this Request for Proposal, shall be and remain employees of the Contractor, not Brazoria County. It is understood and agreed that the respondent is solely responsible for all services being provided and shall provide adequate insurance to cover against any and all losses incurred by the respondent's employees and or equipment during the course of the Contract.

Respondents may be requested to provide presentations, such presentations may develop into negotiating sessions with the successful respondent as selected by the evaluation committee. If Brazoria County and respondent are unable to agree to Contract terms, Brazoria County reserves the right to terminate Contract negotiations with that respondent and enter into negotiations with another respondent.

No award or acquisition can be made until Commissioners Court approves such action.

Brazoria County will not be obligated to the respondent for goods and/or services until completion of a signed Contract as approved by Commissioners Court.

Submission of an offer implies the respondent's acceptance of the evaluation criteria and respondent recognition that subjective judgments must be made by the evaluating committee.

This Request for Proposal in no manner obligates Brazoria County or any of its agencies to the eventual purchase of any goods and/or services described, implied or which may be proposed, until confirmed by a written Contract and purchase order. Progress toward this end is solely at the discretion of Brazoria County and may be terminated at any time prior to the signing of a Contract.

Brazoria County will not be liable for any costs incurred by the respondent in preparing a response to this RFP. Brazoria County makes no guarantee that any goods and/or services will be purchased as a result of this request for proposal, and reserves the right to reject any and all offers. All offers and their accompanying documentation will become the property of Brazoria County. All offers shall be open to negotiation.

All documents will be held by the County and are NOT subject to public view until an award is made. When an award is made, offers are subject to review under the "Public Information Act". To the extent permitted by law, respondents may request in writing non-disclosure of confidential data. Such data shall accompany the offer, be readily separable from the offer and shall be CLEARLY MARKED "CONFIDENTIAL".

All correspondence relating to this RFP, from advertisement to award shall be sent to the Brazoria County Purchasing Department. All presentations and/or meetings between Brazoria County and the respondent relating to this RFP shall be coordinated by the Brazoria County Purchasing Department. Deviations from this requirement may cause the cancellation of this RFP process and/or disqualification of respondent's proposal.

All information provided to respondent for the purpose of submitting a proposal in response to this RFP is confidential, and is and will remain, the property of Brazoria County and will not be used by respondent for any other purposes.

The respondent is expected to examine all documents, forms, specifications, and all instructions. Failure to do so will be at respondent's risk.

The use of liquid paper is **NOT** acceptable and may result in the disqualification of RFP. If an error is made, bidder **MUST** draw a line through the error and initial each change.

Exceptions

Respondent Terms & Conditions are subject to the review and approval of Brazoria County. In the event of conflicting Terms & Conditions, the terms and conditions contained in the solicitation package shall prevail.

Respondent must clearly identify any conflict with terms & conditions by denoting them on the same page where the conflicting terms and conditions appear.

Public Information Act

All responses to this solicitation are in their entirety, subject to the Public Information Act. Brazoria County will respond to open records requests in accordance to law by providing all requested response information unless respondent (respondent) has specifically identified, in the response package, any section or part respondent deems confidential and/or proprietary. Respondent must note and identify such information on the page where such information appears in the same manner as other exceptions.

Late Offer - Electronic Submissions

Once the project closes in Bonfire, Respondents are not able to upload a finalized submission electronically.

Late Offer – Hard Copy Submissions

Hard Copy proposals received in the office of the County Purchasing Director after submission deadline will be considered void and unacceptable. Brazoria County is not responsible for lateness or non-delivery of mail, carrier, etc., and the date/time stamp in the office of the County Purchasing Director shall be the official time of receipt.

Altering Submissions - Electronic

If an error is made after your proposal submission is finalized, click [HERE](#) for instructions. Bonfire allows for respondents to make alterations or amendments and re-submit their submissions before the project closes.

Altering Submissions – Hard Copy

Bids cannot be altered or amended after submission deadline. Any interlineation, alteration, or erasure made before opening time must be initialed by the signer of the bid/offer, guaranteeing authenticity.

Substitutions to Offer

Brazoria County reserves the right to accept any and all or none of the substitutions deemed to be in the best interest of the County.

Withdrawal of Offer

An offer may not be withdrawn or canceled by the respondent without the permission of Brazoria County for a period of ninety (90) days following the date designated for the receipt of bids/offers, and respondent so agrees upon submittal of their bid/offer.

Descriptions

Any reference to model and/or make/manufacture used in bid/offer specifications or scope of work are descriptive, not restrictive. It is used to indicate the type and quality desired. Bids/Offer on items of like quality will be considered. Offer must provide hardware specifications where hardware is offered.

Terms of Payment

Terms of payment shall be net thirty (30) days from receipt of acceptable invoice and/or acceptance of conforming goods, whichever is later. However, alternate terms will be considered and may be offered. Invoices for installed equipment and software will not be paid prior to complete acceptance by Brazoria County unless otherwise specified. If installation of equipment and software is delayed, the County reserves the right (without extra expense or penalty) to delay a portion of the payment until equipment is installed and functioning properly.

Pricing / Delivery

All items should be priced – FOB Destination Full Freight Allowed, inside delivery. Brazoria County will not pay for any additional transportation and/or shipping charges.

No charges may be billed to the County unless such costs were explicitly included in the proposal. Respondent will incur any costs not explicitly included in the proposal and/or mutually agreed to in writing by the Brazoria County Purchasing Department.

Reduction in Price: If during the life of the contract, the successful bidder's net prices to other customers for items awarded herein are reduced below the contracted price, it is understood and agreed that the benefits of such reduction shall be extended to Brazoria County.

Price Increase: Requests for price adjustments must be solely for the purpose of accommodating an increase in the vendor's cost. A request for a pricing increase will be reviewed by Purchasing Department using the Producer Price Index (PPI) and/or Consumer Price Index (CPI) and any other research available to determine market conditions favorable to the increase. If market conditions dictate an increase to an awarded vendor's cost, the awarded vendor may submit a request to increase pricing no later than thirty (30) days after receiving notice of the County's intent to renew the contract. Requests will only be considered at the time of renewal with written approval from the County. Additionally, the vendor must de-escalate pricing on a previously escalated item, if the decrease is appropriate, due to market conditions.

The request must be in writing and substantiated with supporting documentation (i.e., increase in manufacturers direct cost, etc.). The request shall be addressed to the County Purchasing Director, 237 E. Locust, Suite 406, Angleton, Texas 77515. The request may also be emailed to the Contract Specialist listed in the solicitation. The awarded vendor's past history of honoring contracts at the bid/offer price will be an important consideration in the determination of requested price increase. Brazoria County reserves the right to accept or reject any/all of the requests for price adjustments as it deems to be in the best interest of the County. If rejected, either party may terminate the contract in accordance with the termination provisions of the contract.

Personnel

Successful respondent agrees at all times to maintain an adequate staff of experienced and qualified full time employees to ensure efficient performance under this Agreement. No part-time, subcontract, or third party personnel may perform services hereunder without the prior written consent of the Brazoria County Purchasing Department.

Successful respondent agrees that at all times its employees will perform required services in a professional and workmanlike manner in accordance with good industry practices.

Brazoria County may, at any time, request the removal and replacement of any of successful respondent's employees and the successful respondent will duly consider such request.

Legal Documents

Respondent must submit with its proposal any agreements for services, etc. which may be required by their organization to enter into a Contract with Brazoria County. These agreements must be completed, executed by respondent's authorized representative and submitted with the returned proposal, and are subject to review and amendment by the Brazoria County Attorney's Office, and to approval by Commissioners Court. In the event of conflicting terms, the Brazoria County Terms and Conditions, Statement of Work, and attachments shall prevail.

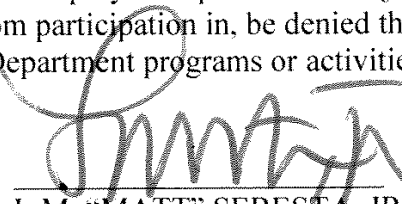
Contract Obligations

This offer, submitted documents and any negotiations, when properly accepted by Brazoria County, shall constitute a Contract equally binding between the successful respondent and Brazoria County. The selected respondent will be considered as the prime Contractor and shall assume responsibility for the goods and/or services. Failure to meet obligations may result in the cancellation of any Contracts.

The respondent's response may be incorporated into any Contract which results from this RFP, therefore, respondents are cautioned not to make claims or statements which they are not prepared to commit to Contractually. Failure by the respondent to meet such claims will result in a requirement that the respondent provide resources necessary to meet submitted claims and/or breach of Contract.

**Title VI and Related Statues
Nondiscrimination Statement**

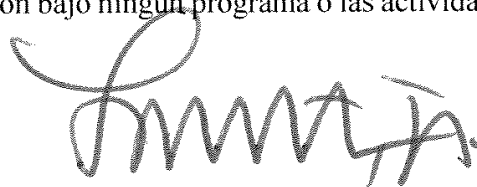
Brazoria County, as a recipient of Federal financial assistance and under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person shall on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment per 42 U.S.S. § 2000d-3), color, national origin, sex, age or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any Department programs or activities.



L.M. "MATT" SEBESTA, JR.
COUNTY JUDGE

**Titulo VI y Estatutos Relacionados
Declaration de No Discriminacion**

Brazoria County, como beneficiario de la asistencia financiera federal y según el Título VI de la Ley de Derechos Civiles de 1964 y los estatutos relacionados, asegura que ninguna persona será excluida por motivos de raza, religión (donde el objetivo principal de la ayuda financiera es proporcionar empleo por 42 USS § 2000d-3), color, origen nacional, sexo, edad o discapacidad de participacion en, o negado los beneficios de, ni será sujeto a discriminación bajo ningún programa o las actividades del Departamento.



L.M. "MATT" SEBESTA, JR.
COUNTY JUDGE

PREVAILING WAGE RATES

"General Decision Number: TX20250233 11/21/2025

Superseded General Decision Number: TX20240233

State: Texas

Construction Type: Building

County: Brazoria County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

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

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

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

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

Modification Number	Publication Date
0	01/03/2025
1	03/07/2025
2	03/14/2025
3	05/16/2025
4	07/04/2025
5	11/21/2025

ASBE0022-009 07/01/2024

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)....	\$ 30.20	12.38

BOIL0074-003 01/01/2025

	Rates	Fringes
BOILERMAKER.....	\$ 33.17	24.92

CARP0551-009 04/01/2025

	Rates	Fringes
CARPENTER (Excludes Drywall Hanging, Form Work, and Metal Stud Installation).....	\$ 33.27	9.73

* ELEC0716-005 09/01/2025

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring and Installation of Alarms).....	\$ 38.50	10.71

ELEV0031-003 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 53.59	38.435+a+b

FOOTNOTES:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day; and Veterans Day.

ENGI0450-002 04/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR Cranes.....	\$ 39.47	10.39

IRON0084-011 06/01/2024		
	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 28.26	8.13

IRON0135-002 09/01/2022		
	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 34.35	14.44

PLUM0068-002 10/01/2024		
	Rates	Fringes
PLUMBER.....	\$ 39.98	11.61

* PLUM0211-010 10/01/2025		
	Rates	Fringes
PIPEFITTER (Including HVAC Pipe Installation).....	\$ 42.09	12.96

SHEE0054-003 04/01/2020		
	Rates	Fringes
SHEET METAL WORKER (Excludes HVAC Duct and Unit Installation).....	\$ 29.70	13.85

* SUTX2014-008 07/21/2014		
	Rates	Fringes
ACOUSTICAL CEILING MECHANIC.....	\$ 16.41 **	3.98
BRICKLAYER.....	\$ 19.86	0.00
CAULKER.....	\$ 15.36 **	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.33 **	0.00
DRYWALL FINISHER/TAPER.....	\$ 16.30 **	3.71
DRYWALL HANGER AND METAL STUD INSTALLER.....	\$ 17.45 **	3.96
ELECTRICIAN (Alarm Installation Only).....	\$ 17.97	3.37
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 18.00	1.68
FLOOR LAYER: Carpet.....	\$ 20.00	0.00

FORM WORKER.....	\$ 12.57 **	0.00
GLAZIER.....	\$ 19.12	4.41
INSULATOR - BATT.....	\$ 14.87 **	0.73
IRONWORKER, REINFORCING.....	\$ 12.10 **	0.00
LABORER: Common or General.....	\$ 10.55 **	0.00
LABORER: Mason Tender - Brick...	\$ 13.37 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.86 **	0.00
LABORER: Pipelayer.....	\$ 12.94 **	0.00
LABORER: Roof Tearoff.....	\$ 11.28 **	0.00
LABORER: Landscape and Irrigation.....	\$ 9.49 **	0.00
LATHER.....	\$ 19.73	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 15.56 **	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93 **	0.00
OPERATOR: Bulldozer.....	\$ 20.77	0.00
OPERATOR: Drill.....	\$ 16.22 **	0.34
OPERATOR: Forklift.....	\$ 15.64 **	0.00
OPERATOR: Grader/Blade.....	\$ 13.37 **	0.00
OPERATOR: Loader.....	\$ 13.55 **	0.94
OPERATOR: Mechanic.....	\$ 17.52 **	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03 **	0.00
OPERATOR: Roller.....	\$ 16.00 **	0.00
PAINTER (Brush, Roller and Spray), Excludes Drywall Finishing/Taping.....	\$ 16.77 **	4.51
ROOFER.....	\$ 15.40 **	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 20.05	4.19
SHEET METAL WORKER (HVAC Unit Installation Only).....	\$ 19.67	2.24
SPRINKLER FITTER (Fire Sprinklers).....	\$ 22.17	9.70

TILE FINISHER.....	\$ 12.00 **	0.00
TILE SETTER.....	\$ 16.17 **	0.00
TRUCK DRIVER: 1/Single Axle Truck.....	\$ 14.95 **	5.23
TRUCK DRIVER: Dump Truck.....	\$ 12.39 **	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00 **	4.11
WATERPROOFER.....	\$ 14.39 **	0.00

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

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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

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

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

Union Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

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

State Adopted Rate Identifiers

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

=====
END OF GENERAL DECISION"

BRAZORIA COUNTY INSURANCE REQUIREMENTS

The following requirements and specifications shall be in addition to the other requirements contained herein and shall supersede the other requirements where applicable.

INSURANCE: Prior to acceptance of contract by Brazoria County, the successful bidder must furnish a Certificate of Insurance together with a receipt showing the time period for which premium has been paid, from an approved insurance carrier for the coverage indicated below.

A. FOR STANDARD PURCHASES CONTRACTS, THE FOLLOWING COVERAGES ARE REQUIRED:

1. Statutory workers compensation in accordance with the State of Texas requirements.
2. Comprehensive general liability including owners and contractors protective liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER OCCURRENCE
a. Premises and product liability	\$1,000,000
b. Aggregate policy limits	\$1,000,000

3. Comprehensive automobile and truck liability insurance (covering owned, hired and non-owned vehicles):

COVERAGE	PER OCCURRENCE
a. Bodily injury (including death)	\$1,000,000
b. Property damage	\$1,000,000

Insurance certificates and policy endorsements shall include agreements to hold Commissioners Court of Brazoria County and Brazoria County, Texas harmless; i.e., shall include coverage for "Hold Harmless Agreement".

Failure to maintain insurance coverage as required herein shall be grounds for immediate termination of contract.

All policies must provide, by endorsement to the policy, that thirty (30) days prior written notice of cancellation or material change in coverage be given to the Purchasing Director of Brazoria County. Such insurance when accepted by the County in writing will become acceptable and shall remain unmodified until final acceptance of the work. Coverage provided must be on an occurrence basis.

No policy submitted shall be subject to limitations, conditions, or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by the successful bidder. The decision of Brazoria County thereon is final.

All policies shall be written through a company duly entered and authorized to transact that class of insurance in the State of Texas. Neither approval by Brazoria County of any insurance supplied by the successful bidder, nor a failure to disapprove that insurance, shall relieve the successful bidder of full responsibility of liability, damages and accidents as set forth herein.

No additional payment shall be made for any insurance that the successful bidder may be required to carry.

Certificate Holder information shall be as follows:

Brazoria County
237 E. Locust Street, Suite 401
Angleton, TX 77515

BRAZORIA COUNTY BID BOND INFORMATION AND REQUIREMENTS

The following requirements supersede other requirements where applicable.

BID BOND: All respondents must submit with bid/proposal, a bid bond for at least five percent (5%) of the total bid/proposal price for this construction of a public work project. A Bid Bond shall be issued by a surety acceptable to Brazoria County, authorized to do business in the State of Texas, as a guaranty that the respondent will enter into a contract with Brazoria County (as outlined in the Statement of Work and attachments) and that offer will furnish the requisite performance and payment bonds as may be required.

If submitting to this Bid/Offer electronically, an original (paper, not electronic) bid bond is required to be mailed to the Purchasing Department within three (3) business days *of receipt of the Intent to Award letter* and a copy of the original bid bond shall be submitted with the electronic Bid/Offer response. Please use the label found on the last page of the RFP procurement package, as well as the hard copy mailing address found in the same procurement package. If submitting to this Bid/Offer through hard copy format (not electronically), the original bid bond must be included in the Bid/Offer response.

A guaranty shall be submitted with each bid that the bidder will enter into a contract with Brazoria County for the goods and/or services as outlined in the Specifications, Scope of Work and contract attachments and that respondent will furnish the requisite performance and payment bonds as may be required within ten (10) days after award of the contract and receipt of contract and performance bond forms.

Performance bond and payment bond shall be in a sum equal to the amount of money to be paid by the County under the contract, unless otherwise stated, and shall be executed by a surety company authorized to do business in the State of Texas.

Written verification of the validity of the bond shall be received by the Purchasing Department from the Contractor's Surety before any payments will be made.

BRAZORIA COUNTY PERFORMANCE BOND INFORMATION AND REQUIREMENTS

The following requirements supersede other requirements where applicable.

PERFORMANCE BOND: (Public Works Contract or as Required by Commissioner's Court) As designated below, the successful respondent must provide a performance bond, in the amount of one hundred percent (100%) of the total contract sum within ten (10) calendar days after receipt of notification of bid/proposal award. Such bond shall be executed by a corporate surety or corporate sureties in accordance with Article 7.19-1, Vernon's Texas Insurance Code. Such corporate surety/sureties shall be duly authorized and admitted to do business in the State of Texas and licensed in the State of Texas to issue fidelity and surety bonds with a Best Rating of "A" or better and have a bonding capacity adequate for the prescribed amount. Brazoria County reserves the right to accept or reject any surety company proposed by the respondent. In the event Brazoria County rejects the proposed surety company, the respondent will be afforded five (5) additional days to submit the required bonds issued by a surety company acceptable to Brazoria County.

 X PERFORMANCE BOND REQUIRED WHEN BID/PROPOSAL EXCEEDS \$100,000
AND IS FOR PUBLIC WORK.

 PERFORMANCE BOND REQUIRED WHEN BID/PROPOSAL EXCEEDS \$50,000.00 AND IS REQUIRED BY
BRAZORIA COUNTY.

If the performance bond and related documents are not returned to the Brazoria County Purchasing Department, 237 E. Locust, Suite 406, Angleton, Texas 77515 within ten (10) days of award, Brazoria County has the right to render the award ineffective.

Written verification of the validity of the bond shall be received by the Purchasing Department from the Contractor's Surety before any payments will be made.

**BRAZORIA COUNTY
PAYMENT BOND INFORMATION
AND REQUIREMENTS**

The following requirements supersede other requirements where applicable.

PAYMENT BOND: (Public Works Contract) In the event the total accepted bid/proposal price exceeds \$25,000 the successful respondent must provide to the office of the County Purchasing Director, a payment bond in the amount of one hundred percent (100%) of the total contract sum within ten (10) calendar days after receipt of notification of bid/proposal award. Such bond shall be executed by a corporate surety or corporate sureties in accordance with Article 7.19-1, Vernon's Texas Insurance Code. Such corporate surety/sureties shall be duly authorized and admitted to do business in the State of Texas and licensed in the State of Texas to issue fidelity and surety bonds with a Best Rating of "A" or better and have a bonding capacity adequate for the prescribed amount. Brazoria County reserves the right to accept or reject any surety company proposed by the respondent. In the event Brazoria County rejects the proposed surety company, the respondent will be afforded five (5) additional days to submit the required bonds issued by a surety company acceptable to Brazoria County.

 X PAYMENT BOND REQUIRED WHEN BID/PROPOSAL EXCEEDS \$25,000 AND IS FOR PUBLIC WORKS.

If the payment bond and related documents are not returned to the Brazoria County Purchasing Department, 237 E. Locust, Suite 406, Angleton, Texas 77515 within ten (10) days of award, Brazoria County has the right to render the award ineffective.

Written verification of the validity of the bond shall be received by the Purchasing Department from the Contractor's Surety before any payments will be made.

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.

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

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.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

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

TEXAS ETHICS COMMISSION RULES

CHAPTER 46. DISCLOSURE OF INTERESTED PARTIES

§ 46.1. Application

- (a) This chapter applies to section 2252.908 of the Government Code
- (b) Section 2252.908 of the Government Code applies only to a contract of a governmental entity or state agency entered into after December 31, 2015, that meets either of the following conditions:
 - (1) the contract requires an action or vote by the governing body of the entity or agency; or
 - (2) The value of the contract is at least \$1 million.
- (c) A contract does not require an action or vote by the governing body of a governmental entity or state agency if:
 - (1) the governing body has legal authority to delegate to its staff the authority to execute the contract
 - (2) The governing body has delegated to its staff the authority to execute the contract; and
 - (3) The governing body does not participate in the selection of the business entity with which the contract is entered into.

§ 46.3. Definitions

- (a) "Contract" means a contract between a governmental entity or state agency and a business entity at the time it is voted on by the governing body or at the time it binds the governmental entity or state agency, whichever is earlier, and includes an amended, extended, or renewed contract.
- (b) "Business entity" includes an entity through which business is conducted with a governmental entity or state agency, regardless of whether the entity is a for-profit or nonprofit entity. The term does not include a governmental entity or state agency.
- (c) "Controlling interest" means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers. Subsection (3) of this section does not apply to an officer of a publicly held business entity or its wholly owned subsidiaries.
- (d) "Interested party" means: (1) a person who has a controlling interest in a business entity with whom a governmental entity or state agency contracts; or (2) an intermediary.
- (e) "Intermediary," for purposes of this rule, means, a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:
 - (1) receives compensation from the business entity for the person's participation;
 - (2) communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract; and
 - (3) is not an employee of the business entity or of an entity with a controlling interest in the business entity.
- (f) "Signed" includes any symbol executed or adopted by a person with present intention to authenticate a writing, including an electronic signature.
- (g) "Value" of a contract is based on the amount of consideration received or to be received by the business entity from the governmental entity or state agency under the contract.

§ 46.4. Changes to Contracts (new rule effective January 1, 2017)

- (a) Section 2252.908 of the Government Code does not apply to a change made to an existing contract, including an amendment, change order, or extension of a contract, except as provided by subsections (b) or (c) of this section.
- (b) Section 2252.908 of the Government Code applies to a change made to an existing contract, including an amendment, change order, or extension of a contract, if a disclosure of interested parties form was not filed for the existing contract; and either:
- (1) the changed contract requires an action or vote by the governing body of the entity or agency;
or
 - (2) the value of the changed contract is at least \$1 million.
- (c) Section 2252.908 of the Government Code applies to a change made to an existing contract, including an amendment, change order, or extension of a contract, if the business entity submitted a disclosure of interested parties form to the governmental entity or state agency that is a party to the existing contract; and either:
- (1) there is a change to the disclosure of interested parties; or
 - (2) the changed contract requires an action or vote by the governing body of the entity or agency;
or
 - (3) the value of the changed contract is at least \$1 million greater than the value of the existing contract.

§ 46.5. Disclosure of Interested Parties Form

- (a) A disclosure of interested parties form required by section 2252.908 of the Government Code must be filed on an electronic form prescribed by the commission that contains the following:
- (1) The name of the business entity filing the form and the city, state, and country of the business entity's place of business;
 - (2) The name of the governmental entity or state agency that is a party to the contract for which the form is being filed;
 - (3) The name of each interested party and the city, state, and country of the place of business of each interested party;
 - (4) The identification number used by the governmental entity or state agency to track or identify the contract for which the form is being filed and a short description of the services, goods, or other property used by the governmental entity or state agency provided under the contract; and
 - (5) An indication of whether each interested party has a controlling interest in the business entity, is an intermediary in the contract for which the disclosure is being filed, or both.
- (b) The certification of filing and the completed disclosure of interested parties form generated by the commission's electronic filing application must be printed, signed by an authorized agent of the contracting business entity, and submitted to the governmental entity or state agency that is the party to the contract for which the form is being filed.
- (c) A governmental entity or state agency that receives a completed disclosure of interested parties form and certification of filing shall notify the commission, in an electronic format prescribed by the commission, of the receipt of those documents not later than the 30th day after the date the governmental entity or state agency receives the disclosure.
- (d) The commission shall make each disclosure of interested parties form filed with the commission under section 2252.908(f) of the Government Code available to the public on the commission's Internet website not later than the seventh business day after the date the commission receives the notice required under subsection (c) of this section.

****Note:** . A contract entered into by a governmental entity is voidable for failure to provide the disclosure of interested parties if the entity submits written notice to the business entity of the failure to submit the form and the business entity has not provided the form on, or before, the 10th business day after the business entity receives written notice to submit the Form 1295.

BOYCOTT VERIFICATION

This verification is required pursuant to Sections 808, 809, 2271, and 2274 (87(R) Senate Bill 13 and 19 versions) of the Texas Government Code:

Definitions:

1. Per Government Code Chapter 808, "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 for ordinary business purpose
2. Per Government Code Chapter 809, "Boycott energy company" means, without an ordinary business purpose, 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 with a company because the company:
 - (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or
 - (B) does business with a company described by Paragraph (A)
3. Per Government Code Chapter 2274 (87(R) Senate Bill 19), "Discriminate against a firearm entity or firearm trade association":
 - (A) means, with respect to the entity or association, to:
 - (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association;
 - (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or
 - (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association;
4. "Company" has the meaning assigned by Texas Government Code Sections 808.001(2), 809.001(2), and 2274.001(2) (87(R) Senate Bill 19).

This verification is only required for a contract that is between a governmental entity and a company with 10 or more full-time employees; and has a value of \$100,000 or more that is to be paid wholly or partly from public funds of the governmental entity. If your contract value or number of employees does not reach that threshold, please provide a written certification of the contract amount and number of employees.

I, _____ (Person name), the undersigned representative of (Company or Business Name) _____ (hereinafter referred to as Company) being an adult over the age of eighteen (18) years of age, do hereby depose and verify under oath that the company named-above,

- (A) does not boycott Israel currently;
- (B) will not boycott Israel during the term of the contract the named Company, business or individual with Brazoria County Texas, Texas;
- (C) does not boycott energy companies currently;
- (D) will not boycott energy companies during the term of the contract the named Company, business or individual with Brazoria County, Texas;
- (E) does not boycott a firearm entity of firearm trade association currently; and
- (F) will not boycott a firearm entity of firearm trade association during the term of the contract the named Company, business or individual with Brazoria County, Texas

DATE

SIGNATURE OF COMPANY REPRESENTATIVE

**BRAZORIA COUNTY
RETURN LABEL**

**USE THIS LABEL ONLY IF YOU ARE SUBMITTING A HARD
COPY PROPOSAL SUBMISSION**

<u>SEALED REQUEST FOR PROPOSAL (RFP)</u>	
RFP#:	26-22
OPENING DATE:	THURSDAY, JANUARY 22, 2026
OPENING TIME:	11:00 A.M. LOCAL TIME
RFP DESCRIPTION:	TERMINAL BUILDING STANDBY GENERATOR PROJECT
RETURN OFFER TO:	PHYSICAL ADDRESS: COUNTY PURCHASING DIRECTOR BRAZORIA COUNTY PURCHASING 237 E. LOCUST STREET, SUITE 406 ANGLETON, TEXAS 77515
<i>DATED MATERIAL – DELIVER IMMEDIATELY</i>	

**PLEASE CUT OUT AND AFFIX THE RFP LABEL ABOVE TO THE OUTER
MOST ENVELOPE OF YOUR RESPONSE TO HELP ENSURE PROPER
DELIVERY!**

*******LATE RFP's CANNOT BE ACCEPTED*******

TECHNICAL SPECIFICATIONS

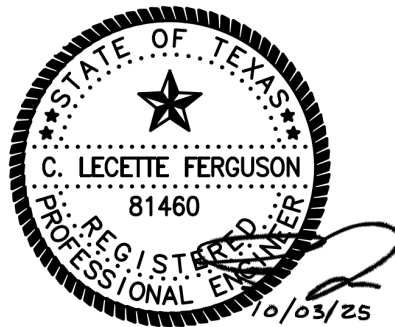


**TEXAS GULF COAST REGIONAL AIRPORT
ANGLETON, TEXAS**

TERMINAL BUILDING STANDBY GENERATOR PROJECT

KSA Project No. 104132

ISSUED FOR BID



OCTOBER 2025

Prepared by:

KSA

a Pape-Dawson company

**2107 CityWest Boulevard, Third Floor
Houston, Texas 77042**

281.494.3252

www.ksaeng.com

TBPE Firm Registration No. F-1356

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ITEM KSA-101 SHOP DRAWINGS, PROJECT DATA, AND SAMPLES

DESCRIPTION

101-1.1 Contractor shall furnish all labor, materials, tools, equipment, and perform all work and services necessary for or incidental to the furnishing, processing, delivery, reproduction and other necessary functions incidental to scheduling and handling of shop drawings, project data, and samples as indicated on the plans and/or as specified, in accordance with provisions of the Contract Documents, and completely coordinated with work of all trades.

- a. Although such work is not specifically shown or specified, all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for completion of work under this item shall be furnished and performed as part of this item.
- b. See appropriate sections for specific items for which data and/or samples are required.
- c. All material submittals shall include certification that the proposed material meets the Buy American and/or Buy America provision(s) included in the contract documents. Failure to provide this certification will cause the submittal to be returned for re-submittal.

101-2.1 SUBMITTAL, ADDRESS. All items shall be submitted electronically. The preferred method of submission is utilizing the Newforma Info Exchange project page provided by KSA. KSA will provide a link to the project page for the Contractor to make submittals, to submit RFI's, and upload large files as necessary. There is no cost for using this service. If for some reason the Contractor cannot utilize the Newforma Info Exchange project page for submission, the Contractor shall submit one scanned copy of the submittal via the email to the Project Manager, Project Engineer and Project Assistant, Craig Clairmont, at cclairmont@ksaeng.com, Nathan Mikell, at nmikell@ksaeng.com and fsalazar@ksaeng.com.

101-3.1 SUBMITTALS, GENERAL.

- a. Contractor shall be responsible for and make all submissions. All items shall be transmitted electronically and include a Contractor's review stamp.
- b. Each transmittal will be sequentially numbered starting with No. 01.
 - (1) An item that is resubmitted will retain the original number but with an added suffix starting with A.
 - (2) Only one specification division should be covered by one letter of transmission.
 - (3) Sufficient catalog information together with catalog cuts and technical data must be submitted to allow an evaluation to be made to determine whether or not the item in question is acceptable.
- c. No submittals will be returned to subcontractors. Submittals transmitted to the Engineer by anyone other than the Prime Contractor will be returned to the Prime Contractor.

- d. Submit items sufficiently in advance of date required to allow reasonable time for review, and to allow for resubmission if necessary. Items submitted without Contractor's approval stamp will be returned, without action, for resubmission. Items that are not submitted in accord with the provisions of this item will be returned, without action, for resubmission.
- e. Operation and Maintenance Manual, and/or warranties where required, shall be separate transmittal.

101-4.1 SUBMITTALS, SHOP DRAWINGS PROCEDURE.

- a. Submit as indicated above. Identify submittals as to manufacturer, item, use, type, project designation, specification section or drawing detail reference, and other pertinent information.
- b. Submit an electronic copy of each submittal until approval is obtained.
- c. Allow clear space for stamping on right hand side. Contractor shall stamp his approval on drawings prior to submission to Engineer as indication of his checking and verification of dimensions and coordination with interrelated items. Marks on submittals by Contractor shall not be in red.
- d. Submit standard items like equipment brochures, cuts of fixtures, or standard catalog items (reproducible not required). Indicate exact item or model and all proposed options. Include scale details, sizes, dimensions, performance characteristics, capacities, wiring diagrams, controls, and other pertinent data.

101-5.1 SUBMITTALS, SAMPLES.

- a. Submit to address indicated above. Identify submittals as to manufacturer, item, use, type, project designation, specification section of drawing detail reference, and other pertinent information.
- b. Forward with transmittal letters. Include brochures, shop drawings, and installation instruction. Contractor shall stamp his approval on drawings prior to submission to Engineer as indication of his checking and verification of dimensions and coordination with interrelated items. Resubmit samples of rejected items.
- c. Approved samples submitted or constructed, constitute criterion for judging completed work. Finished work or items not equal to samples will be rejected.
- d. Samples will be retained for comparison purposes and/or the Contractor shall remove samples as directed. Contractor shall pay all costs of furnishing and removing samples.

101-6.1 SUBMITTALS, APPROVAL OR REJECTION.

- a. Transmittals returned with Approval are considered ready for fabrication and/or installation. If for any reason a transmittal that has an A or B approval is resubmitted, it must be accompanied by a letter pointing out the changes that have been made and the reason for the re-submittal.

It shall be the Contractor's responsibility to assure that the previously approved documents are destroyed when they are superseded by a re-submittal as such.

b. Transmittals with approval combined with Action "Revise and Resubmit" or "Rejected" will be individually analyzed giving consideration as follows:

- (1) If the items or system proposed is acceptable and the majority of the major individual components (Drawings or Documents) are in compliance; however, there are some minor items not in compliance. The portion of the transmittal given "Revise and Resubmit" or "Rejected" will not be distributed (unless previously agreed to otherwise). Copies of the "Revise and Resubmit" or "Rejected" drawings will be marked up and returned to the Contractor electronically. It shall be the Contractor's responsibility to insure that these items are corrected and resubmitted.
- (2) If the items or system proposed are acceptable; however, the major part of the individual drawings or documents are incomplete or require revision, the entire submittal will be given "Revise and Resubmit" or "Rejected" action. Again, it is reiterated that this is at the sole discretion of the Engineer and some drawings may contain relatively few or no comments for the statement, "Resubmit" to maintain a complete package. Distribution to the Owner and field will not be made unless previously agreed to otherwise.
- (3) Approval is general and does not permit departure from Contract Documents; relieve Contractor from responsibility for errors in detail, dimensions or related items; approve departure from previous instructions or details; components, wiring, etc., required to make item operational or usable.
- (4) Manufacture or fabrication of items prior to final approval is at Contractor's own risk.

101-7.1 REQUIRED SHOP DRAWINGS, CERTIFICATE, OR REPORTS. Shop drawings, certificate, or reports shall be submitted on the following items, as appropriate, for approval. The following list is not considered all-inclusive. The Contractor shall supply all submittals required by the plans and specifications. Items that do not have specific pay items, but are required to be furnished by the contract documents shall not be paid for directly but shall be considered subsidiary to the project.

- a.** Concrete Mix Design (For Each Class of Concrete Required)
- b.** Reinforcing Steel
- c.** Seed, Fertilizer and Hydromulch
- d.** Joint Sealing Materials (Backer Rod, Sealants, and Expansion Material)
- e.** Marking Paint
- f.** Marking Reflective Media
- g.** Retroreflective Markers
- h.** Aggregate Samples and Test Results for Aggregate Base Material
- i.** HMAC Mix Designs

- j. Lime Certificates and Data for Material to be Used in Lime Stabilized Subgrade
- k. Cement Certificates and Data for Material to be Used in Cement Stabilized Subgrade
- l. Geotextile Fabric
- m. Erosion Control Matting
- n. Stabilized Construction Exit Material
- o. Silt Fencing
- p. Precast Headwalls and/or Safety End Treatments
- q. Prime Coat
- r. Tack Coat
- s. Reinforced Concrete Pipe
- t. Pipe Bedding Material
- u. Storm Water Pollution Prevention Plan
- v. Embankment Material
- w. Topsoil
- x. Electrical Components
- y. Barricades
- z. Runway Closure Markers
- aa. Safety Plan Compliance Document (SPCD): The SPCD shall provide all the required information that is specified in FAA Advisory Circular 150/5370-2G – Operational Safety on Airports During Construction. Reference sections 1.3.2 and 1.4.3.1 in the aforementioned advisory circular for specific requirements.

END OF ITEM KSA-101

Item 247

Flexible Base



1. DESCRIPTION

Construct a foundation course composed of flexible base.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and of changes to material sources. The Engineer may sample and test project materials at any time before compaction throughout the duration of the project to assure specification compliance.

- 2.1. **Aggregate.** Furnish aggregate of the type and grade shown on the plans and meeting the requirements shown in Table 1. Each source must meet Table 1 requirements for liquid limit, plasticity index, and wet ball mill for the grade specified. Do not use additives, such as but not limited to lime, cement, or fly ash to modify aggregates to meet the requirements of Table 1, unless shown on the plans.

Unless otherwise shown on the plans, the unconfined compressive strength is waived when the flexible base material meets the #200 sieve requirement. When the #200 sieve requirement does not meet the specification in Table 1, the unconfined compressive strength is required.

Table 1
Material Requirements

Property	Test Method	Grade 1-2 ³	Grade 3	Grade 4	Grade 5
Master gradation sieve size (cumulative % retained)					
2-1/2"		0	0		0
1-3/4"		0-10	0-10		0-5
7/8"	Tex-110-E	10-35	-		10-35
3/8"		30-65	-		35-65
#4		45-75	45-75		45-75
#40		65-90	50-85		70-90
#200 ^{1, 2}		85-95	-		-
Liquid limit, % Max	Tex-104-E	40	40	As shown on the plans	35
Plasticity index, Max		10	12		10
Plasticity index, Min	Tex-106-E	As shown on the plans	As shown on the plans		As shown on the plans
Wet ball mill, % Max		40	-		40
Wet ball mill, % Max increase passing the #40 sieve	Tex-116-E	20	-		20
Min compressive strength ² , psi					
lateral pressure 0 psi	Tex-117-E	35	-		-
lateral pressure 3 psi		-	-		90
lateral pressure 15 psi		175	-		175

- The #200 sieve test is only required to meet the waiver of the unconfined compressive strength requirement. The #200 sieve test requirement is only applicable to stockpile samples from Section 247.2.4.
- Compressive strength and #200 sieve test requirements are waived when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, unless otherwise shown on the plans.
- Grade 3 may be substituted for Grade 1-2 or Grade 5 when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, as approved. The Grade 3 flexible base must meet the wet ball mill requirements of Grade 1-2 or Grade 5 as applicable.

- 2.1.1. **Material Tolerances.** The Engineer may accept material if no more than one of the five most recent gradation tests has an individual sieve outside the specified limits of the gradation. This allowance does not apply to the #200 sieve requirement.

The Engineer may accept material if no more than one of the five most recent liquid limit or plasticity index tests is outside the specified limit. No single failing liquid limit or plasticity index test may exceed the allowable limit by more than 2 percentage points.

- 2.1.2. **Material Types.** Do not use fillers or binders unless approved. Furnish the type shown on the plans in accordance with the following.
- 2.1.2.1. **Type A.** Crushed stone produced and graded from oversize quarried aggregate that originates from a single, naturally occurring source. Do not use gravel or multiple sources.
- 2.1.2.2. ~~**Type B.** Crushed or uncrushed gravel. Blending of two or more sources is allowed.~~
- 2.1.2.3. ~~**Type C.** Crushed gravel with a minimum of 60% of the particles retained on a No. 4 sieve with two or more crushed faces as determined in accordance with [Tex 460-A](#), Part I. Blending of two or more sources is allowed.~~
- 2.1.2.4. ~~**Type D.** Type A material or crushed concrete. Crushed concrete containing gravel will be considered Type D material. Crushed concrete must meet the requirements of Section 247.2.1.2.6., "Recycled Material," and be managed in a way to provide for uniform quality. The Engineer may require separate dedicated stockpiles to verify compliance.~~
- 2.1.2.5. ~~**Type E.** Caliche, iron ore, or as otherwise shown on the plans.~~
- 2.1.2.6. ~~**Recycled Material.** Reclaimed asphalt pavement (RAP) and other recycled materials may be used when shown on the plans. Request approval to blend two or more sources of recycled materials. When RAP is allowed, do not exceed 20% RAP by weight, unless otherwise shown on the plans. The percentage limitations for other recycled materials will be as shown on the plans.~~

Provide recycled materials, other than RAP, that have a maximum sulfate content of 3,000 ppm when tested in accordance with [Tex 145-E](#). Certify compliance with [DMS 11000](#), "Evaluating and Using Nonhazardous Recyclable Materials Guidelines." In addition, recycled materials must be free of reinforcing steel and other objectionable material and have at most 1.5% deleterious material when tested in accordance with [Tex 413-A](#). The liquid limit, plasticity index, wet ball mill, and compressive strength for all recycled materials are waived. When using RAP, crush RAP so that 100% passes the 2-in. sieve and does not exceed a maximum percent loss from decantation of 5.0% when tested in accordance with [Tex 406-A](#). Test RAP without removing the asphalt. The final product must meet the requirements shown in Table 1 for the grade specified except when the Department requires a specific amount of Department furnished RAP be added to the blend, unless otherwise shown on the plans.

The Contractor is responsible for uniformly blending the recycled material with the flexible base material to build a stockpile to meet the percentages required. Any Contractor furnished surplus of recycled materials will remain the property of the Contractor. Remove Contractor-owned recycled materials from the project and dispose of them in accordance with federal, state, and local regulations before project acceptance.

- 2.2. **Water.** Furnish water free of industrial wastes and other objectionable matter.
- 2.3. **Material Sources.** Expose the vertical faces of all strata of material proposed for use when non-commercial sources are used. Secure and process the material by successive vertical cuts extending through all exposed strata, when directed.
- 2.4. **Stockpile Approval.** Stockpile is approved when the Engineer's test results meet the material requirements shown in Table 1.
- 2.4.1. **Sampling.** The Contractor and the Engineer will sample flexible base from completed stockpiles in accordance with [Tex-100-E](#). Personnel conducting sampling must be certified by the Department-approved soils and base certification program.

Sampling stockpiles may be located at the production site or at the project location. The Contractor will witness the Engineer's sampling and sample the stockpile for their own testing, and label as deemed necessary.

Sample the stockpile for the Engineer when shown on the plans. When the Contractor samples the stockpile for the Engineer, the Engineer must witness the sampling of material designated for the Engineer and the Materials and Tests Division (MTD). The Engineer will label their sampling containers as "Engineer" and "MTD," or as deemed necessary.

The Engineer will take immediate possession of the sample containers for the Engineer and MTD. The Engineer will maintain custody of the samples until all testing and reporting are completed.

- 2.4.2. **Referee Testing.** Referee testing is applicable for stockpile testing only. MTD is the referee laboratory. MTD may designate a laboratory from the Department's MPL for Commercial Laboratories Approved for Flexible Base Referee Requests as the referee laboratory as deemed necessary. The designated laboratory cannot be performing any testing under this Item for the Engineer or Contractor.

The Contractor may request referee testing when the Engineer's test results fail to meet any of the material requirements shown in Table 1 and the Contractor's sample from Section 2.4.1., "Sampling," for the same failing Department test, passes. The tests must be performed by a laboratory listed on the Department's MPL for Commercial Laboratories Approved for Flexible Base Referee Requests. Submit the request by email within 5 working days after receiving failing test results from the Engineer. Include completed test reports passing the applicable requirements shown in Table 1 in the email.

Record and submit completed test reports electronically on Department-provided templates in their original format meeting the applicable material requirements shown in Table 1. Use Department-provided templates to record and calculate all test data. The Engineer and the Contractor will provide any available test results to the other party when requested.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work.

- 3.1. **Rollers.** Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.
- 3.2. **Inertial Profiler.** When ride quality measurement is required, provide a high-speed or lightweight inertial profiler certified at the Texas A&M Transportation Institute. Provide equipment certification documentation. Display a current decal on the equipment indicating the certification expiration date.

4. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans or as directed.

Stockpile base material temporarily at an approved location before delivery to the roadway. Build stockpiles in layers no greater than 2 ft. thick. Stockpiles must have a total height between 10 and 16 ft. unless otherwise approved. After construction and acceptance of the stockpile in accordance with Section 247.2.4., "Stockpile Approval," loading from the stockpile for delivery is allowed. Load by making successive vertical cuts through the entire depth of the stockpile.

Do not add or remove material from temporary stockpiles that require sampling and testing before delivery, unless otherwise approved. Charges for additional sampling and testing required as a result of adding or removing material will be deducted from the Contractor's estimates.

Haul approved flexible base in clean trucks. Deliver the required quantity to each 100-ft. station or designated stockpile site as shown on the plans. Prepare stockpile sites as directed. When delivery is to the 100-ft. station, manipulate in conformance with the applicable Items.

- 4.1. **Preparation of Subgrade or Existing Base.** Remove or scarify existing asphalt concrete pavement in accordance with Item 105, "Removing Treated and Untreated Base and Asphalt Pavement," when shown on the plans or as directed. Shape the subgrade or existing base to conform to the typical sections shown on the plans or as directed.

When new base is required to be mixed with existing base, deliver, place, and spread the new flexible base in the required amount per station. Manipulate and thoroughly mix the new base with existing material to provide a uniform mixture to the specified depth before shaping.

Proof roll the roadbed in accordance with Item 216 before pulverizing or scarifying when shown on the plans or directed. Correct soft spots as directed.

- 4.2. **Placing.** Spread and shape flexible base into a uniform layer using an approved spreader the same day as delivered unless otherwise approved. Construct layers to the thickness shown on the plans. Maintain the shape of the course. Control dust by sprinkling, as directed. Correct or replace segregated areas as directed at no additional expense to the Department.

Place successive base courses and finish courses using the same construction methods required for the first course.

- 4.3. **Compaction.** Compact using density control unless otherwise shown on the plans. Multiple lifts are permitted when shown on the plans or approved. Bring each layer to the moisture content directed. When necessary, sprinkle the material in accordance with Item 204, "Sprinkling." Maintain moisture during compaction within $\pm 2.0\%$ of the optimum moisture content as determined in accordance with [Tex-113-E](#).

Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller unit. Begin rolling at the low side and progress toward the high side on superelevated curves. Offset alternating trips of the roller. Operate rollers at a speed between 2 and 6 mph as directed.

Rework, recompact, and refinish material that fails to meet or that loses required moisture, density, stability, or finish requirements before the next course is placed or the project is accepted. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.

Before final acceptance, the Engineer will select the locations of tests and measure the flexible base depth in accordance with [Tex-140-E](#). Correct areas deficient by more than 1/2 in. in thickness by scarifying, adding material as required, reshaping, recompacting, and refinishing at the Contractor's expense.

- 4.3.1. **Ordinary Compaction.** Roll using approved compaction equipment as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing approved material as required, reshaping, and recompacting.

- 4.3.2. **Density and Moisture Control.** Compact to a minimum of 100% of the maximum dry density and within $\pm 2.0\%$ of the optimum moisture content as determined in accordance with [Tex-113-E](#), unless otherwise shown on the plans. Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content of completed sections in accordance with [Tex-115-E](#), Part I. The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. Do not achieve density by drying the material after compaction.

When the density is less than 100% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

- 4.3.3. **Miscellaneous and Small Areas.** Miscellaneous areas are those that typically involve handwork or discontinuous paving operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, spot level-up areas, and other similar areas. Miscellaneous and small areas are not subject to density testing but may be tested as directed.
- 4.4. **Finishing.** After completing compaction, clip, skin, or tight-blade the surface using a maintainer or subgrade trimmer to a depth of approximately 1/4 in. Remove loosened material and dispose of it at an approved location. Seal the clipped surface immediately by rolling using a pneumatic tire roller until a smooth surface is attained. Add small increments of water as needed during rolling. Shape and maintain the course and surface in conformity with the typical sections, lines, and grades as shown on the plans or as directed.
- Correct grade deviations greater than 1/4 in. in 16 ft. measured longitudinally. Correct grade deviations greater than 1/4 in. over the entire width of the cross-section in areas where surfacing is to be placed. Correct by loosening and adding or removing material. Reshape and recompact in accordance with Section 247.4.3., "Compaction."
- 4.5. **Curing.** Cure the finished section until the moisture content is at least 2 percentage points below optimum or as directed before applying the next successive course or prime coat.
- 4.6. **Ride Quality.** Measurement of ride quality only applies to the final travel lanes that receive a one- or two-course surface treatment for the final riding surface, unless otherwise shown on the plans. Measure the ride quality of the base course either before or after the application of the prime coat, as directed, and before placement of the surface treatment. Use a certified profiler operator listed on the Department's MPL. When requested, furnish the Engineer with documentation for the person certified to operate the profiler.
- Provide all profile data to the Engineer in electronic data files within 3 days of measuring the ride quality using the format specified in [Tex-1001-S](#). The Engineer will use Department software to evaluate longitudinal profiles to determine areas requiring corrective action. Correct 0.1-mi. sections with an average international roughness index (IRI) value greater than 100 in. per mile to an IRI value of 100 in. per mile or less, unless otherwise shown on the plans. Reprofile and correct sections that fail to maintain ride quality before the placement of the surface treatment, as directed. Unless ride deterioration is due to environmental impact, traffic, or other incidents outside the Contractor's control, perform this work at no additional expense to the Department, as approved.

5. MEASUREMENT

Flexible base will not be measured for separate pavement.

6. PAYMENT

The work performed and materials furnished in accordance with this Item will not be measured for separate payment, but will be subsidiary to the overall project.

Item 421

Hydraulic Cement Concrete



1. DESCRIPTION

Furnish hydraulic cement concrete for concrete pavements, concrete structures, and other concrete construction.

2. MATERIALS

Use materials from prequalified sources listed on the Department website. Provide aggregates from sources listed in the Department's Concrete Rated Source Quality Catalog (CRSQC). Use materials from non-listed sources only when tested and approved before use. Allow 30 calendar days for the Engineer to sample, test, and report results for non-listed sources. Do not combine approved material with unapproved material.

2.1. **Cement.** Furnish cement in accordance with [DMS-4600](#), "Hydraulic Cement."

2.2. **Supplementary Cementitious Materials (SCMs).**

- **Coal Ash.** Furnish sources of fly ash, modified fly ash (MFA), harvested coal ash (HCA), and ground bottom ash (GBA) in accordance with [DMS-4610](#), "Coal Ash."
- **Slag Cement.** Furnish slag cement in accordance with [DMS-4620](#), "Slag Cement."
- **Silica Fume.** Furnish silica fume in accordance with [DMS-4630](#), "Silica Fume."
- **Natural Pozzolans.** Furnish natural pozzolans in accordance with [DMS-4635](#), "Natural Pozzolans."

2.3. **Cementitious Material.** Cementitious materials are the cement and SCMs used in concrete.

2.4. **Chemical Admixtures.** Furnish admixtures in accordance with [DMS-4640](#), "Chemical Admixtures for Concrete."

2.5. **Water.** Furnish mixing and curing water that is free of oils, acids, organic matter, or other deleterious substances. Water from municipal supplies approved by the Texas Department of Health will not require testing. Provide test reports showing compliance with Table 1 before use when using water from other sources.

Water that is a blend of concrete wash water and other acceptable water sources, certified by the concrete producer as complying with the requirements shown in Table 1 and Table 2, may be used as mix water. Test the blended water weekly for 4 weeks for compliance with Table 1 and Table 2 or provide previous test results. Then test every month for compliance. Provide water test results upon request.

Do not use mix water that has an adverse effect on the air-entraining agent, on any other chemical admixture, or on strength or time of set of the concrete. Use mixing and curing water free of iron and other impurities that may cause staining or discoloration when using white hydraulic cement.

Table 1
Chemical Limits for Mix Water

Contaminant	Test Method	Max Concentration (ppm or mg/L)
Chloride (Cl)	ASTM C114 ¹	
Prestressed concrete		500
Bridge decks & superstructure		500
All other concrete		1,000
Sulfate (SO ₄)	ASTM C114 ¹	2,000
Alkalis (Na ₂ O + 0.658K ₂ O)	ASTM C114 ¹	600
Total solids	ASTM C1603	50,000

1. ASTM C114 includes reference and alternative test methods to measure the concentration of chlorides, sulfates, and alkalis in solutions prepared from dissolving cementitious materials. Use the applicable Test Methods in C114 to measure these constituents. The laboratory performing these tests is not required to conform to the method qualification requirements of Test Methods C114. Alternative instrumental and wet chemistry methods not listed in Test Methods C114 that measure the concentration of these chemical species in solution are permitted. When alternative methods are used, the test method used will be included in the report.

Table 2
Acceptance Criteria for Questionable Water Supplies

Property	Test Method	Limits
Compressive strength, Min % control at 7 days	ASTM C31, ASTM C39 ^{1,2}	90
Time of set, deviation from control, h:min.	ASTM C403	From 1:00 early to 1:30 later

1. Base comparisons on fixed proportions and the same volume of test water compared to the control mix using 100% potable water or distilled water.
2. Base comparisons on sets consisting of at least two standard specimens made from a composite sample.

2.6.

Aggregate.

2.6.1.

Coarse Aggregate. Provide coarse aggregate consisting of durable particles of gravel, crushed blast furnace slag, recycled crushed hydraulic cement concrete, crushed stone, or combinations that are free of frozen material and injurious amounts of salt, alkali, vegetable matter, or other objectionable material, either free or as an adherent coating. Provide coarse aggregate of uniform quality throughout.

Provide coarse aggregate with the requirements shown in Table 3 unless otherwise shown on the plans.

Table 3
Coarse Aggregate Requirements

Description	Test Method	Limit
Weight of clay lumps, % Max	Tex-413-A	0.25
Weight of shale, % Max		1.0
Weight of laminate and friable particle, % Max		5.0
L.A. abrasion wear, % Max	Tex-410-A	40
5-cycle magnesium sulfate soundness, ^{1,2} non-air-entrained concrete, % Max	Tex-411-A	25
5-cycle magnesium sulfate soundness, ^{1,3} air-entrained concrete, % Max		18
Loss by decantation, % Max	Tex-406-A	1.5

1. Recycled crushed hydraulic cement concrete is not subject to 5-cycle magnesium sulfate soundness requirements.
2. Allowed when air-entrained concrete is used at the Contractor's option.
3. Only when air-entrained concrete is required by the plans.

Increase the loss by decantation limit to 3.0% for all classes of concrete and 5.0% for Class A, B, and P if the material finer than the No. 200 sieve is determined to be at least 85% calcium carbonate in accordance with [Tex-406-A](#), Part III, in the case of coarse aggregates made primarily from crushing stone, unless otherwise shown on the plans. Provide test results upon request.

Provide coarse aggregate or combination of aggregates conforming to the gradation requirements shown in Table 4 when tested in accordance with [Tex-401-A](#) unless otherwise specified.

Table 4
Coarse Aggregate Gradation Chart

Aggregate Grade No. ¹	Maximum Nominal Size	Percent Passing on Each Sieve								
		2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	#4	#8
1	2"	100	80–100	50–85	–	20–40	–	–	0–10	–
2	1-1/2"	–	100	95–100	–	35–70	–	10–30	0–10	–
3	1-1/2"	–	100	95–100	–	60–90	25–60	–	0–10	–
4 (57)	1"	–	–	100	95–100	–	25–60	–	0–10	0–5
5 (67)	3/4"	–	–	–	100	90–100	–	20–55	0–10	0–5
6 (7)	1/2"	–	–	–	–	100	90–100	40–70	0–15	0–5
7	3/8"	–	–	–	–	–	100	70–95	0–25	–
8	3/8"	–	–	–	–	–	100	95–100	20–65	0–10

1. Corresponding ASTM C33 gradation shown in parentheses.

2.6.2.

Fine Aggregate. Provide fine aggregate consisting of clean, hard, durable particles of natural, manufactured sand; recycled crushed hydraulic cement concrete; slag; lightweight aggregate; or a combination thereof. Provide fine aggregate free of frozen material and injurious amounts of salt, alkali, vegetable matter, or other objectionable material.

Provide fine aggregates in accordance with Table 5 unless otherwise shown on the plans.

Table 5
Fine Aggregate Requirements

Description	Test Method	Limit
Weight of clay lumps, % Max	Tex-413-A	0.50
Organic impurities ¹	Tex-408-A	Color not darker than standard
Sand equivalent, Min	Tex-203-F	80
Fineness modulus	Tex-402-A	2.3–3.1

1. Only when air-entrained concrete is specified.

Provide fine aggregate or combinations of aggregates conforming to the gradation requirements shown in Table 6 when tested in accordance with [Tex-401-A](#) unless otherwise specified.

Table 6
Fine Aggregate Gradation Chart (Grade 1)

Sieve Size	% Passing
3/8"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–65
#50	10–35 ¹
#100	0–10
#200	0–3 ²

1. 6–35 when sand equivalent value is greater than 85.

2. 0–6 for manufactured sand.

2.6.3.

Intermediate Aggregate. Provide intermediate aggregate consisting of clean, hard, durable particles of natural, manufactured sand; slag; recycled crushed hydraulic cement concrete; lightweight aggregate; or a combination thereof when optimized aggregate gradation (OAG) concrete is specified or when used at the Contractor's option. Provide intermediate aggregate free of frozen material and injurious amounts of salt, alkali, vegetable matter, or other objectionable material.

Provide intermediate aggregate in accordance with Table 7.

Table 7
Intermediate Aggregate Requirements

Description	Test Method	Limit
Weight of clay lumps, % Max	Tex-413-A	0.50
L.A. abrasion wear, ¹ % Max	Tex-410-A	40
5-cycle magnesium sulfate soundness, ^{1,2,3} non-air-entrained concrete, % Max	Tex-411-A	25
5-cycle magnesium sulfate soundness, ^{1,2,4} air-entrained concrete, % Max		18
Organic impurities ⁵	Tex-408-A	Color not darker than standard
Loss by decantation, ¹ % Max	Tex-406-A	1.5

1. Applies only to the portion retained on the No. 4 sieve, if more than 30% of the intermediate aggregate is retained on the No. 4 sieve.
2. Recycled crushed hydraulic cement concrete is not subject to 5-cycle magnesium sulfate soundness requirements.
3. Allowed when air-entrained concrete is used at the Contractor's option.
4. Only when air-entrained concrete is required by the plans.
5. Applies only to the portion passing the 3/8-in. sieve, if more than 30% of the intermediate aggregate is passing the 3/8-in. sieve.

For the portion retained on the No. 4 sieve, if more than 30% of the intermediate aggregate is retained on the No. 4 sieve, and in the case of aggregates made mainly from crushing stone, unless otherwise shown on the plans, the loss by decantation may be increased to 3.0% for all classes of concrete and 5.0% for Class A, B, and P if the material finer than the No. 200 sieve is determined to be at least 85% calcium carbonate in accordance with [Tex-406-A](#), Part III. Provide test results upon request.

- 2.7. **Mortar and Grout.** Furnish pre-packaged grouts in accordance with [DMS-4675](#), "Cementitious Grouts and Mortars for Miscellaneous Applications," when specified for applications other than post-tension grouting.

When grouting or mortaring stone riprap is shown on the plans, provide mortar and grout consisting of one part hydraulic cement, two parts sand, and sufficient water to provide the desired consistency. Other mix proportions allowed as approved. Provide mortar with a consistency such that the mortar can be easily handled and spread by trowel. Provide grout of a consistency that will flow into and completely fill all voids.

Section 421.4.2.6., "Mix Design Options," does not apply for mortar and grout.

- 2.8. **Storage of Materials.**

- 2.8.1. **Cement and Supplementary Cementitious Materials.** Store all cement and supplementary cementitious materials in weatherproof enclosures that will protect the materials from dampness or absorption of moisture.

When permitted, small quantities of packaged cementitious material may be stored in the open, on a raised platform, and under waterproof covering for up to 48 hr.

- 2.8.2. **Aggregates.** Handle and store concrete aggregates in a manner that prevents contamination by foreign materials. Clear and level the sites for the stockpiles of all vegetation if the aggregates are stored on the ground, and do not use the bottom 6-in. layer of aggregate without cleaning the aggregate before use.

Maintain separate stockpiles and prevent intermixing when conditions require the use of two or more grades of coarse aggregates. Separate the stockpiles using physical barriers where space is limited. Store aggregates from different sources in different stockpiles unless the Engineer authorizes pre-blending of the aggregates. Minimize segregation in stockpiles. Remix and test stockpiles when segregation is apparent.

Sprinkle stockpiles to control moisture and temperature as necessary. Maintain reasonably uniform moisture content in aggregate stockpiles.

- 2.8.3. **Chemical Admixtures.** Store admixtures in conformance with manufacturer's recommendations in tanks that are clearly labeled and prevent admixtures from freezing.

3. EQUIPMENT

- 3.1. **Concrete Plants and Mixing Equipment.** Except for volumetric stationary plant or truck (auger) mixers, each plant and truck mixer must be certified by NRMCA or have an inspection report signed and sealed by a licensed professional engineer showing concrete measuring, mixing, and delivery equipment meets all requirements of ASTM C94. A new certification or signed and sealed report is required every time a plant is moved. Plants with a licensed professional engineer's inspection require re-inspection every 2 yr. Provide a copy of the certification or the signed and sealed inspection report to the Engineer. Remove equipment or facilities from service until corrected when they fail to meet specification requirements.

When allowed as shown on the plans or by the Engineer, for concrete classes not identified as structural concrete in Table 8 or for Class C concrete not used for bridge-class structures, the Engineer may inspect and approve all plants and trucks instead of NRMCA or non-Department engineer-sealed certifications. The criteria and frequency of Engineer approval of plants and trucks are the same used for NRMCA certification.

Inspect and furnish inspection reports of the condition of blades and fins and their percent wear from the original manufacturer's design for all mixing and agitating equipment annually. Repair mixing equipment exhibiting 10% or more wear before use. If an inspection within 12 mo. is not practical, a 2-mo. grace period (for a maximum of 14 mo. between inspections) is permitted.

- 3.1.1. **Scales.** Check all scales before beginning of operations, after each move, or whenever their accuracy or adequacy is questioned, and at least once every 6 mo. Immediately correct deficiencies, and recalibrate. Provide a record of calibration showing scales in compliance with ASTM C94 requirements. Check batching accuracy of volumetric water batching devices at least every 90 days. Check batching accuracy of chemical admixture dispensing devices at least every 6 mo. Perform daily checks as necessary to ensure measuring accuracy. Check electronic aggregate moisture probes at least every 90 days in accordance with [Tex-409-A](#), and be accurate to within 1.0% of the actual moisture content.

- 3.1.2. **Volumetric Mixers.** Provide volumetric mixers with rating plates defining the capacity and the performance of the mixer in accordance with the Volumetric Mixer Manufacturers Bureau or equivalent. Provide volumetric mixers that comply with ASTM C685. Provide test data showing mixers meet the uniformity test requirements in accordance with [Tex-472-A](#).

Unless allowed on the plans or by the Engineer, volumetric truck (auger) mixers may not supply classes of concrete identified as structural concrete in Table 8.

- 3.1.3. **Agitators and Truck and Stationary Mixers.** Provide stationary and truck mixers capable of combining the ingredients of the concrete into a thoroughly mixed and uniform mass and capable of discharging the concrete so that the requirements of [Tex-472-A](#) are met.

Perform concrete uniformity tests on mixers or agitators in accordance with [Tex-472-A](#) as directed, to resolve issues of mix uniformity and mixer performance.

Perform the mixer or agitator uniformity test at the full rated capacity of the equipment. Remove all equipment that fails the uniformity test from service.

Inspect and maintain mixers and agitators. Keep them free of concrete buildup, and repair or replace worn or damaged blades or fins.

Ensure all mixers have a plate affixed showing manufacturer's recommended operating speed and rated capacity for mixing and agitating.

Truck mixers with automated water and chemical admixture measurement and slump and slump flow monitoring equipment meeting the requirement of ASTM C94 will be allowed. Provide data every 6 mo. substantiating the accuracy of slump, slump flow, temperature, water, and chemical admixture measurements. The slump measured by the automated system must be within 1 in. of the slump measured in accordance with [Tex-415-A](#). The concrete temperature measured by the automated system must be within

1°F of concrete temperature measured in accordance with [Tex-422-A](#). The Engineer will not use the automated measurements for acceptance.

- 3.2. **Hauling Equipment.** Provide hauling equipment capable of maintaining the mixed concrete in a thoroughly mixed and uniform mass and discharging the concrete with a satisfactory degree of uniformity.

Provide equipment with smooth, mortar-tight metal containers equipped with gates that prevent accidental discharge of the concrete when using non-agitating equipment for transporting concrete.

Maintain hauling equipment clean and free of built-up concrete.

- 3.3. **Testing Equipment.** Provide strength-testing equipment when required in accordance with the Contract controlling test unless shown otherwise. Provide calibration records of strength-testing equipment to the Engineer within 1 week after each calibration. Furnish and maintain the following in conformance with the pertinent test procedure unless otherwise shown on the plans or specified.

- Test molds
- Curing facilities
- Maturity meters if used
- Wheelbarrow or other container acceptable for the sampling of the concrete

4. CONSTRUCTION

- 4.1. **Classification of Concrete Mix Designs.** Provide classes of concrete meeting the requirements shown in Table 8.

A higher-strength class of concrete with equal or lower water-to-cementitious material (w/cm) ratio may be substituted for the specified class of concrete when approved.

- 4.2. **Mix Design Proportioning.** Furnish mix designs using ACI 211, [Tex-470-A](#), or other approved procedures for the classes of concrete shown in Table 8 unless a design method is shown on the plans. Perform mix design proportioning by absolute volume method unless otherwise approved. Perform cement replacement using equivalent weight method unless otherwise approved.

Do not exceed the maximum w/cm ratio shown in Table 8 when designing the mixture.

- 4.2.1. **Cementitious Materials.** Do not exceed 700 lb. of cementitious material per cubic yard of concrete unless otherwise specified or approved.

- Use cement of the same type and from the same source for monolithic placements, unless otherwise approved.
- Do not use SCMs when white hydraulic cement is specified.

- 4.2.2. **Aggregates.** Recycled crushed hydraulic cement concrete may be used as a coarse or fine aggregate in Class A, B, E, and P concrete. Limit recycled crushed concrete fine aggregate to at most 20% of the fine aggregate.

Use light-colored aggregates when white hydraulic cement is specified.

Table 8
Concrete Classes

Class of Concrete	Design Strength ¹ , Min f' _c (psi)	Max w/cm Ratio	Cement Types	Mix Design Options	Exceptions to Mix Design Options	General Use ²
A	3,000	0.60	I, II, I/II, IL, IP, IS, IT, V	1, 2, 4, and 7	When the cementitious material content does not exceed 520 lb./cu. yd., any coal ash or natural pozzolan listed in the MPL may be used at a cement replacement of 20%–50%.	Curb, gutter, curb and gutter, concrete retards, sidewalks, driveways, backup walls, anchors, non-reinforced drilled shafts
B	2,000	0.60			Limit the alkali loading to 4.0 lb./cu. yd. or less when using Option 7.	Riprap, traffic signal controller foundations, small roadside signs, anchors
C ³	4,000	0.45	I, II, I/II, IP, IL, IS, IT, V	1–8	N/A	Drilled shafts, bridge substructure, traffic rail, culverts except top slab of direct traffic culverts, headwalls, wing walls, inlets, manholes, traffic barrier
E	3,000	0.50	I, II, I/II, IL, IP, IS, IT, V	1–8	When the cementitious material content does not exceed 520 lb./cu. yd., any coal ash or natural pozzolan listed on the MPLs may be used at a cement replacement of 20%–50%.	Seal concrete
F ³	Note ⁴	0.45			N/A	Railroad structures; occasionally for bridge piers, columns, bents, post-tension members
H ³	Note ⁴	0.45	I, II, I/II, III, IP, IL, IS, IT, V	1–4, 8	Mix design Options 1–8 allowed for cast-in-place concrete and the following precast elements unless otherwise shown on the plans: ■ Bridge deck panels ■ Retaining wall systems ■ Coping ■ Sound walls ■ Wall columns ■ Traffic rail ■ Traffic barrier ■ Long/arch span culverts ■ Precast concrete products in accordance with Item 462, 464, and 465 Do not use Type III cement in mass placement concrete.	Precast concrete, post-tension members
S ³	4,000	0.45	I, II, I/II, IP, IL, IS, IT, V	1–8	N/A	Bridge slabs, top slabs of direct traffic culverts, approach slabs
P	See Item 360, "Concrete Pavement."	0.50	I, II, I/II, IL, IP, IS, IT, V	1–8	When the cementitious material content does not exceed 520 lb./cu. yd., any coal ash or natural pozzolan on the MPLs may be used at a cement replacement of 20%–50%.	Concrete pavement
CO ³	4,600	0.40		1–8	N/A	Bridge deck concrete overlay
LMC ³	4,000	0.40				Latex-modified concrete overlay

Class of Concrete	Design Strength ¹ , Min f'_c (psi)	Max w/cm Ratio	Cement Types	Mix Design Options	Exceptions to Mix Design Options	General Use ²
SS ³	3,600	0.45	I, II, I/II, IP, IL, IS, IT, V	1-8	Use a minimum cementitious material content of 658 lb./cu. yd. of concrete. Limit the alkali loading to 4.0 lb. per cubic yard or less when using Option 7.	Slurry displacement shafts, underwater drilled shafts
K ³	Note ⁴	0.40	I, II, I/II, III, IP, IL, IS, IT, V	1-8	N/A	Bridge repair
HES	Note ⁴	0.45	I, IL, II, I/II, III	N/A	Mix design options do not apply. Limit of 700 lb. of cementitious material per cubic yard is not pertinent.	Concrete pavement, concrete pavement repair
"X" (HPC) ^{3,5,6}	Note ⁷	0.45	I, II, I/II, III, IP, IL, IS, IT, V	1-4, and 8	N/A	N/A
"X" (SRC) ^{3,5,6}	Note ⁷	0.45	I/II, II, IP, IL (MS or HS), IS, IT (MS or HS), V	1-4, and 7	When using coal ash, use only coal ashes allowed for SRC in accordance with the coal ash MPL. Type III MS may be used where allowed. Type I, Type IL, and Type III cements may be used when natural pozzolans are used or when coal ashes allowed for SRC in accordance with the coal ash MPL are used, and with a Max w/cm of 0.40. Use Option 7 for precast concrete where allowed.	N/A

- Design strength must be attained within 56 days.
- For information only.
- Structural concrete classes.
- As shown on the plans or specified.
- "X" denotes class of concrete as shown on the plans or specified.
- (HPC): High Performance Concrete, (SRC): Sulfate Resistant Concrete.
- Same as class of concrete as shown on the plans.

4.2.2.1. **Coarse Aggregate.** Use Grade 2 or 3 coarse aggregate for Class P concrete. Use Grade 8 aggregate in extruded curbs unless otherwise approved. Unless otherwise specified, do not use Grade 1 aggregate in drilled shafts. Use coarse aggregate grades for all other classes of concrete with a maximum nominal size no larger than:

- 1/5 the narrowest dimension between sides of forms;
- 1/3 the depth of slabs;
- 2/3 the minimum clear spacing between individual reinforcing bars or wire, bundles of bars, individual tendons, bundles of tendons, or ducts for cast-in-place concrete; or
- 3/4 the minimum clear spacing between individual reinforcing bars or wires, bundles of bars, individual tendons, bundled tendons, or ducts for precast concrete.

4.2.2.2. **Fine Aggregate.** Use fine aggregate with an acid insoluble residue of at least 60% by weight when tested in accordance with [Tex-612-J](#) in all concrete subject to direct traffic.

Use the following equation to determine whether the aggregate combination meets the acid insoluble residue requirement when blending fine aggregate or using an intermediate aggregate.

$$\frac{(A_1 \times P_1) + (A_2 \times P_2) + (A_{ia} \times P_{ia})}{100} \geq 60\%$$

where:

A_1 = acid insoluble (%) of fine aggregate 1

A_2 = acid insoluble (%) of fine aggregate 2

A_{ia} = acid insoluble (%) of intermediate aggregate passing the 3/8 in. sieve

P_1 = percent by weight of fine aggregate 1 of the fine aggregate blend

P_2 = percent by weight of fine aggregate 2 of the fine aggregate blend

P_{ia} = percent by weight of intermediate aggregate passing the 3/8-in. sieve

Alternatively to the above equation, blend fine aggregate with a Micro-Deval loss of less than 12%, when tested in accordance with [Tex-461-A](#), with at least 40% of a fine aggregate with an acid insoluble residue of at least 60%.

Use the following equation to determine whether the aggregate combination meets the sand equivalency requirement when blending fine aggregate or using an intermediate aggregate.

$$\frac{(SE_1 \times P_1) + (SE_2 \times P_2) + (SE_{ia} \times P_{ia})}{100} \geq 80\%$$

where:

SE_1 = sand equivalency (%) of fine aggregate 1

SE_2 = sand equivalency (%) of fine aggregate 2

SE_{ia} = sand equivalency (%) of intermediate aggregate passing the 3/8 in. sieve

P_1 = percent by weight of fine aggregate 1 of the fine aggregate blend

P_2 = percent by weight of fine aggregate 2 of the fine aggregate blend

P_{ia} = percent by weight of intermediate aggregate passing the 3/8-in. sieve

- 4.2.3. **Chemical Admixtures.** Do not use Type C, E, F, or G admixtures in Class S bridge deck concrete. Do not use chemical admixtures containing calcium chloride in any concrete.

Use a 30% calcium nitrite solution when a corrosion-inhibiting admixture is required. Dose the admixture at the rate of gallons of admixture per cubic yard of concrete shown on the plans. Use set retarding admixtures, as needed, to control setting time to ensure concrete containing corrosion inhibiting admixtures remains workable for the entire duration of the concrete placement. Perform setting time testing and slump loss tests during trial batch testing.

- 4.2.4. **Air Entrainment.** When air-entrained concrete is shown on the plans, target an entrained air content of 4.0% for Class P concrete and 5.5% for all other classes of concrete. Use an approved air-entraining admixture when air-entrained concrete is specified, or when an air-entraining admixture is used at the Contractor's option. Unless otherwise shown on the plans, acceptance of concrete loads will be based on a tolerance of $\pm 1.5\%$ from the target air content. If the air content is more than 1.5 but less than 3.0% above the target air, the concrete may be accepted based on strength tests. For specified concrete strengths above 5,000 psi, a reduction of 1% entrained air content is permitted.

- 4.2.5. **Slump.** Provide concrete with a slump in accordance with Table 9 unless otherwise specified. When approved, the slump of a given concrete mix may be increased above the values shown in Table 9 using chemical admixtures, provided the admixture-treated concrete has the same or lower w/cm ratio and does not exhibit segregation or excessive bleeding. Request approval to exceed the slump limits shown in Table 9 sufficiently in advance for proper evaluation by the Engineer.

Table 9
Placement Slump Requirements

General Use	Placement Slump Range (in.)
Walls (>9 in. thick), caps, columns, piers	3–7
Bridge slabs, top slabs of direct traffic culverts, approach slabs, concrete overlays	3–6
Latex-modified concrete for bridge deck overlays	3–8
Inlets, manholes, walls (<9 in. thick), bridge railing, culverts, concrete traffic barrier, concrete pavement (formed)	4–6
Precast concrete	4–9
Underwater concrete placements	6–8-1/2
Drilled shafts, slurry displaced, underwater drilled shafts	See Item 416, "Drilled Shaft Foundations"
Curb, gutter, curb and gutter, concrete retards, sidewalk, driveways, seal concrete, anchors, riprap, small roadside sign foundations, concrete pavement repair, concrete repair	As approved

4.2.6. **Mix Design Options.**

4.2.6.1. **Option 1.** Replace cement with at least the minimum dosage listed on the MPL for the coal ash or natural pozzolan used in the mixture. Conduct Option 8 testing to determine the minimum replacement dosage as listed on the MPL. Do not replace more than 50% of the cement. Up to 70% of the cement may be replaced when concrete is used for mass concrete placements.

4.2.6.2. **Option 2.** Replace 35–50% of the cement with slag cement. Up to 70% of the cement may be replaced when concrete is used for mass concrete placements.

4.2.6.3. **Option 3.** Replace 35–50% of the cement with a combination of coal ash, slag cement, MFA, natural pozzolan, or at least 3% silica fume; however, no more than 10% may be silica fume. Up to 70% of the cement may be replaced when concrete is used for mass concrete placements.

4.2.6.4. **Option 4.** Use Type IP, IS, or IT cement as allowed in Table 8 for each class of concrete. When replacing blended cements with additional SCMs, the replacement limits in Option 3 will apply to the final cementitious mixture. When using fly ash or natural pozzolans not having a minimum dosage listed on the MPL in the final cementitious mixture, perform Option 8 testing.

4.2.6.5. **Option 5.** Option 5 is left intentionally blank.

4.2.6.6. **Option 6.** Use a lithium nitrate admixture at a minimum dosage determined by testing conducted in accordance with [Tex-471-A](#). Before use of the mix, provide an annual certified test report signed and sealed by a licensed professional engineer, from a laboratory on the MPL, certified by the Materials and Tests Division (MTD) as being capable of testing in accordance with [Tex-471-A](#).

4.2.6.7. **Option 7.** Ensure the total alkali contribution from the cement in the concrete does not exceed 3.5 lb. per cubic yard of concrete when using hydraulic cement not containing SCMs calculated as follows.

$$\text{lb. alkali per cu. yd.} = \frac{(\text{lb. cement per cu. yd.}) \times (\% \text{ Na}_2\text{O equivalent in cement})}{100}$$

In the above calculation, use the maximum cement alkali content reported on the cement mill certificate.

4.2.6.8. **Option 8.** Use Table 10 when deviating from Options 1–3 or when required by the coal ash MPL. Perform required testing annually and submit results to the Engineer. Laboratories performing ASTM C1260, C1567, and C1293 testing must be listed on the Department's MPL. Before use of the mix, provide a certified test report signed and sealed by a licensed professional engineer demonstrating the proposed mixture conforms to the requirements of Table 10.

Provide a certified test report signed and sealed by a licensed professional engineer, when high-performance concrete (HPC) is required, and less than 20% of the cement is replaced with SCMs, demonstrating ASTM C1202 test results indicate the permeability of the concrete is less than 1,500 coulombs tested immediately after either of the following curing schedules.

- Moisture cure specimens 56 days at 73°F.
- Moisture cure specimens 7 days at 73°F followed by 21 days at 100°F.

Table 10
Option 8 Testing and Mix Design Requirements

Scenario	ASTM C1260 Result		Testing Requirements for Mix Design Materials or Prescriptive Mix Design Options ¹
	Mix Design Fine Aggregate	Mix Design Coarse Aggregate	
A	>0.10%	>0.10%	Determine the dosage of SCMs needed to limit the 14-day expansion of each aggregate ¹ to <0.10% when tested individually in accordance with ASTM C1567.
B	≤0.10%	≤0.10%	Use the minimum replacement listed in the coal ash MPL, or When Option 8 is listed on the MPL, use at least 40% coal ash with a maximum CaO ² content of 25%, or Use any ternary combination that replaces 35–50% of cement.
	≤0.10%	ASTM C1293 1 yr. Expansion ≤0.04%	Use a minimum of 20% of any coal ash; or Use any ternary combination that replaces 20–50% of cement.
C	≤0.10%	>0.10%	Determine the dosage of SCMs needed to limit the 14-day expansion of course and intermediate ¹ aggregate to <0.10% when tested individually in accordance with ASTM C1567.
D	>0.10%	≤0.10%	Use the minimum replacement listed in the coal ash MPL, or When Option 8 is listed in the MPL, use a minimum of 40% coal ash with a maximum CaO ² content of 25%, or Use any ternary combination that replaces 35% to 50% of cement.
	> 0.10%	ASTM C1293 1 yr. Expansion ≤ 0.04%	Determine the dosage of SCMs needed to limit the 14-day expansion of each fine aggregate to <0.10% when individually tested in accordance with ASTM C1567.

1. Intermediate size aggregates will fall under the requirements of mix design coarse aggregate.
2. Average the CaO content from the previous ten values as listed on the test certificate.

4.2.7. **Optimized Aggregate Gradation (OAG) Concrete.** The gradation requirements shown in Table 4 and Table 6 do not apply when OAG concrete is specified or used by the Contractor, unless otherwise shown on the plans.

The fineness modulus for fine aggregate shown in Table 5 does not apply when OAG concrete is used. Establish the optimized aggregate gradation in accordance with [Tex-470-A](#). Use at least 420 lb. per cubic yard of cementitious material when OAG concrete is used unless otherwise approved.

Make necessary adjustments to individual aggregate stockpile proportions during OAG concrete production when the gradation deviates more than 2% from the optimized gradation requirements.

4.2.8. **Self-Consolidating Concrete (SCC).** Provide SCC meeting the requirements shown in Table 11 when approved for use in precast concrete. Use concrete with a slump flow that can be placed without vibration and will not segregate or excessively bleed.

Request approval to exceed the slump flow limits sufficiently in advance for proper evaluation by the Engineer.

Table 11
Mix Design Requirements for SCC

Tests	Test Method	Acceptable Limits
Slump flow for precast concrete	ASTM C1611	22–27 ¹
T ₅₀ , sec.	ASTM C1611	2–7
VSI rating	ASTM C1611	0 or 1
Passing ability, in.	ASTM C1621	≤2
Segregation column, %	ASTM C1610	≤10
Bleeding, %	ASTM C232	≤2.5

1. These slump flow limits are generally acceptable for most applications. However, slump flow limits may be adjusted during mix design approval process and when approved.

- 4.3. **Concrete Trial Batches.** Perform trial batches when required by the plans, or when previous satisfactory field data is not available. Submit previous satisfactory field data to the Engineer showing the proposed mix design conforms to specification requirements when trial batches are not required and before concrete is placed. Trial batch test results will be reported to the Contractor and the concrete supplier. Trial batches are not required for Class A, B, or E concrete unless establishing target values as described below.

Perform trial batches for all self-consolidating concrete mix designs.

Make all trial batches using the proposed ingredients in a mixer that is representative of the mixers to be used on the project when required. Make the batch size at least 50% of the mixer's rated capacity. Alternatively, use an AASHTO-accredited laboratory to perform laboratory trial batches using all the proposed ingredients. Perform fresh concrete tests for air content and slump, and make, cure, and test strength specimens for compliance with specification requirements. Test at least one set of design strength specimens, consisting of two specimens per set, at 7-day, 28-day, and at least one additional age unless otherwise directed. Before placing, provide the Engineer the option of witnessing trial batches, including the testing of the concrete. If not provided this option, the Engineer may require additional trial batches, including testing, before the concrete is placed.

Trial batches for precast concrete will be performed in accordance with [Tex-703-I](#) to show proposed mix design meets the requirements of the pertinent class of concrete, or Table 11 when SCC is used.

Establish a compressive strength target value in accordance with [Tex-427-A](#) for each Class A, B, and E concrete.

When changes are made to the type, brand, or source of aggregates, cement, SCM, water, or chemical admixtures, submit previous satisfactory field data, data from a new trial batch, or other evidence showing the change will not adversely affect the relevant properties of the concrete. Submit the data for approval before making changes to the mix design. A change in vendor does not necessarily constitute a change in materials or source. The Engineer may waive new trial batches when there is a prior record of satisfactory performance with the ingredients. During concrete production, dosage changes of chemical admixtures used in the trial batches will not require a re-evaluation of the mix design.

The Contractor has the option of performing trial batches in conjunction with concrete placements except for SCC mixtures, when new trial batches are required during the course of the project. If the concrete fails to meet any requirement, the Engineer will determine acceptability and payment adjustments. Establishing target strength for Class A, B, and E concrete may be conducted during these placements.

Establish the strength–maturity relationship in accordance with [Tex-426-A](#) when the maturity method is specified or permitted. When using the maturity method, any changes in any of the ingredients, including changes in proportions, will require the development of a new strength–maturity relationship for the mix.

- 4.3.1. **Mix Design of Record.** Once a trial batch or previously satisfactory field data substantiates the mix design, the proportions and mixing methods used become the mix design of record. Do not exceed mix design w/cm ratio.

4.4. **Production Testing.**

- 4.4.1. **Aggregate Moisture Testing.** Determine moisture content in accordance with [Tex-409-A](#) or [Tex-425-A](#) for coarse, intermediate, and fine aggregates at least twice per week, when there is an apparent change, or for new shipments of aggregate. When aggregate hoppers or storage bins are equipped with properly maintained electronic moisture probes for continuous moisture determination, moisture tests in accordance with [Tex-409-A](#) or [Tex-425-A](#) are not required.

When producing SCC, and when aggregate hoppers or storage bins are not equipped with electronic moisture probes, determine the moisture content of the aggregates before producing the first concrete batch each day. Thereafter, determine the moisture content every 4 hr. or when there is an apparent change while SCC is being produced.

- 4.4.2. **Aggregate Gradation Testing.** Perform a sieve analysis in accordance with [Tex-401-A](#) on each stockpile used in the blend at least 1 day before producing OAG concrete. Perform sieve analysis on each stockpile after every 10,000 cu. yd. of Class P OAG concrete produced, and every 1,000 cu. yd. for all other structural-class concrete. Provide sieve analysis data to the Engineer.

4.5. **Measurement of Materials.**

- 4.5.1. **Non-Volumetric Mixers.** Measure aggregates by weight. Correct batch weight measurements for aggregate moisture content. Measure mixing water, consisting of water added to the batch, ice added to the batch, water occurring as surface moisture on the aggregates, and water introduced in the form of admixtures, by volume or weight. Measure ice by weight. Measure cement and SCMs in a hopper and on a separate scale from those used for other materials. When measuring by cumulative weight, measure the cement first and ensure the cement meets the cement tolerance shown in Table 12 before measuring the SCMs. Measure concrete chemical admixtures by weight or volume. Measure batch materials within the tolerances shown in Table 12.

Table 12
Mix Design Batching Tolerances—Non-Volumetric Mixers

Material	Tolerance (%)
Cement, wt.	-1 to +3
SCM, wt.	-1 to +3
Cement + SCM (cumulative weighing), wt.	-1 to +3
Water, wt. or volume	±3 ¹
Fine aggregate, wt.	±2
Coarse aggregate, wt.	±2
Fine + coarse aggregate (cumulative weighing), wt.	±1
Chemical admixtures, wt. or volume	±3

1. Allowable deviation from target weight, not including water withheld or moisture in the aggregate. The Engineer will verify the w/cm ratio is within specified limits.

Ensure the quantity measured, when measuring cementitious materials at less than 30% of scale capacity, is accurate to no less than the required amount and no more than 4% in excess. Ensure the cumulative quantity, when measuring aggregates in a cumulative weigh batcher at less than 30% of the scale capacity, is measured accurately to ±0.3% of scale capacity or ±3% of the required cumulative weight, whichever is less.

Measure cement in number of bags under special circumstances when approved. Use the weights specified on the packaging. Weighing bags of cement is not required. Ensure fractional bags are not used except for small hand-mixed batches of approximately 5 cu. ft. or less and when an approved method of volumetric or weight measurement is used.

- 4.5.2. **Volumetric Mixers.** Provide an accurate method of measuring all ingredients by volume and calibrate equipment to assure correct measurement of materials within the specified tolerances. Base tolerances on volume-weight relationship established by calibration and measure the various ingredients within the tolerances shown in Table 13. Correct batch measurements for aggregate moisture content.

Table 13
Mix Design Batching Tolerances—Volumetric Mixers

Material	Tolerance
Cement, wt. %	0 to +4
SCM, wt. %	0 to +4
Fine aggregate, wt. %	±2
Coarse aggregate, wt. %	±2
Admixtures, wt. or volume %	±3
Water, wt. or volume %	±1

4.6. **Mixing and Delivering Concrete.**

- 4.6.1. **Mixing Concrete.** Operate mixers and agitators within the limits of the rated capacity and speed of rotation for mixing and agitation as designated by the manufacturer of the equipment. Provide concrete in a thoroughly mixed and uniform mass with a satisfactory degree of uniformity when tested in accordance with [Tex-472-A](#).

Do not top-load new concrete onto returned concrete.

Adjust mixing times and batching operations as necessary when the concrete contains silica fume to ensure the material is completely and uniformly dispersed in the mix. The dispersion of the silica fume within the mix will be verified by MTD using cylinders made from trial batches. Make necessary changes to the batching operations, if uniform dispersion is not achieved, until uniform and complete dispersion of the silica fume is achieved.

Mix concrete by hand methods or in a small motor-driven mixer when permitted, for small placements of less than 2 cu. yd. For such placements, proportion the mix by volume or weight.

- 4.6.2. **Delivering Concrete.** Deliver concrete to the project in a thoroughly mixed and uniform mass, and discharge the concrete with a satisfactory degree of uniformity. Conduct testing in accordance with [Tex-472-A](#) when there is a reason to suspect the uniformity of concrete and as directed.

Maintain concrete delivery and placement rates sufficient to prevent cold joints.

Adding chemical admixtures or the portion of water withheld is permitted only at the jobsite, under the supervision of the Engineer, to adjust the slump or slump flow of the concrete. Do not add water or chemical admixtures to the batch after more than an amount needed to conduct slump testing has been discharged. Turn the drum or blades at least 30 additional revolutions at mixing speed to ensure thorough and uniform mixing of the concrete. When this water is added, do not exceed the approved mix design w/cm ratio.

When truck mixers are equipped with automated water or chemical admixture measurement and slump or slump flow monitoring equipment, the addition of water or chemical admixtures during transit is allowed. Reports generated by this equipment must be submitted to the Engineer daily.

Before unloading, furnish the delivery ticket for the batch of concrete containing the information required in accordance with ASTM C94. The Engineer will verify all required information is provided on the delivery tickets. The Engineer may suspend concrete operations until the corrective actions are implemented if delivery tickets do not provide the required information. The Engineer will verify the design w/cm ratio is not exceeded.

An electronic ticket delivery system (e-ticketing) may be used instead of printed tickets. The use of e-ticketing will require written approval. At minimum, the system will:

- provide electronic, real-time e-tickets meeting the requirements above;
- automatically generate e-tickets using software and hardware fully integrated with the batch plant scales used to weigh the material;
- be able to record all water and chemical admixture additions performed at the jobsite or in transit when allowed;

- provide the ability to associate fresh concrete test results with each e-ticket;
- be designed in such a way that data input cannot be altered by the Contractor or the Engineer;
- provide the Engineer access to the e-ticketing data in real-time using a web-based or app-based system compatible with iOS; and
- provide offline capabilities to prevent data loss if power or connectivity is lost.

The Engineer may discontinue use of the e-ticketing and require printed tickets as needed if the e-ticketing system fails to meet the above requirements.

Begin the discharge of concrete delivered in truck mixers within the times shown in Table 14. Concrete delivered after these times and concrete that has not begun to discharge within these times will be rejected. The discharge times shown in Table 14 may be extended provided slump loss testing is conducted in accordance with [Tex-430-A](#) to show concrete will maintain the minimum required slump for the requested discharge time extension. Extended discharge times will be allowed when the concrete temperature at time of discharge is no more than 10°F higher than the slump loss test concrete temperature.

Table 14
Concrete Discharge Times for Truck Mixers

Fresh Concrete Temperature, °F	Max Time After Batching for Concrete Not Containing Type B or D Admixtures, min.	Max Time After Batching for Concrete Containing Type B or D Admixtures, ¹ min.
90 and above	45	75
75 ≤ T < 90	60	90
T < 75	90	120

1. Concrete must contain at least the minimum manufacturer's recommended dosage of Type B or D admixture.

- 4.7. **Placing, Finishing, and Curing Concrete.** Place, finish, and cure concrete in conformance with the pertinent Items.
- 4.8. **Sampling and Testing of Concrete.** Unless otherwise specified, all fresh and hardened concrete is subject to testing as follows.
- 4.8.1. **Certification of Testing Personnel.** Contractor personnel performing testing must be either ACI-certified or qualified by a Department-recognized equivalent written and performance testing program for the tests being performed. Personnel performing these tests are subject to Department approval. Use of a commercial laboratory is permitted at the Contractor's option.
- 4.8.2. **Fresh Concrete.** Provide safe access and assistance to the Engineer during sampling. Fresh concrete will be sampled for testing at the point of discharge from the delivery equipment or end of belt conveyors.
- 4.8.3. **Testing Concrete.** The Engineer, unless specified in other Items or shown on the plans, will test the fresh and hardened concrete in accordance with the following methods.
- **Slump.** [Tex-415-A](#)
 - **Air Content.** [Tex-414-A](#) or [Tex-416-A](#), only when air-entrained concrete is shown on the plans
 - **Temperature.** [Tex-422-A](#)
 - **Making and Curing Strength Specimens.** [Tex-447-A](#)
 - **Compressive Strength.** [Tex-418-A](#)
 - **Flexural Strength.** [Tex-448-A](#)
 - **Maturity.** [Tex-426-A](#)

Flexural strength and maturity specimens will not be made unless specified in other Items or shown on the plans.

Concrete with slump less than minimum required after all addition of water withheld will be rejected, unless otherwise allowed by the Engineer. Concrete with slump exceeding maximum allowed may be used at the

Contractor's option. If used, Engineer will make, test, and evaluate strength specimens in accordance with Article 421.5., "Acceptance of Concrete." Acceptance of concrete not meeting air content or temperature requirements will be determined by Engineer. Fresh concrete exhibiting segregation and excessive bleeding will be rejected.

- 4.8.3.1. **Strength Specimen Handling.** After strength test specimens are molded, protect and cure in conformance with pertinent test methods. When necessary, deliver Contractor-molded specimens to curing facilities, remove specimens from their molds, and place specimens in curing tanks within 24–48 hr. after molding, in conformance with pertinent test methods. The Engineer will deliver Department-molded specimens to curing facilities, remove specimens from their molds, and place specimens in curing tanks within 24–48 hr. after molding, in conformance with pertinent test methods.

5. ACCEPTANCE OF CONCRETE

The Engineer will sample and test the fresh and hardened concrete for acceptance. The test results will be reported to the Contractor and the concrete supplier. Investigate the quality of the materials, the concrete production operations, and other possible problem areas to determine the cause for any concrete that fails to meet the required strengths as specified below. Take necessary actions to correct the problem, including redesign of the concrete mix. The Engineer may suspend all concrete operations under the pertinent Items if the Contractor is unable to identify, document, and correct the cause of the low strengths in a timely manner. Resume concrete operations only after obtaining approval for any proposed corrective actions. Concrete failing to meet the required strength as specified below will be evaluated in accordance with Article 421.6., "Measurement and Payment."

- 5.1. **Structural Class of Concrete.** For concrete classes identified as structural concrete shown in Table 8, the Engineer will make and test 7-day and 28-day specimens, and, if necessary, 56-day specimens. The Engineer will base acceptance on attaining the design strength shown in Table 8 or design strength shown on the plans.
- 5.2. **Class P and Class High Early Strength (HES).** The Engineer will base acceptance in accordance with Item 360 and Item 361, "Repair of Concrete Pavement."
- 5.3. **All Other Classes of Concrete.** For concrete classes not identified as structural concrete in Table 8, the Engineer will make and test 7-day specimens. The Engineer will base acceptance on attaining design strength or attaining the 7-day target value established in accordance with [Tex-427-A](#).

6. MEASUREMENT AND PAYMENT

The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly, but will be subsidiary to pertinent Items.

The following procedure will be used to evaluate concrete where one or more project acceptance test specimens fail to meet the required design strength specified in this Item or shown on the plans.

- The concrete for a given placement will be considered structurally adequate and accepted at full price if the average of 28-day or 56-day set of specimens made at the time of placement meets the required design strength, provided no single specimen test result is less than 85% of the required design strength.
- The Engineer will perform a structural review of the concrete to determine its adequacy to remain in service if the average 28-day or 56-day set of specimens made at the time of placement is less than the required design strength or if any single specimen test result is less than 85% of the required design strength. If the concrete is determined to be structurally adequate, the Engineer will determine the limits of the payment adjustment using the formula below.
- If the in situ concrete strength is needed for the structural review, take cores at locations designated by the Engineer in accordance with [Tex-424-A](#). The Engineer will test the cores. The coring and testing will be at the Contractor's expense.

- If all the tested cores meet the required design strength, the concrete will be paid for at full price.
- If any of the tested cores do not meet the required design strength, but the average strength attained is determined to be structurally adequate, the Engineer will determine the limits of the payment adjustment using the following formula.

$$A = B_p \left[-5.37 \left(\frac{S_a}{S_s} \right)^2 + 11.69 \left(\frac{S_a}{S_s} \right) - 5.32 \right]$$

where:

A = Amount to be paid per unit of measure for the entire placement in question.

S_a = Actual average strength from cylinders or cores. Use values from cores, if taken.

S_s = Minimum required strength (specified).

B_p = Unit bid price.

- If the structural review determines the concrete is not adequate to remain in service, the Engineer will determine the limits of the concrete to be removed.
- The decision to reject structurally inadequate concrete or to apply the payment adjustment factor will be made no later than 7 days after 28-day or 56-day design strength specimens, or cores, if taken, are tested.

Item 440

Reinforcement for Concrete



1. DESCRIPTION

Furnish and place reinforcement of the type, size, and details shown on the plans.

2. MATERIALS

Use deformed steel bar reinforcement unless otherwise specified or allowed.

2.1. **Approved Mills.** Before furnishing steel, producing mills of reinforcing steel for the Department must be pre-approved in accordance with [DMS-7320](#), "Qualification Procedure for Reinforcing Steel Production Mills," by the Materials and Tests Division. The Department's MPL includes approved producing mills. Reinforcing steel obtained from unapproved sources will not be accepted.

2.2. **Deformed Steel Bar Reinforcement.** Provide deformed reinforcing steel conforming to one of the following:

- ASTM A615, Grade 60 or 80;
- ASTM A996, Type A, Grade 60;
- ASTM A996, Type R, Grade 60, permitted in concrete pavement only (Furnish ASTM A996, Type R bars as straight bars only and do not bend them. Bend tests are not required.); or
- ASTM A706, Grade 60 or 80.

Provide the grade of reinforcing steel shown on the plans. Provide Grade 60 if no grade is shown.

The nominal size, area, and weight of reinforcing steel bars this Item covers are shown in Table 1.

Table 1
Size, Area, and Weight of Reinforcing Steel Bars

Bar Size Number (in.)	Diameter (in.)	Area (sq. in.)	Weight per Foot (lb.)
3	0.375	0.11	0.376
4	0.500	0.20	0.668
5	0.625	0.31	1.043
6	0.750	0.44	1.502
7	0.875	0.60	2.044
8	1.000	0.79	2.670
9	1.128	1.00	3.400
10	1.270	1.27	4.303
11	1.410	1.56	5.313
14	1.693	2.25	7.650
18	2.257	4.00	13.60

2.3. **Smooth Steel Bar Reinforcement.** Provide steel conforming to ASTM A615 or meet the physical requirements of ASTM A36 for smooth bars that are larger than No. 3. Designate smooth bars by size number up to No. 4 and by diameter in inches above No. 4.

2.4. **Spiral Reinforcement.** Provide bars or wire for spiral reinforcement of the grade and minimum size or gauge shown on the plans.

Provide smooth or deformed wire conforming to ASTM A1064. Provide bars conforming to ASTM A615; ASTM A996, Type A; or ASTM A675, Grade 80, meeting dimensional requirements of ASTM A615.

- 2.5. **Weldable Reinforcing Steel.** Provide reinforcing steel conforming to ASTM A706 or with a maximum carbon equivalent (C.E.) of 0.55% if welding of reinforcing steel is required or desired. Provide a report showing the percentages of elements necessary to establish C.E. for reinforcing steel that does not meet ASTM A706, to be structurally welded. These requirements do not pertain to miscellaneous welds on reinforcing steel as defined in Section 448.4.2.1.1., "Miscellaneous Welding Applications."

Calculate C.E. using the following formula:

$$C.E. = \%C + \frac{\%Mn}{6}$$

Do not weld stainless reinforcing steel without permission from the Engineer. Provide stainless reinforcing steel suitable for welding, if required, and submit welding procedures and electrodes to the Engineer for approval.

All welding operations must be performed before any required hot-dip galvanizing.

- 2.6. **Welded Wire Reinforcement (WWR).** Provide WWR conforming to ASTM A1064. Observe the relations shown in Table 2 among size number, diameter in inches, and area when ordering wire by size numbers, unless otherwise specified. Precede the size number for deformed wire with "D" and for smooth wire with "W."

Designate WWR as shown in the following example: 6 × 12 - W16 × W8 (indicating 6-in. longitudinal wire spacing and 12-in. transverse wire spacing with smooth No. 16 wire longitudinally and smooth No. 8 wire transversely).

Table 2
Wire Size Number, Diameter, and Area

Size No. (in.)	Diameter (in.)	Area (sq. in.)
31	0.628	0.310
30	0.618	0.300
28	0.597	0.280
26	0.575	0.260
24	0.553	0.240
22	0.529	0.220
20	0.505	0.200
18	0.479	0.180
16	0.451	0.160
14	0.422	0.140
12	0.391	0.120
10	0.357	0.100
8	0.319	0.080
7	0.299	0.070
6	0.276	0.060
5.5	0.265	0.055
5	0.252	0.050
4.5	0.239	0.045
4	0.226	0.040
3.5	0.211	0.035
2.9	0.192	0.029
2.5	0.178	0.025
2	0.160	0.020
1.4	0.134	0.014
1.2	0.124	0.012
0.5	0.080	0.005

Note—Size numbers (in.) are the nominal cross-sectional area of the wire in hundredths of a square inch. Fractional sizes between the sizes listed above are also available and acceptable for use.

- 2.7. **Welded Deformed Bar Mat Reinforcement.** Provide welded deformed bar mats in accordance with ASTM A184 except as otherwise noted in this Specification. Fabricate welded bar mats from deformed steel

bars in accordance with ASTM A706 by securely connecting every intersection with a process of electrical resistance welding that employs the principle of fusion combined with pressure. The bars must be assembled by automatic machines or by other suitable mechanical means that will assure accurate spacing and alignment of all bars of the finished product.

- 2.8. **Epoxy Coating.** Provide epoxy-coated reinforcing steel as shown on the plans. Before furnishing epoxy-coated reinforcing steel, an epoxy applicator must be pre-approved in accordance with [DMS-7330](#), "Qualification Procedure for Reinforcing Steel Epoxy Coating Applicators." The Department's MPL includes approved applicators.

Furnish epoxy-coated reinforcing steel meeting the requirements in Table 3.

Table 3
Epoxy Coating Requirements for Reinforcing Steel

Material	Specification
Bar	ASTM A775 or A934
Wire or WWR	ASTM A884 Class A or B
Mechanical couplers	As shown on the plans
Hardware	As shown on the plans

Use epoxy coating material and coating repair material that complies with [DMS-8130](#), "Epoxy Powder Coating for Reinforcing Steel." Patch no more than 1/4-in. total length in any foot at the applicator's plant.

Maintain identification of all reinforcing steel throughout the coating and fabrication process and until delivery to the project site.

Furnish one copy of a written certification verifying the epoxy-coated reinforcing steel meets the requirements of this Item and one copy of the manufacturer's control tests.

- 2.9. **Mechanical Couplers.** Use couplers of the type specified in [DMS-4510](#), "Mechanical Couplers for Reinforcing Steel," Article 4510.6.1, "General Requirements," when mechanical splices in reinforcing steel bars are shown on the plans.

Furnish only couplers pre-qualified in accordance with [DMS-4510](#). Ensure sleeve-wedge type couplers are not used on coated reinforcing. Sample mechanical couplers in accordance with [Tex-743-I](#) for testing before use on individual projects. Test the mechanical couplers for every project in which mechanical couplers are used in accordance with [Tex-744-I](#). Furnish couplers only at locations shown on the plans.

Furnish couplers for stainless reinforcing steel with the same alloy designation as the reinforcing steel.

Provide hot-dip or mechanically galvanized couplers when splicing galvanized reinforcing or CGR.

- 2.10. **Fibers.** Supply fibers conforming to [DMS-4550](#), "Fibers for Concrete," at the minimum dosage listed in the Department's MPL, when shown on the plans. Use non-metallic fibers when shown on the plans.

- 2.11. **Stainless Reinforcing Steel.** Provide deformed steel bars of the types shown in Table 4 and conforming to ASTM A955, Grade 60 or higher when stainless reinforcing steel is required on the plans.

Table 4
Acceptable Types of Deformed Stainless Steel Bar

Universal Numbering System designation	S31653	S31803	S24100	S32304
AISI type	316LN	2205	XM-28	2304

- 2.12. **Low-Carbon and Low-Chromium Reinforcing Steel.** Provide deformed steel bars conforming to ASTM A1035, Grade 100, Type CS when low carbon and low chromium reinforcing steel is required on the plans. Type CM will be permitted only if specifically allowed as shown on the plans.

- 2.13. **Glass-Fiber Reinforced Polymer (GFRP) Bars.** For reinforced concrete bridge decks, provide bars conforming to ASTM D7957/D7957M when GFRP bars are required on the plans. Provide GFRP bars with a minimum modulus of elasticity of 7,500 ksi when GFRP bars are required on the plans. Provide sample certification demonstrating the GFRP bar supplier has produced bar that meets the material specifications 2 mo. before fabrication. Furnish certification upon shipment that the GFRP bar supplied meets these requirements.
- 2.14. **Galvanized Reinforcement.** Provide galvanized reinforcing steel conforming to one of the following as shown on the plans:
- zinc-coated, hot-dip galvanized Class I or II steel reinforcement conforming to ASTM A767, Grade 60 or 80; or
 - continuously hot-dip galvanized reinforcement (CGR) conforming to ASTM A1094 steel reinforcement, Grade 60 or 80.

3. CONSTRUCTION

- 3.1. **Bending.** Fabricate reinforcing steel bars in accordance with the CRSI *Manual of Standard Practice* to the shapes and dimensions shown on the plans. Fabricate in the shop if possible. Field-fabricate, if permitted, using an approved method. Replace improperly fabricated, damaged, or broken bars at no additional expense to the Department. Repair damaged or broken bars embedded in a previous concrete placement using an approved method.

Unless otherwise shown on the plans, the inside diameter of bar bends, in terms of the nominal bar diameter (d), must not be less than that shown in Table 5.

Table 5
Minimum Inside Diameter of Bar Bends

Bend	Bar Size No. (in.)	Diameter
Bends of 90° and greater in stirrups, ties, and other secondary bars that enclose another bar in the bend	3, 4, 5	4d ¹
	6, 7, 8	6d
Bends in main bars and in secondary bars not covered above	3–8	6d
	9, 10, 11	8d
	14, 18	10d ²

1. For Grade 80 bars, minimum finished diameter is 5.0db.
2. Do not bend bars larger than No. 14 with grade designation of Grade 80 or higher

Bend-test representative specimens as described for smaller bars in the applicable ASTM specification where bending No. 14 or No. 18 Grade 60 bars is required. Make the required 90° bend around a pin with a diameter of 10 times the nominal diameter of the bar.

Bend stainless reinforcing steel in accordance with ASTM A955.

Do not bend hot-dip galvanized reinforcement. Only minor positioning adjustments are permitted.

Bending CGR is permitted after galvanizing.

- 3.2. **Tolerances.** Fabrication tolerances for bars are shown in Figure 1.

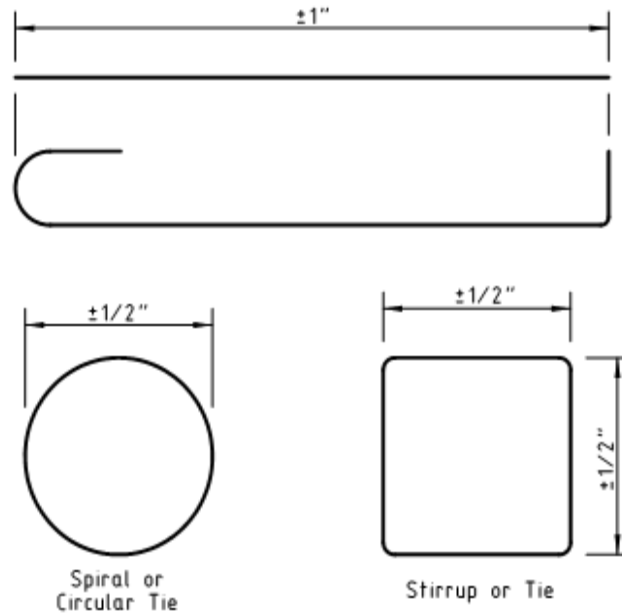


Figure 1
Fabrication Tolerances for Bars

- 3.3. **Storage.** Store reinforcement above the ground on platforms, skids, or other supports, and protect it from damage and deterioration. Ensure reinforcement is free of dirt, paint, grease, oil, and other foreign materials when it is placed in the work. Use reinforcement free of defects such as cracks and delaminations. Rust, surface seams, surface irregularities, or mill scale will not be cause for rejection if the minimum cross-sectional area of a hand wire-brushed specimen meets the requirements for the size of steel specified.

Do not allow stainless reinforcing steel to be in direct contact with uncoated reinforcing steel, or with galvanized reinforcing steel. This does not apply to stainless steel wires and ties. Store stainless reinforcing steel separately, off the ground on wooden supports.

- 3.4. **Splices.** Lap-splice, weld-splice, or mechanically splice bars as shown on the plans. Additional splices not shown on the plans will require approval. Splices not shown on the plans will be permitted in slabs no more than 15 in. in thickness, columns, walls, and parapets.

Do not splice bars less than 30 ft. in plan length unless otherwise approved. For bars exceeding 30 ft. in plan length, the distance center-to-center of splices must be at least 30 ft. minus one splice length, with no more than one individual bar length less than 10 ft. Make lap splices not shown on the plans, but otherwise permitted, in accordance with Table 6. Maintain the specified concrete cover and spacing at splices, and place the lap-spliced bars in contact, securely tied together.

Table 6
Minimum Lap Requirements for Steel Bar Sizes Through No. 11

Bar Size No. (in.)	Uncoated Lap Length	Coated Lap Length
3	1 ft. 4 in.	1 ft. 7 in.
4	1 ft. 10 in.	2 ft. 8 in.
5	2 ft. 8 in.	4 ft. 0 in.
6	3 ft. 8 in.	5 ft. 6 in.
7	4 ft. 10 in.	7 ft. 2 in.
8	6 ft. 0 in.	9 ft. 0 in.
9	7 ft. 4 in.	11 ft. 0 in.
10	8 ft. 11 in.	13 ft. 4 in.
11	10 ft. 6 in.	15 ft. 9 in.

Do not lap No. 14 or No. 18 bars.

Lap spiral steel at least one full turn.

Splice WWR using a lap length that includes the overlap of at least two cross wires plus 2 in. on each sheet or roll. Splices using bars that develop equivalent strength and are lapped in accordance with Table 6 are permitted.

Lap the existing longitudinal bars with the new bars as shown in Table 6 for box culvert extensions with less than 1 ft. of fill. Lap at least 1 ft. 0 in. for extensions with more than 1 ft. of fill.

Ensure welded splices conform to the requirements shown on the plans and Item 448, "Structural Field Welding." Field-prepare ends of reinforcing bars if they will be butt-welded. Delivered bars must be long enough to permit weld preparation.

Install mechanical coupling devices in conformance with the manufacturer's recommendations at locations shown on the plans. Protect threaded male or female connections, and ensure the threaded connections are clean when making the connection. Do not repair damaged threads.

Mechanical coupler alternate equivalent strength arrangements, to be accomplished by substituting larger bar sizes or more bars, will be considered if approved in writing before fabrication of the systems.

- 3.5. **Placing.** Place reinforcement as near as possible to the position shown on the plans. Do not vary bars from plan placement by more than 1/12 of the spacing between bars in the plane of the bar parallel to the nearest surface of concrete. Do not vary bars from plan placement by more than 1/4 in. in the plane of the bar perpendicular to the nearest surface of concrete. Provide a minimum 1-in. clear cover of concrete to the nearest surface of bar unless otherwise shown on the plans.

For bridge slabs, the clear cover tolerance for the top mat of reinforcement is -0, +1/2 in.

Locate the reinforcement accurately in the forms and hold it firmly in place before and during concrete placement by means of bar supports that are adequate in strength and number to prevent displacement and keep the reinforcement at the proper distance from the forms. Provide bar supports in accordance with the *CRSI Manual of Standard Practice*. Use Class 1 supports, approved plastic bar supports, precast mortar, or concrete blocks when supports are in contact with removable or stay-in-place forms. Use Class 3 supports in slab overlays on concrete panels or on existing concrete slabs. Bar supports in contact with soil or subgrade must be approved.

Use Class 1A supports with epoxy-coated reinforcing steel. Use Class 1 or Class 1A supports with CGR. Provide epoxy- or plastic-coated tie wires and clips for use with epoxy-coated reinforcing steel.

Use mortar or concrete with a minimum compressive strength of 5,000 psi for precast bar supports. Provide a suitable tie wire in each block for anchoring to the bar.

Place individual bar supports in rows at 4-ft. maximum spacing in each direction. Place continuous type bar supports at 4-ft. maximum spacing. Use continuous bar supports with permanent metal deck forms.

The exposure of the ends of longitudinals, stirrups, and spacers used to position the reinforcement in concrete pipe and storm drains is not cause for rejection.

Tie reinforcement for bridge slabs and top slabs of direct traffic culverts at all intersections, except tie only alternate intersections where spacing is less than 1 ft. in each direction. Tie the bars at enough intersections to provide a rigid cage of reinforcement for reinforcement cages for other structural members. Fasten mats of WWR securely at the ends and edges.

Clean mortar, mud, dirt, debris, oil, and other foreign material from the reinforcement before concrete placement. Do not place concrete until authorized.

Stop placement until corrective measures are taken if reinforcement is not adequately supported or tied to resist settlement, reinforcement is floating upward, truss bars are overturning, or movement is detected in any direction during concrete placement.

3.6. **Handling, Placing, and Repairing Epoxy-Coated Reinforcing Steel.**

3.6.1. **Handling.** Provide systems for handling coated reinforcing steel with padded contact areas. Pad bundling bands or use suitable banding to prevent damage to the coating. Lift bundles of coated reinforcement using a strongback, a spreader bar, multiple supports, or a platform bridge. Transport the bundled reinforcement carefully and store it on protective cribbing. Do not drop or drag the coated reinforcement.

3.6.2. **Placing.** Do not flame-cut coated reinforcement. Saw- or shear-cut only when approved. Coat cut ends in accordance with Section 440.3.6.3., "Repairing Coating."

Do not weld or mechanically couple coated reinforcing steel except where specifically shown on the plans. Remove the epoxy coating at least 6 in. beyond the weld limits before welding and 2 in. beyond the limits of the coupler before assembly. Clean the steel of oil, grease, moisture, dirt, welding contamination (slag or acid residue), and rust to a near-white finish after welding or coupling. Check the existing epoxy for damage. Remove any damaged or loose epoxy back to sound epoxy coating.

Coat the splice area after cleaning with epoxy repair material to a thickness of 7–17 mils after curing. Apply a second application of repair material to the bar and coupler interface to ensure complete sealing of the joint.

3.6.3. **Repairing Coating.** Use material that complies with the requirements of this Item and ASTM D3963 for repairing of the coating. Make repairs in conformance with procedures recommended by the manufacturer of the epoxy coating powder. Apply at least the same coating thickness as required for the original coating for areas to be patched. Repair all visible damage to the coating.

Repair sawed and sheared ends, cuts, breaks, and other damage promptly before additional oxidation occurs. Clean areas to be repaired to ensure they are free of surface contaminants. Make repairs in the shop or field as required.

3.7. **Repair of Galvanized Reinforcing Steel.** Repair damaged galvanized surfaces in accordance with Section 445.3.4.2. "Repair Processes."

3.8. **Handling and Placing Stainless Reinforcing Steel.** Handle, cut, and place stainless reinforcing steel bar using tools that are not used on carbon steel. Do not use carbon steel tools, chains, or slings when handling stainless steel. Use only nylon or polypropylene slings. Cut stainless steel reinforcing using shears, saws, abrasive cutoff wheels, or torches. Remove any thermal oxidation using pickling paste. Do not field bend stainless steel reinforcing without approval.

Use 16-gauge fully annealed stainless steel tie wire conforming to the material properties listed in Section 440.2.11., "Stainless Reinforcing Steel." Support all stainless reinforcing steel on solid plastic, stainless steel, or epoxy-coated steel chairs. Do not use uncoated carbon steel chairs in contact with stainless reinforcing steel.

3.9. **Bending, Handling, Repairing, and Placing GFRP Bars.** Fabricate, handle, repair, and place GFRP bars in accordance with the AASHTO *LRFD Bridge Design Guide Specifications for GFRP-Reinforced Concrete*, Section 6, "Construction Specifications."

4. **MEASUREMENT AND PAYMENT**

The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Section 260500 Common Work Results for Electrical

260500-1.1 Section includes.

a. This item is intended to supplement the specifications for the Electrical requirements of this contract. It is the intent and meaning of the Plans and Specifications that the Contractor shall provide an electrical installation that is operational and complete, including all items and appurtenances necessary, reasonably incidental or customarily included, even though each and every item is not specifically called out or shown.

b. Installations and construction under these provisions shall be coordinated with the Construction Manager. Specification requirements for approvals, reviews, or other involvements of the Engineer shall be transmitted by the Contractor through the Construction Manager to the Engineer.

260500-1.2 Applicable codes and standards.

a. Codes. All electrical work shall conform with the requirements and recommendations of the latest edition of the National Electrical Code. In conflicts among drawings, specifications and codes, the most stringent requirements shall govern.

b. Standards. The specifications and standards of the following organizations are by reference made part of these specifications and all electrical work, unless otherwise indicated, shall comply with their requirements and recommendations wherever applicable.

1. Institute of Electrical and Electronic Engineers (IEEE)
2. American National Standards Institute (ANSI)
3. American Society for Testing and Materials (ASTM)
4. Insulated Power Cable Engineers Association (ICEA)
5. National Institute of Standards and Technology (NIST).
6. National Electrical Contractor's Association (NECA)
7. National Electrical Manufacturer's Association (NEMA)
8. National Fire Protection Association (NFPA)
9. Underwriter's Laboratories, Inc. (UL)
10. National Electrical Safety Code (NESC)

260500-1.3 Requirements of regulatory agencies.

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

b. The requirements and recommendations of the latest edition of the Occupational Safety and Health Act are by reference made a part of these specifications and all electrical work shall comply with their requirements and recommendations wherever applicable.

260500-1.4 Workmanship and personnel requirements.

a. All electrical work shall be performed by workmen skilled in the electrical trade and licensed for the work by the State of Texas. The Engineer will recognize the credentials of Master Electricians with valid current licenses from the State of Texas. Credentials will be recognized of Journeyman Electricians with valid current licenses from other licensing entities having established reciprocal agreements with these municipalities.

b. A licensed Master Electrician will be required for the issuance of a building permit for constructing, installing, altering, maintaining, repairing or replacing any electrical wiring, apparatus, or equipment on any voltage level.

c. A licensed Master Electrician or a licensed Journeyman Electrician is required to be on the job site whenever any electrical work is performed. Any electrical work or associated electrical installations shall be accomplished under the direct supervision of a licensed Journeyman Electrician.

d. To ensure compliance with Paragraph "c" above, only a documented Electrical work force with a ratio of a maximum ratio of 3 licensed Apprentices for each licensed Journeyman Electrician shall be allowed to work on the electrical systems.

e. Contractor shall prepare documentation associated with the electrical work force confirming adherence to the requirements of Paragraph "d" above. These documents shall be submitted to the Construction Manager for approval. Also, any work force changes or revisions which affect compliance with paragraph "d" above shall also be submitted to the Construction Manager for approval.

f. All circuits will be handled throughout the installation process by qualified licensed electrical personnel.

g. Every cable splicer shall be qualified in making cable splices and terminations on cables rated above 1,000 volts A.C. The Contractor shall submit for approval of the Construction Manager proof of the qualifications of each proposed cable splicer for the 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/splice medium voltage cable.

h. At least thirty (30) days prior to performing any cable splicing/terminating, Contractor shall submit to the Construction Manager a written list of proposed cable splicing/terminating personnel, including written evidence that the proposed personnel have had a minimum of eight (8) hours of technical training by authorized splice/termination kit manufacturer personnel. Approved training shall include a thorough review of kit components and splicing/terminating techniques and procedures. Field splices shall only be installed by technicians approved by the Construction Manager and the Engineer.

i. In addition, each trained cable splicer shall be required to install a splice and a connector on type and size of the cable to be used under this contract. Sample connections shall be accomplished in accordance with the manufacturer's instructions and in the presence of the Construction Manager.

j. The Contractor performing construction on the electrical and/or communication system shall have a minimum of 5 years of experience on construction of projects of similar type of work and of similar size and complexity. The owner will require all Electrical Contractors bidding on this project to submit proof of experience that they have successfully completed at least two projects of comparative size and complexity within the past 5 years.

260500-1.5 Equipment, material and installation requirements.

a. The Contractor shall furnish and install all materials, equipment, accessories, connections and incidental items in accordance with the approved recommendations of the manufacturer and the best practices of the trade to provide a complete installation ready for use and operational by the Owner.

b. All equipment and materials shall be new, unless specifically noted otherwise, and shall bear the manufacturer's name, trademark and ASME, UL, and/or other labels in every case where a standard had been established for the particular item.

c. The Contractor shall promptly notify the Construction Manager in writing of any conflict between any requirements of the Contract Documents and equipment manufacturer's directions and shall obtain written instructions from the Construction Manager before proceeding with the work. Should the Contractor perform any work that does not comply with the manufacturer's directions or such written instructions from the Construction Manager, Contractor shall bear all costs arising in correcting deficiencies.

d. After review of equipment submittals, and instructions by the Engineer to proceed, equipment installations may require arrangements or connections different from those shown on the drawings. It is the responsibility of the Contractor to install the equipment to operate properly. The Contractor shall provide any additional equipment and/or materials required for installations to operate in accordance with the intent of the drawings and specifications.

e. It is the responsibility of the Contractor to ensure that items installed fit the space available with adequate room for proper equipment operation and maintenance. Contractor shall make field measurements to ascertain space requirements, including those for connections, and shall furnish and install such sizes and shapes of equipment that the final installation provides a complete and operational system that complies with the requirements of the drawings and specifications.

f. The Contractor shall be responsible for coordinating proper location of roughing in and connections by other trades. Changes associated with coordination requirements shall be made at no increase in the Contract amount or additional costs to other trades.

g. The Contractor shall support work and equipment plumb, rigid and true to line. The Contractor shall determine how equipment, fixtures, conduit, etc., are to be installed, as required by codes, drawings and specifications. Foundations, bolts, inserts, stands, hangers, brackets and accessories required for proper support shall be provided by the Contractor, whether or not specifically indicated on the drawings.

260500-1.6 Submittals.

a. Submit manufacturer's data or shop drawings of the following items giving full information as to the dimensions, materials, and other information required to define compliance with the specifications. Other items to be submitted are listed in the specification sections.

Package Engine Generator	#12 Copper Cable
Automatic Transfer Switches	#4/0 Copper Cable
Conduit	#3/0 Copper Cable
Support Hardware	Grounding Conductors and Equipment
Fuses	Breakers
Annunciator Panel	Block Heater
Battery Charger	Weather/ Sound Enclosure

b. When requested by the Engineer, samples of these items shall be submitted for approval. Equipment/installation diagrams shall also be submitted for approval, as required by project specifications and/or requested by the Engineer.

c. Contractor submittal package shall include a typewritten list indicating each bid item, with a breakdown of all item components and all parts that are assembled or associated with bid item installation.

d. Submittal package list shall indicate: (1) Bid item number, (2) Part numbers of associated item components, as required and (3) Reference page number where item and components information are located in the submittal package. The contractor shall organize submittals so that common components to multiple bid items are not duplicated in the submittals.

e. Checking of submittals by the Engineer is done only as an aid to the Contractor and approval of submittals shall not relieve Contractor of responsibility for any errors or omissions in the submittals, nor shall it relieve the Contractor of total responsibility for proper and complete execution of the job.

PRODUCTS

260500-2.1 Not used.

EXECUTION

260500-3.1 Inspection and testing.

a. All work performed by the Contractor shall be subject to periodic inspections by the Engineer, the Owner's Representative, and the Owner's Construction Manager to verify that the installation is in compliance with the applicable requirements of these specifications.

260500-3.2 Installation provisions.

a. To enhance personnel safety and avoid contractual problems, the Contractor shall comply with the provisions indicated below.

260500-3.3 Electrical work provisions.

a. Existing Underground Utilities. At least forty-eight (48) hours prior to beginning any excavation, locations of all utility lines in the construction area will be identified and marked with surveyor flags by appropriate utility personnel. The Contractor shall be responsible for maintaining the location flags. Any flags displaced shall be replaced by the Contractor. The Contractor shall coordinate with Construction Manager any additional prior notification time required during weekend and/or holiday work periods.

b. Also at least forty-eight (48) hours prior to beginning any excavation, the contractor shall request the construction manager to have staff identify circuits in proposed excavation areas. The Contractor shall coordinate with Construction Manager any additional prior notification time required during weekend and/or holiday work periods.

c. The above noted line identification information shall not relieve the Contractor of the responsibility of pinpointing underground lines to avoid unplanned disruptions or disturbing of installation or operation of underground lines in construction areas. Contractor shall use cable tracing equipment or other methods approved by the Construction Manager at his disposal, to pinpoint line locations. Excavation shall not proceed until all underground lines have been identified to the satisfaction of the Construction Manager.

d. Repair of underground lines damaged by the Contractor shall be the sole responsibility of the Contractor.

260500-3.4 Temporary and bypass circuit provisions.

a. During construction, temporary or bypass wiring or cable installations may be required to maintain operation of certain equipment, as indicated in Construction Documents and/or as specified. Temporary/bypass circuit installations shall adhere to provisions indicated below.

1. General Requirements. Contractor shall review the requirements in the specifications and Construction Documents, including, but not restricted to: Phasing and Sequencing Plans, Demolition Plans and Wiring Diagrams. Contractor shall determine locations, sizes and quantities of temporary/bypass wiring and conduits required for project construction.
2. At least 14 days prior to commencement of installation of temporary/bypass wiring, the Contractor shall submit a layout of proposed temporary/bypass conduits and circuits to the Construction Manager for review and approval, including proposed installation protection provisions.
3. Equipment and Materials. Temporary/bypass wiring shall meet the requirements of Section 26 11 10 – Conduit, and shall also conform to the Construction Plans. Temporary/bypass wiring shall be identified at junction points with brass tags as approved by the Construction Manager.
4. Installation. Temporary/bypass circuits shall be installed with due consideration to personnel safety and circuit protection against physical damage. All damage to existing circuits as a result of Contractor action or inaction shall be corrected accordingly at the Contractor's expense and corrective action approved by the Owner.
5. Temporary/bypass, high voltage lighting system cables shall be protected from damage by vehicles with suitable fencing, barriers and/or adequately sized boards or timbers.
6. Temporary/bypass circuits shall be removed immediately upon completion of construction or purpose for which the wiring was installed. Upon removal of boards or timbers fastened to the pavement surface to protect temporary/bypass circuits, the Contractor shall repair the pavement with materials and methods approved by the Construction Manager. Temporary/bypass cable and counterpoise shall be removed and discarded by the Contractor.

260500-3.5 Existing electrical equipment and materials.

a. The Contractor shall remove all existing wiring and electrical equipment made unnecessary by the new installation. All materials removed shall become property of the Contractor and disposed of by the Contractor. The Contractor shall list materials according to type, class and/or size, and store or dispose of materials as directed by the Construction Manager.

260500-3.6 Power service continuity.

a. Provide labor, materials and supervision required to maintain full capacity power service continuity when connection or modifications are made to existing systems and facilities. Do not interrupt service without prior consent of the Construction Manager, with a definite understanding of time and duration of outage. All outages will take place at a time for minimum disruption of facility activity. Coordinate with Owner.

260500-3.7 As-built drawings.

a. The Contractor shall maintain a set of as-built drawings on the job site as required the General Provisions of the Contract. Contractor shall mark on the as-built drawings all work details, alterations installed to meet site conditions and changes made by Change Notices. As-built drawings shall be kept available for inspection by the Construction Manager and/or the Engineer at all times.

b. Wiring verification diagrams shall be maintained throughout the project and later submitted to the City of Houston. These field wiring diagrams shall depict the exact routing and number of cables installed in each conduit originating from and extending to each manhole, handhole, pullbox, sign, and lighting fixture for each new circuit or circuit revision.

MEASUREMENT AND PAYMENT

260500-4.1 No separate measurement or payment will be made for the items in this specification. All costs associated with this work will be considered incidental to the total contract bid amount.

END OF SECTION 260500

Section 260530 Maintenance Testing of Electrical Systems

260530-1.1 Section includes.

- a.** Test electrical systems and equipment.
- b.** These tests are required to determine that the equipment involved may be safely energized and operated.
- c.** Perform tests by and under the supervision of fully experienced and qualified personnel. Advise each respective manufacturer's representative of tests on their equipment.
- d.** Record all test data.
- e.** Each section of Division 26 that has products or systems listed herein incorporate this section by reference and is incomplete without the required tests stated herein.

260530-1.2 References.

- a.** Manufacturer's instruction manuals, drawings, and information applicable to the equipment and systems.
- b.** NFPA 70 - National Electrical Code.
- c.** International Electrical Testing Association (NETA)
- d.** National Electrical Manufacturer's Association (NEMA)
- e.** American Society for Testing and Materials (ASTM)
- f.** Institute of Electrical and Electronic Engineers (IEEE)
- g.** American National Standards Institute (ANSI)
- h.** NFPA 110 - Emergency and Standby Power Systems,
- i.** NFPA 111 Stored Electrical Energy Emergency and Standby Power Systems.

260530-1.3 Submittals.

- a.** Submit test report forms for review a minimum of 90 days prior to requesting a final review by the construction manager.
- b.** Furnish six individually bound copies of test data. Neatly type and arrange data. Include with the data the date tested, personnel present, weather conditions, nameplate record of test instrument and list all measurements taken, both prior to and after any corrections are made to the system. Record all failures and corrective action taken to remedy incorrect situation.
- c.** The project manager will retain one copy. Remaining copies will be returned to Contractor for inclusion in the operation and maintenance manuals.

PRODUCTS

260530-2.1 Not used.

EXECUTION

260530-3.1 Preparation.

- a. Furnish proposed test procedures, recording forms, list of personnel and test equipment for project manager review.
- b. Follow recommended procedures for testing as published by test equipment manufacturer.

260530-3.2 Wire and cable.

- a. Test insulation resistance of each main feeder and service after the installation is complete but before the connection is made to its source and point of termination.
- b. Test insulation resistance using Biddle Megger or equivalent test instrument at a voltage not less than 1,000 volts DC. Measure resistance from phase-to-phase and phase-to-ground. In circuits where insulation test value is lower than 1 megohm, remove and replace conductor and retest.
- c. Visually inspect connections of every branch circuit for tightness.
- d. Ensure that grounding conductor is electrically continuous.
- e. Test branch circuits against grounds, shorts or other faults.
- f. Inspect grounding and bonding system conductors and connections for tightness and proper installation.
- g. Measure ground resistance from system neutral connection at service entrance to convenient ground reference point using suitable ground testing equipment.
- h. Test the system for stray currents, ground shorts, etc. If stray currents, shorts, etc., are detected, eliminate or correct as required.

260530-3.3 Wiring devices.

- a. Operate switches at least twice.
- b. Test every convenience outlet with plug-in device for proper phasing and grounding.
- c. Demonstrate operation of lighting circuits and lighting control systems.

260530-3.4 Electrical equipment.

- a. Before Energization:
 - 1. Visually inspect connections for tightness and correctness.
 - 2. Verify proper fusing.
- b. After Energization
 - 1. Verify proper voltage with system operating at load conditions.
 - 2. Verify proper operation.
 - 3. Operate every circuit breaker, switch and contactor.
 - 4. Modify tap settings on transformers as required.
 - 5. Measure line amperes with system operating at load conditions.

6. Modify circuit breaker and relay settings as required.
7. Megger meter centers for opens, shorts and grounds.
8. Thermographic Tests:
 - a) With system operating at load conditions, perform thermographic test on distribution panelboards, lighting panelboards and equipment feeders using an infrared temperature scanning unit. Provide thermograph tests performed by General Electric Instrumentation Division.
 - b) Tighten or correct connections with higher temperatures than acceptable. After corrections have been made, perform thermograph test to confirm that problems have been corrected.
- c. Operate all equipment and control systems through intended sequence. Record all data pertaining to system operation.
 1. Contactors.
 2. Electrically operated circuit breakers.

260530-3.5 Secondary grounding.

- a. Test service entrance ground resistance.
- b. Provide additional made-electrodes if resistance is more than 3 ohms.
- c. Test grounding system resistance within building at a minimum of four locations.
 1. Assure system functions.
 2. Assure system interfaces with other systems.
- d. Test the system to determine that it is free from grounds, open and short circuits.

260530-3.6 Packaged engine generator system.

- a. Test generator and ATS in accordance with NFPA 110 , NETA 1999 Acceptance Testing Specifications for Electric Power Distribution Equipment and System, and regulatory requirements, including makeup and exhaust air damper functions and shall be developed by the contractor from a template provided by the Commissioning Authority.
- b. Demonstrate operation of standby system with voltage check while the entire electrical system is operating at system full load condition to assure proper operation of generator, transfer switches, etc.
- c. Simulate standby power conditions by operating main overcurrent devices to simulate a loss of main electrical power to the building.
- d. Verify operation of all transfer switches and operation of all equipment on standby power. Check and adjust all delays and timing sequences.
- e. Perform a full load test of the generator by applying a load bank to system equal to full load rating of generator for four hours.
- f. Where building load is unavailable for testing or is less than full rated load of generator, provide resistive load bank connected into system to bring load up to full rating of generator.
- g. During test, record the following at 20 minute intervals:
 1. Kilowatts.
 2. Amperes.
 3. Voltage.

4. Coolant temperature.
5. Room temperature.
6. Frequency.
7. Oil pressure.
- h. Test alarm and shutdown circuits by simulating conditions.
- i. Test insulation resistance of generator field and exciter windings.
- j. Based on vibration analysis, select vibration isolators and other dampening devices required to provide a smooth running installation.

METHOD OF MEASUREMENT AND PAYMENT

260530-4.1 There will be no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of work to which it is related.

END OF SECTION 260530

Section 260553 Electrical Identification

260553-1.1 Section includes.

- a. Furnish and install items for identification of electrical products installed under Division 26.

260553-1.2 Submittals.

- a. Submit product data.

PRODUCTS AND MATERIALS

260553-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.
- b. Brady Corporation
- c. Carlton Industries, Inc.
- d. Seton Nameplate Co.

260553-2.2 Materials.

- a. Nameplates: Provide engraved three-layer laminated plastic nameplates with white letters on a black background.
- b. Wire and Cable Markers: Provide stainless steel, 2" round with ¼" letters in all manholes and light bases and provide with stainless steel ties.
- c. Underground Warning Tape
 - 1. Manufactured polyethylene material and unaffected by acids and alkalies.
 - 2. 3.5 mils thick and 6 inches wide.
 - 3. Tensile strength of 1,750 psi lengthwise.
 - 4. Printing on tape shall include an identification note BURIED ELECTRIC LINE, and a caution note CAUTION. Repeat identification and caution notes over full length of tape. Provide with black letters on a red background conforming to APWA recommendations.
- d. Panelboard Directories: Provide a typed circuit directory for each panelboard. Mount circuit directory in a permanent, clear Lexan card holder located on inside of door on panelboard.
- e. Conduit Markers: Flexible vinyl film with pressure sensitive adhesive backing and printed markings.
 - 1. Electrical conduit markers shall include three identifying titles on an orange background except as noted.
 - a) Typical.
 - 1) Type Example - AC 60 Hertz
 - 2) Load Example - Lighting and Power

- 3) Voltage Example - 480 VAC/3 Phase
2. Conduit that contains protective or communication systems shall have the exact content and title on blue background and installed and located as specified for conduit.

EXECUTION

260553-3.1 Installation.

- a. Degrease and clean surfaces to receive nameplates.
- b. Install nameplates parallel to equipment lines.
- c. Secure nameplates to equipment fronts using screws or rivets. Secure nameplate to inside face of recessed panelboard doors in finished locations.
- d. Embossed tape will not be accepted.
- e. Provide underground tape at all electrical installations.

260553-3.2 Wire and cable labeling.

- a. Provide wire markers on each conductor in splice boxes, pull boxes, and at first load connection on homerun. Identify with branch circuit or feeder number for power and lighting circuits, and with control wire number as indicated on equipment manufacturer's shop drawings for control wiring.
- b. Identify branch circuit or feeder number for power and lighting circuits on cover of pull and junction boxes with indelible marker.

260553-3.3 Equipment labeling.

- a. Provide nameplates to identify all electrical distribution and control equipment.
- b. Engraved, Laminated Plastic Nameplates: 1/4-inch letters, equipment designation; 1/8-inch letters, source circuit number. Provide for:
 1. Meters.
 2. Panelboards, Switchboards, Switchgear including each individual device or piece of equipment within a switchboard.
 3. Cabinets.
 4. Enclosed switches, starters, circuit breakers and contactors. Provide neatly typed label inside each motor starter enclosure door identifying motor served, nameplate horsepower, full load amperes, design letter, service factor, and voltage/phase rating. Provide phenolic nameplate on cover exterior to indicate motor served.
 5. Transformers if identified on Drawings.
- c. Identify all junction boxes by circuit number with legible permanent ink marker.

260553-3.4 Box color coding.

- a. Boxes and covers for fire alarm wiring shall be painted red.
- b. Boxes and covers for emergency system wiring shall be painted yellow.

260553-3.5 Conduit markers.

- a. Location of Identifying Markers: At each end of conduit run and at intermediate points 50' on center maximum.

METHOD OF MEASUREMENT AND PAYMENT

260553-4.1 There will be no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of work to which it is related.

END OF SECTION 260553

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Section 260580 Supporting Devices

260580-1.1 Section includes.

- a. Supporting devices, including:
 - 1. Conduit and equipment supports.
 - 2. Fastening hardware.

260580-1.2 Coordination.

- a. Coordinate size, shape and location of concrete pads with section on cast-in-place concrete.
- b. Coordinate size, shape and requirements for utility company equipment with local utility company.

260580-1.3 Quality assurance.

- a. Provide support systems adequate for weight of equipment and conduit, including wiring which they carry.

PRODUCTS

260580-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.
 - 1. B-Line
 - 2. Kindorf.
 - 3. Unistrut.

260580-2.2 Material.

- a. Support Channel: Galvanized or painted steel.
- b. Hardware: Galvanized or painted steel.
- c. Provide epoxy or PVC coated materials for corrosive environments.
- d. Spring steel clips.

EXECUTION

260580-3.1 Installation.

- a. Fasten hanger rods, conduit clamps, and outlet and junction boxes to building structure using expansion anchors, beam clamps or bolts.
- b. Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; expansion anchors or preset inserts in solid masonry walls; sheet metal screws in sheet metal studs and wood screws in wood construction.
- c. Do not fasten supports to piping, ductwork, mechanical equipment, or conduit.

- d. Do not use powder-actuated anchors on new concrete structure.
- e. Do not drill structural steel members.
- f. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- g. Provide concrete pads and equipment bases for all outdoor equipment on grade, floor mounted equipment, areas with floors below grade, penthouse equipment rooms and where shown on drawings.
- h. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- i. Bridge studs top and bottom with channels to support flush-mounted cabinets and panelboards in stud walls.
- j. Do not support conduit from ceiling wire supports.
- k. Do not use spring steel clips and clamps or support conduits by individual hanger wires.
- l. Where multiple runs of conduit can be run grouped together, run conduit in racks supported from the building structure. Provide for future use of rack by properly planning routing of conduits in and through restricted areas such as through walls and around mechanical and electrical equipment.
- m. Use spring steel clips with EMT for individual branch circuits and device boxes in drywall construction.

METHOD OF MEASUREMENT AND PAYMENT

260580-4.1 There will be no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of work to which it is related.

END OF SECTION 260580

Section 260583 Wire Connections and Devices

260583-1.1 Section includes.

- a. Furnish and install splicing and terminating devices.

260583-1.2 Related sections.

- a. Section 261200 - Wire and Cable.

PRODUCTS

260583-2.1 Manufacturers.

a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer

- b. Burndy Corp.
- c. Dossert Manufacturing Corp.
- d. Ideal Industries, Inc.
- e. Ilsco Corp.
- f. 3M
- g. Thomas & Betts Co., Inc.

260583-2.2 Materials.

a. Cable and wire connections for splicing or terminating shall be made with compression deforming type connectors. Connectors for cable sizes 250 kcmil and larger shall be the long barrel type for double indentation. Soldered connections will not be permitted. Twist-on insulated connectors may be used which are resistant to vibration and are used in the proper sizes.

b. Provide terminal connectors with hole sizes and spacing in accordance with NEMA standards. Provide terminal connectors with two holes in tongue for use on conductor sizes 250 kcmil and larger. Terminal connectors will not be required for connections to the circuit breakers in the lighting and/or receptacle panels.

c. Provide connections made with non-insulated connectors insulated with three layers of plastic tape, each layer being half lapped. Provide No. 33+ plastic tape.

EXECUTION

260583-3.1 Installation.

a. Provide electrical connections to equipment furnished under other contracts and furnish wiring, conduit, outlet boxes, and safety switches, as required. Verify locations, horsepower, and voltages of equipment prior to installation of feeders. If apparent conflict arises in power wiring, advise the project manager immediately for clarification.

- b. Provide switches as required by national or local codes.

c. If the motor is integral to the equipment, isolate the entire piece of equipment with a short section of flexible metal conduit to prevent vibration and/or noise amplification to be transferred to the building structure.

d. If the motor is adjustable, install an additional length of flexible metal conduit at the motor.

e. Connect a ground wire from the conduit termination to the motor frame on the inside of flexible conduit. Use approved grounding lugs or clamps or the conduit connection.

f. Major equipment furnished under mechanical and other sections of specifications may require different rough-in requirements than those indicated on Drawings. Secure detailed drawings from source furnishing equipment to determine actual rough-in locations, conduit and conductor requirements to assure proper installation.

g. Before connecting any piece of equipment, verify the name plate data corresponds with information shown on Drawings. Discrepancies shall be called to attention of the project manager.

h. Change any feeders installed incorrectly as a result of not verifying equipment requirements, of equipment provided by others, prior to feeder installation.

METHOD OF MEASUREMENT AND PAYMENT

260583-4.1 There will be no separate measurement or payment on the work discussed in this section. All work will be considered incidental for the completion of the component of work to which it is related.

END OF SECTION 260583

Section 260600 Grounding and Bonding Systems

260600-1.1 Section includes.

a. Section includes grounding electrodes and conductors; equipment grounding conductors; bonding methods and materials; including:

1. Power system grounding.
2. Communication system grounding.
3. Electrical equipment and raceway grounding and bonding.
4. Structural steel grounding.
5. Miscellaneous system grounding.

260600-1.2 Related sections.

- a. Section 260530 – Maintenance Testing of Electrical Systems.
- b. Section 261110 - Conduit.
- c. Section 261200 - Wire and Cable.
- d. Section 262310 – Package Engine Generator Systems.
- e. Section 264130 – Automatic Transfer Switches.

260600-1.3 References.

- a. NECA - Standard of Installation.
- b. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- c. NFPA 70 - National Electrical Code.

260600-1.4 System description.

- a. Grounding systems use the following elements as grounding electrodes:
 1. Metal frame of the building.
 2. Rod electrode.
- b. Grounding System Resistance: 3 ohms.

260600-1.5 Submittals.

- a. Product Data: Submit grounding electrodes and connections; for fastening components; and nameplates, labels, and markers.
- b. Test Reports: Indicate overall resistance to ground and resistance of each electrode.
- c. Manufacturer's Installation Instructions: Submit for active electrodes.
- d. Project Record Documents: Record actual locations of components and grounding electrodes.

260600-1.6 Quality assurance.

a. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum three years documented experience, and with service facilities within 100 miles of project.

260600-1.7 Field measurements.

- a. Verify field measurements prior to fabrication.

PRODUCTS**260600-2.1 Materials.**

- a. Rod Electrodes: Copper-encased steel, 3/4-inch diameter, minimum length 10 feet.
- b. Mechanical Connectors:
1. Manufacturers
 - a) Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.
 - 1) Burndy
 - 2) O.Z. Gedney
 - 3) Equivalent product approved by the engineer.
 2. Heavy-duty, bolt-type, copper alloy or bronze for grounding and bonding applications, in configurations required for particular installation.
- c. Exothermic Connections:
1. Type for underground and structural steel; Cadweld.
 2. Exothermic materials, accessories, and tools for preparing and making permanent field connections between grounding system components.
- d. Wire:
1. Stranded, copper cable.
 2. Foundation Electrodes: 2/0 AWG.
 3. Grounding Electrode Conductor: Size to meet NFPA 70 requirements.

EXECUTION**260600-3.1 Grounding and bonding installation.**

- a. Install rod electrodes as indicated. Install additional rod electrodes as required to achieve specified resistance to ground.
- b. Provide bonding to meet Regulatory Requirements.
- c. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- d. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
- e. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.

- f. Do not use spring steel clips and clamps.
- g. Do not use powder-actuated anchors.
- h. Do not drill or cut structural members.

260600-3.2 Electric service ground.

- a. Ground the electrical service system neutral at service entrance equipment to grounding electrodes.
- b. Bond together system neutrals, service equipment enclosures, and equipment grounding conductor at service entrance.
- c. Connect the electric service grounding electrode conductors to the incoming metal water pipe system (when available, using a suitable ground clamp) and to a supplemental electrode such as a ground rod or ground loop.
- d. Provide grounding and bonding at the power company's metering equipment.
- e. Provide test wells for access to the ground grid and removable connections for testing the system.

260600-3.3 Equipment ground.

- a. Provide a complete ground system for the building consisting of copper cable, ground rods and exothermic connections to serve the service entrance, building structural steel, metallic enclosures and conduit systems.
- b. Provide a separate, insulated equipment-grounding conductor from the main service ground to each main switchboard and in all feeders and branch circuits. Terminate each end on a grounding lug, bus, or bushing. Do not use conduit as grounding conductor.
- c. Provide OZ Type "BJ" bonding jumper at all expansion joints, points of electrical discontinuity or connections in conduit where firm mechanical bond is not possible, such as flexible connections, insulating couplings, etc.
- d. Ground each lighting and power panelboard by connecting the grounding conductor to the grounding stud.
- e. Ground each secondary dry-type transformer to the ground bus of the primary side panelboard. Provide a bonding jumper between the ground stud and the neutral. Ground transformer ground stud to ground loop if a ground loop is installed or the nearest structural steel member.
- f. Bond every item of equipment served by the electrical system to the building equipment ground system. This includes switchboards, panelboards, disconnect switches, receptacles, controls, fans, air handling units, pumps, and flexible duct connections.

260600-3.4 Communications ground.

- a. Provide communications system grounding conductor at point of service entrance and connect to the ground paint.
- b. Use minimum No. 6 AWG copper conductor for communications service grounding conductor. Leave 10-foot slack conductor at terminal board.

260600-3.5 Field quality control.

- a. Inspect and test in accordance with NETA ATS, except Section 4.
- b. Grounding and Bonding: Perform inspections and tests listed in NETA ATS, Section 7.13.

METHOD OF MEASUREMENT AND PAYMENT

260600-4.1 There will no separate measurement for payment on the work discussed in this section. All

work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 260600

Section 260910 Work In Existing Buildings

260910-1.1 Section includes.

- a.** Relocate, rewire, or abandon electrical equipment and systems required in conjunction with work in existing building.
- b.** Temporary provisions for all existing and/or new circuits to maintain power to occupancies in adjacent areas.
- c.** Coordinate disposition of all removed equipment with the Owner.

260910-1.2 Definitions.

- a.** Abandoned: Refers to electrical equipment and systems which are no longer in use and are to be de-energized and left in place.
- b.** Removal: Refers to electrical equipment and systems which are not to be reused and are to be removed from the job site and disposed of as directed by the Owner.

PRODUCTS

260910-2.1 Materials.

- a.** Provide materials to match existing construction unless specified elsewhere in these contract documents. Provide materials which comply to local codes and UL, and properly apply to their intended function.

EXECUTION

260910-3.1 Preparation.

- a.** Visit and inspect the job site prior to bidding and become familiar with all existing conditions. Include the cost of the work required to accommodate the existing conditions in the bid proposal.
- b.** Provide a typed inventory (include pictures as necessary) of all equipment and facilities, which are damaged or not operating properly at the time construction commences. Any damage or inoperative equipment, which is discovered during the course of construction and is not itemized on the written inventory will be assumed to have been caused by the contractor, and the contractor will be responsible for repair or replacement at no additional costs

260910-3.2 Renovation.

- a.** Relocate all existing material required to accommodate the new construction whether or not the existing material is shown on Drawings.
- b.** Removal of all equipment or systems identified on drawings to be removed, including all supports, appurtenances and accessories associated with equipment or systems.
- c.** Coordinate the work with other Divisions. Determine which items and equipment are to remain, to be relocated, or be removed.

d. Connect all loads, which are existing and are to remain to the new distribution system as required to maintain their proper operation.

260910-3.3 Existing raceways.

a. Reuse existing raceways where possible and where permitted by local codes. Remove old conductors from raceway. Clean raceway with mandrel followed by clean mop/pig. Rework existing raceways where required. Secure all existing raceways reused, which are loose or not properly connected. Paint existing raceways when exposed to view to match surroundings.

b. Fasten existing boxes securely.

260910-3.4 New raceways.

a. Provide new raceways where existing raceways cannot be reused or where raceways do not exist in order to provide a complete system as shown on the drawings.

b. Where raceways must be exposed to view, use surface metal raceway such as Wiremold, securely fastened, painted to match surroundings. Provide number of coats of paint as required to cover primer coat or original finish of wiremold or raceway.

260910-3.5 Existing wiring devices.

a. Remove foreign material from existing junction boxes to be reused.

260910-3.6 Existing telephone outlets.

a. Remove foreign material from existing junction boxes to be reused.

b. Replace all telephone outlet coverplates with new coverplates.

260910-3.7 Existing light fixtures.

a. Existing light fixtures to be reused:

1. Clean reflective surfaces, lenses, and exposed surfaces.
2. Relamp with new lamps.
3. Repair or replace lampholders, ballasts, wiring, and door latching and hinging mechanisms.
4. Reconnect to branch circuit wiring; tighten connections.

b. Existing light fixtures to be reused may be replaced with new fixtures to match existing, if in Contractor's opinion, costs to Owner would be lower.

260910-3.8 Existing panelboards.

a. Existing panelboards to be reused:

1. Clean interiors and exteriors.
2. Inspect for damage. Notify A/E if repairs or damaged components need replacing.
3. Tighten conduit and wire terminations.

b. Verify panelboards and panelboard feeders are of adequate capacity for loads to be served.

1. Activate loads connected to panelboards to achieve full load condition.
2. Measure and record amperage readings of phase and neutral conductors of panelboard's feeders.
3. Provide typewritten record of recorded measurements to the A/E for review.

- c. Provide new typewritten circuit directory.
- d. Provide new nameplate for each panelboard.

260910-3.9 Existing wiring.

- a. Inspect existing wiring which is to be disturbed for damage. Repair or replace damaged wiring.
- b. Assure integrity of existing wiring insulation:
 - 1. Megger wiring phase to phase, phase to neutral, phase to ground, and neutral to ground.
 - 2. Record megger results. Provide typewritten record of results to A/E for review.
 - 3. Repair defective insulation to a dielectric value equal to that of wire of the same type and age.
- c. Secure and label existing wiring, which is to be disturbed.
- d. Tighten existing wiring terminations and connections.

260910-3.10 Shutdowns of electrical services.

- a. Establish a schedule of shutdown(s) complete with starting time and duration.
- b. Present schedule to Owner for approval.
- c. Revise schedule as necessary to coordinate with Owner.
- d. Beyond any scheduled shutdowns, maintain continuity of electrical service to all existing facilities.
- e. Provide all temporary power for both the North and South vaults during the construction activities as required to maintain full operational capabilities of the associated equipment.

260910-3.11 Phasing.

- a. Provide temporary circuits as required to allow existing building functions to continue during day construction period. Comply with all schedules and phasing conditions as described in contract documents.

260910-3.12 Final cleanup.

- a. Airfield lighting vault shall be cleaned upon final installations. Ceilings, walls and floors shall be painted in the construction area. Equipment shall be wiped clean of dust.

METHOD OF MEASUREMENT AND PAYMENT

260910-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 260910

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Section 261110 Conduit

261110-1.1 Section includes.

- a.** Raceway Systems:
 - 1.** Rigid metal conduit and fittings.
 - 2.** Electrical metallic tubing and fittings.
 - 3.** Liquidtight flexible metal conduit and fittings.
 - 4.** Nonmetallic conduit and fittings.
 - 5.** Innerduct.

261110-1.2 References

- a.** ANSI C80.1 - Rigid Steel Conduit, Zinc-Coated.
- b.** ANSI C80.3 - Electrical Metallic Tubing, Zinc-Coated.
- c.** ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
- d.** NEMA RN 1 - PVC Externally-Coated Galvanized Rigid Steel Conduit and Electrical Metallic Tubing.
- e.** NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
- f.** NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

261110-1.3 Related Sections

- a.** Section 260580 - Supporting Devices
- b.** Section 260553 - Electrical Identification

PRODUCTS

261110-2.1 Acceptable Manufacturers

- a.** Rigid Metal Conduit, Electrical Metallic Tubing and Fittings:
 - 1.** Atkore.
 - 2.** Wheatland Tube
 - 3.** American Fittings Corporation
 - 4.** Emerson
 - 5.** Eaton
- b.** Flexible Conduit, Innerduct and Fittings:
 - 1.** Electri-Flex Co.
 - 2.** Anamet, Inc.

c. Nonmetallic Conduit, Innerduct and Fittings:

1. Carlon.
2. Can-Tex Industries.

261110-2.2 Products

a. Rigid Metal Conduit and Fittings:

1. Rigid Steel Conduit: ANSI C80.1; hot-dip galvanized.
2. PVC Externally Coated Conduit: NEMA RN 1; rigid steel conduit with external PVC coating and internal galvanized surface.
3. Fittings and Conduit Bodies: ANSI/NEMA FB 1; threaded type, material to match conduit.

b. Electrical Metallic Tubing (EMT) and Fittings:

1. EMT: ANSI C80.3; hot-dipped galvanized tubing.
2. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel set-screw, insulated deep throat type.

c. Liquidtight Flexible Conduit and Fittings:

1. Conduit: Flexible metal conduit with PVC jacket and integral grounding conductor.
2. Fittings and Conduit Bodies: ANSI/NEMA FB 1; liquidtight, zinc coated steel.

d. Nonmetallic Conduit and Fittings:

1. Conduit: NEMA TC 2; Schedule 40 PVC.
2. Fittings and Conduit Bodies: NEMA TC 3.

e. Innerduct:

1. Conduit Systems: Solid-wall polyethylene. Extruded coilable tubing per Belcore performance criteria TR-TS4-000356, color coded

EXECUTION

261110-3.1 Conduit Sizing, arrangement, and support.

a. Minimum size of conduit is 3/4 inch. Minimum size of homerun and feeder conduits is 3/4 inch. Indicated sizes are minimum based on THW copper wire and larger sizes may be used for convenience of wire pulling.

b. Minimum size of innerduct is 1 1/4 inch.

c. Arrange conduit to maintain headroom and present a neat appearance.

d. Maintain minimum 6 inch clearance between conduit and piping. Maintain 12 inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances. Maintain minimum 6 inch clearance between innerduct and 240 volts or above power cabling.

e. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit securely to building structure using clamps, hangers and threaded rod.

f. Follow Section 260580 for supporting devices.

261110-3.2 General conduit installation.

a. Cut conduit square using a saw or pipe cutter; de-burr cut ends before joining.

- b. Bring conduit to the shoulder of fittings and couplings and fasten securely.
- c. Install no more than the equivalent of three 90 degree bends between boxes.
- d. Use conduit bodies to make sharp changes in direction, as around beams.
- e. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point. Seal conduit which crosses a boundary between areas of extreme temperature difference.
- f. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.
- g. Drawings indicate intended circuiting and are not intended to be scaled for exact conduit location.
- h. Install conduit such that it does not interfere with fire-proofing of steel.
- i. Do not install conduit in floor slab of ground floor of building.
- j. Install all conduit for low voltage systems, such as communications, security, fire alarm, etc, following section 27130. Labeling for the same shall follow section 27055.

261110-3.3 Nonmetallic conduit installation.

- a. Wipe nonmetallic conduit clean and dry before joining. Apply full even coat of cement to entire area that shall be inserted into fitting. Let joint cure for 20 minutes minimum.

261110-3.4 Metallic conduit installation.

- a. Make joints mechanically tight and all conduit electrically continuous.
- b. Use conduit hubs for fastening conduit to sheet metal boxes in damp or wet locations. Use sealing locknuts and other approved techniques for moisture proofing raceway in wet areas.
- c. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2 inch size.
- d. Install expansion joints where conduit crosses building expansion joints and at 150 foot intervals in straight runs.
- e. Provide fire-stop compound at all penetrations of floor slabs or fire walls such that fire rating integrity of barrier is not lessened.

261110-3.5 Underground.

- a. Follow Section 261160 for Underground Electrical Ducts related to airfield lighting.
- b. Follow Section 271400 for Underground Ducts related to low voltage systems, telecommunications, security, fire alarms. Labeling for these items shall follow section 27055.

261110-3.6 Conduit installation schedule.

- a. Exterior:
 - 1. Exposed
 - a) Rigid metal conduit.
 - b) PVC coated rigid metal conduit at all concrete slab penetrations.
 - 2. Underground:
 - a) Rigid nonmetallic conduit as described in Section 261160.
 - b) PVC coated rigid metal factory elbows for all bends and for concrete slab penetrations.

- b. Interior:**
 - 1. Exposed:**
 - a)** Rigid metal conduit in areas subject to moisture, corrosive agents, or physical abuse.
 - b)** Electrical metallic tubing in areas not subject to moisture, corrosive agents or physical abuse.
 - 2. Concealed:**
 - a)** Rigid nonmetal conduit in areas subject to moisture or corrosive agents.
 - b)** Electrical metallic tubing in areas not subject to moisture or corrosive agents.
 - 3. Connections to Product:**
 - a)** Liquidtight flexible metal conduit in areas subject to moisture, high humidity, or corrosive agents.
 - b)** Flexible metal conduit in dry, noncorrosive areas.
 - 4. Cast-In-Concrete; rigid nonmetallic conduit.**
- c. BX and MC cable are not acceptable for use on this project.**

METHOD OF MEASUREMENT AND PAYMENT

261110-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 261110

Section 261140 Wireways

261140-1.1 Section includes.

- a. This section includes the furnishing and installing of wireways.

261140-1.2 References.

- a. NFPA 70 - National Electrical Code.

261140-1.3 Related sections.

- a. Section 260600 - Grounding and Bonding Systems.
- b. Section 260580 - Supporting Devices.
- c. Section 260553 - Electrical Identification.

PRODUCTS

261140-2.1 Manufacturers.

a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.

- b. B-Line.
- c. Hoffman/Nvent.
- d. Schneider Electric
- e. General Electric.

261140-2.2 Materials.

- a. General Purpose Wireway: Schneider Electric Square Duct, Series LDB.
- b. Oiltight, Dust-Tight Wireway: Schneider Electric Type JIC, Series LL.
- c. Raintight Wireway: Schneider Electric lay-in raintight, Series LDR.
- d. Raintight Troughs: Schneider Electric, Series RD.
- e. Wireway End Closures, Supports and Associated Fittings: Schneider Electric, of best forms and dimensions for applications.

- EXECUTION

261140-3.1 Installation.

- a. Provide systems of wireway of sufficient size where shown, on equipment racks, and at other locations with two or more starters, disconnect switches, and cabinets mounted in close proximity.
- b. Size wireway cross-sectional area and length based upon conductor fill and equipment served as required by NFPA 70 and local codes.

- c. Install types based on environmental conditions to which exposed.
- d. Provide covers for wiring gutters of the same construction as the wiring gutter. Secure cover with captive type screws located in accordance with manufacturer's recommendation. Hinged covers will not be acceptable.

261140-3.2 Provide identification and labels following section 260553.**Painting.**

- a. In finished spaces where wireway is visible, provide paint prime coat after installation of wireway is complete.

- METHOD OF MEASUREMENT AND PAYMENT

261140-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 261140

Section 261200 Wire and Cable

261200-1.1 Section includes.

- a. This section includes the furnishing and installing of electrical wire and cable, including:
 - 1. Building wire.
 - 2. Cable.
 - 3. Wiring connections and terminations.

261200-1.2 Related sections.

- a. Section 260553 - Electrical Identification
- b. Section 260530 - Maintenance Testing of Electrical Systems.
- c. Section 261110 – Conduit.
- d. Section 261300 – Boxes.

261200-1.3 References.

- a. NEMA WC 3 - Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- b. NEMA WC 5 - Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

PRODUCTS

261200-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.
- b. Wire and Cable:
 - 1. Prysmian.
 - 2. Southwire.
- c. Connectors:
 - 1. Burndy.
 - 2. T & B.
 - 3. 3M.
- d. Power Distribution Blocks:
 - 1. IlSCO.
 - 2. Schneider Electric

261200-2.2 Building wire.

- a. Thermoplastic-Insulated Building Wire: NEMA WC 5.
- b. Feeders and Branch Circuits Larger Than No. 6 AWG: Copper, stranded conductor, 600 Volt insulation, THW, THHN/THWN, XHHW, RHW.
- c. Feeders and Branch Circuits No. 6 AWG and Smaller: Copper conductor, 600 volt insulation, THW, THHN/THWN; smaller than No. 8 AWG, solid conductor.
- d. Control Circuits: Copper, stranded conductor 600 volt insulation, THW, THHN/THWN.
- e. Plenum Rated Cable: Provide plenum rated cable where cable is installed exposed in plenums.
- f. Wiring types BX and MC will not be acceptable for use on this project.

261200-2.3 Wiring connections and splices.

- a. Connect and splice wire No. 8 AWG and smaller with self-insulating, wire nut connectors.
- b. Terminate and splice all No. 6 AWG and larger copper conductors, except for load side lugs on Class I and II switchboards, panelboards, motor control centers, fusible switches, circuit breakers, transformers and individual motor controllers with high conductivity, wrought copper, color-keyed compression connector similar to T & B Series 54100 for terminal connection; Series 54500 for two-way copper-to-copper splices; and Series 54700 for tapping and pigtail copper conductors.
- c. Set screw type connectors are only acceptable on the load side lugs of Class I and II switchboards, panelboards, circuit breakers, fusible switches and on individual motor controllers.
- d. Where three or more conductors larger than No. 8 AWG are installed in wiring gutter, utilize a screw-type power distribution block. Utilize split-bolt mechanical connector, filled and taped for smooth joint, only where specifically requested by Contractor and approved by A/E.

EXECUTION**261200-3.1 General wiring methods.**

- a. Use no wire smaller than No. 12 AWG for power and lighting circuits, and no smaller than No. 14 AWG for control wiring. Provide minimum of No. 12 AWG for all switch legs. Provide neutral conductor of the same size as the phase conductors to which it is associated.
- b. Use No. 10 AWG conductor minimum for 20 ampere, 120 volt branch circuits longer than 100 feet, and for 20 ampere, 277 volt branch circuits longer than 200 feet.
- c. Provide homerun conductors of continuous length without joint or splice from overcurrent device to first outlet.
- d. Provide main service and feeder conductors of continuous length without joint or splice for their entire length.
- e. Install wiring in conduit, unless indicated otherwise.
- f. Neatly train and lace wiring inside boxes, panelboards, switchgear, motor control centers, wiring gutters, and other equipment using Thomas & Betts "Ty-Wraps."
- g. Provide equal conductor lengths for all parallel circuits.
- h. Provide individual neutral for branch circuits.

i. Drawings indicate proposed circuiting only, and do not indicate every conductor unless intent is unclear and further clarification is required. Provide the necessary travelers for all three-way and four-way switches.

j. Tag each circuit in an outlet box where two or more circuits run to a single outlet as a guide for the fixture hanger in making connections.

261200-3.2 Wiring installation in raceways.

a. Pull conductors into raceway at the same time. Use UL listed wire pulling lubricant. Do not exceed manufacturer's recommended tension.

b. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

c. Completely and thoroughly swab raceway system before installing conductors.

d. Remove and discard conductors cut too short or installed in wrong raceway. Do not install conductors, which have been removed from a raceway.

e. Do not install conductors in conduit, which contains wires already in place.

261200-3.3 Wiring connections and terminations.

a. Make taps and splices in accessible junction or outlet boxes only.

b. Thoroughly clean wires before installing lugs and connectors.

c. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.

d. Provide joints in branch circuits only where such circuits divide. Where circuits divide, provide one through circuit to which the branch is spliced from the circuit. Do not leave joints in branch circuits for fixture hanger to make. Make all taps and splices with approved type compression connector.

e. Terminate spare conductors with electrical tape.

f. Identify and label all conductor terminations as specified in electrical identification.

g. Properly terminate indicated conductors in equipment furnished and provide properly sized lugs.

261200-3.4 Color coding.

a. Color code distribution systems as follows:

1. 120/208V System:

Phase	Color
A	Black
B	Red
C	Blue
N	White
G	Green

2. 277/480V System:

Phase	Color
A	Brown
B	Orange
C	Yellow
N	Gray/White
G	Green

3. For areas where local authority color coding differs from that specified, contact A/E for instructions.

b. Provide color coding throughout the full length of all wire No. 6 and smaller. Identification by permanent paint bands or tags at the outlets will be acceptable for wire sizes larger than No.6. Provide the same color and shade of color throughout the project.

261200-3.5 Field quality control.

- a.** Inspect wire and cable for physical damage and proper connection.
- b.** Torque test conductor connections and terminations to manufacturer's recommended values.

MEASUREMENT AND PAYMENT

261200-4.1 There will no separate measurement for payment on items in this Section. All work is considered incidental and necessary to complete the component of work for which it is necessary.

END OF SECTION 261200

Section 261300 Boxes

261300-1.1 Section includes.

- a. Furnish and install wall and ceiling outlet boxes, floor boxes, and pull and junction boxes.

261300-1.2 Related sections.

- a. Section 260580 - Supporting Devices.
- b. Section 260553 - Electrical Identification.
- c. Section 261200 - Wire and Cable.
- d. Section 261110 - Conduit.
- e. Section 261140 - Wireways.
- f. Section 261400 - Wiring Devices.

261300-1.3 References.

- a. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports.
- b. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- c. NFPA 70 - National Electrical Code.

PRODUCTS

261300-2.1 Outlet boxes.

- a. Provide galvanized or cadmium-plated pressed steel outlet boxes suitable for the conditions of each outlet. Provide multi-gang outlets of single box design; sectional boxes will not be acceptable.
- b. Provide deep type cast metal outlet boxes located in damp locations exposed to weather or exposed areas subject to damage, or where surface mounted below 8' above finished floor, complete with gasketed cover and threaded hubs
- c. Provide outlet boxes of sufficient volume to accommodate the number of conductors entering the box in accordance with the requirements of NFPA 70, and not less than 4 inches square and 1-1/2 inch deep unless shallower boxes are required by structural conditions and are specifically approved by A/E.
- d. Provide non-metallic type outlet boxes only in corrosive areas.
- e. Provide 4-inch octagonal ceiling outlet boxes.

261300-2.2 Pull and junction boxes.

- a. Provide galvanized sheet metal boxes conforming to NEMA OS 1. Provide hinged enclosures for any box larger than 12 inches in any dimension.
- b. Provide cast metal boxes for outdoor and wet locations conforming to NEMA 250; Type 4 and Type 6, flat-flanged, surface-mounted junction box, UL listed as raintight with cover and ground flange, neoprene gasket, and stainless steel cover screws.

c. Provide precast concrete or fiberglass handholes for underground installations. Where fiberglass handholes are provided, provide die-molded type with pre-cut 6"x6" cable entrance at center bottom of each side and fiberglass weatherproof cover with non-skid finish.

d. Provide pre-cast reinforced concrete type pull/splice boxes with flush cover as manufactured by Brooks Products, for underground circuits. Size boxes as indicated.

e. Provide separate pull boxes and junction boxes for electric power, control, and communication systems.

f. Duct Bank Pull Boxes

1. Provide pull boxes constructed of cast-in-place concrete with steel reinforcing bars; precast concrete with steel reinforcing bars; or fiberglass.
2. Design and test manufactured pull boxes to temperatures of minus 50 degrees F. Provide pull boxes with material compressive strength no less than 11,000 psi.
3. Provide covers with a minimum coefficient of friction of .5 and which are full vehicular traffic H-20 rated. Provide "logo" on cover to indicate "power" or "telephone". Provide lockable covers with two penta-head bolts and pull slot(s) for easy removal.
4. Where installed outside, set pull boxes level with above finish grade.
5. Concrete encase pull boxes.
6. Stack pull boxes or provide extensions as required for routing of conduits as indicated on Drawings.

EXECUTION

261300-3.1 Coordination of box locations.

a. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance.

b. Electrical box locations shown on Drawings are approximate unless dimensioned. Verify with A/E the location of floor boxes and outlets in offices and work areas prior to rough-in.

c. Locate and install boxes to allow access. Provide access doors where installation is inaccessible. Coordinate locations and sizes of required access doors with those specified in Division 15 - Mechanical.

d. Locate and install to maintain headroom and to present a neat appearance.

261300-3.2 Outlet box installation.

a. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24-inch separation in acoustic-rated walls.

b. Locate boxes in masonry walls to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat openings for boxes.

c. Provide knockout closures for unused openings. Provide blank plates for all junction boxes.

d. Securely fasten boxes to the building structure using an approved bracket (i.e., "H" bracket), independent of the conduit, except for splice boxes that are connected to two metal conduits, both supported within 12 inches of box.

e. Provide access to all boxes.

- f. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.
- g. Install boxes in walls without damaging wall insulation.
- h. Coordinate with A/E for mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- i. Set boxes installed in concealed locations flush with the finish surfaces, and provide with the proper type extension rings and/or covers where required.
- j. Position outlets to locate luminaires as shown on reflected ceiling plans.
- k. In inaccessible ceiling areas, do not install junction boxes which are accessible only through luminaire ceiling opening.
- l. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. Use adjustable steel channel fasteners for flush ceiling outlet boxes.
- m. Align wall-mounted outlet boxes for switches, thermostats, and similar devices. Install all grouped device locations neat and symmetrical. Coordinate with A/E before rough-in.

261300-3.3 Pull and junction box installation.

- a. Locate pull boxes and junction boxes above accessible ceilings or in unfinished areas.
- b. Support pull and junction boxes independent of conduit.
- c. Provide pull boxes in feeder circuits as required but at least every 150 feet in straight runs.
- d. Identify all junction boxes by circuit number on cover with legible permanent ink marker.
- e. Duct Bank Pull Boxes
 - 1. Refer to section S-L-115
- f. Provide weatherproof pull boxes or junction boxes where installed outdoors with watertight gasketed covers fastened by means of corrosion resistant screws.

METHOD OF MEASUREMENT AND PAYMENT

261300-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 261300

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Section 261400 Wiring Devices

261400-1.1 Section includes.

- a. Furnish and install specification grade wiring devices, including:
 - 1. Wall switches.
 - 2. Receptacles.
 - 3. Device plates and box covers.

261400-1.2 Related sections.

- a. Section 260530 – Maintenance Testing of Electrical Systems.
- b. Section 261300 – Boxes.

PRODUCTS

261400-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer.
- b. Switches and Receptacles
 - 1. Hubbell.
 - 2. Leviton.
- c. Cover Plates: Match device manufacturer.

261400-2.2 Switches.

- a. 20A, 120-277V Single Pole: "1221", Hubbell.
- b. 20A, 120-277V Double Pole: "1222", Hubbell.
- c. 20A, 120-277V Three Way: "1223", Hubbell.
- d. 20A, 120-277V Four Way: "1224", Hubbell.

261400-2.3 Receptacles.

- a. 20A, 125V, 2P3W Duplex: NEMA 5-20R; "5362", Hubbell.
- b. 20A, 125V, 2P3W Duplex Ground Fault Interrupting: NEMA 5-20R; "GF5362", Hubbell.
- c. 20A, 125V, 2P3W Duplex Isolated Ground: NEMA IG5-20R; "IG5362", Hubbell.

261400-2.4 Cover plates.

- a. Provide one piece cover plates for all group mounted devices.
- b. Weatherproof Cover Plate: Gasketed cast metal with hinged gasketed device covers.
- c. Exposed Box Cover Plate: Stamped steel handy box covers.

EXECUTION

261400-3.1 Installation.

- a. Install receptacles and switches only in electrical boxes which are clean and free from excess building materials, debris, etc.
- b. Install wall switches with OFF position down.
- c. Where switches and other devices are mounted at one location, provide single coverplate to cover all devices.
- d. Align the tops of all group mounted devices. Install plumb and aligned in the plane of the wall.
- e. Derate ganged as instructed by manufacturer; do not use common neutral.
- f. Install convenience receptacles in vertical position with grounding pole on bottom unless otherwise noted.
- g. Provide ground fault circuit interrupting type devices in all locations requiring weatherproof devices.
- h. Do not use feed through feature for ground fault interrupting devices. Install GFI device at each location. GFI circuit breaker will not be acceptable.
- i. Install plates on all devices and blank outlets in finished areas. Use jumbo size plates for outlets installed in masonry walls.
- j. Install galvanized steel plates on outlets in unfinished areas.
- k. Install galvanized steel plates on outlet boxes and junction boxes above accessible ceilings.
- l. Mounting Heights:
 - 1. Refer to drawing cover sheet or contact project manager.
 - 2. Convenience Receptacles Above Counter or Backsplash: 6 inches above counter or backsplash in horizontal position.

METHOD OF MEASUREMENT AND PAYMENT

261400-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 261400

Section 261500 Wire Connections and Devices

261500-1.1 Section includes.

- a.** Furnish and install splicing and terminating devices.

261500-1.2 Related sections.

- a.** Section 261200 - Wire and Cable.

PRODUCTS

261500-2.1 MANUFACTURERS

a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer

- b.** Burndy Corp.
- c.** Ideal Industries, Inc.
- d.** Ilsco Corp.
- e.** 3M
- f.** Thomas & Betts Co., Inc.

261500-2.2 Materials.

a. Cable and wire connections for splicing or terminating shall be made with compression deforming type connectors. Connectors for cable sizes 250 kcmil and larger shall be the long barrel type for double indentation. Soldered connections will not be permitted. Twist-on insulated connectors may be used which are resistant to vibration and are used in the proper sizes.

b. Provide terminal connectors with hole sizes and spacing in accordance with NEMA standards. Provide terminal connectors with two holes in tongue for use on conductor sizes 250 kcmil and larger. Terminal connectors will not be required for connections to the circuit breakers in the lighting and/or receptacle panels.

c. Provide connections made with non-insulated connectors insulated with three layers of plastic tape, each layer being half lapped. Provide No. 33+ plastic tape.

EXECUTION

261500-3.1 Installation.

a. Provide electrical connections to equipment furnished under other contracts and furnish wiring, conduit, outlet boxes, and safety switches, as required. Verify locations, horsepower, and voltages of equipment prior to installation of feeders. If apparent conflict arises in power wiring, advise the project manager immediately for clarification.

- b.** Provide switches as required by national or local codes.

- c. If the motor is integral to the equipment, isolate the entire piece of equipment with a short section of flexible metal conduit to prevent vibration and/or noise amplification to be transferred to the building structure.
- d. If the motor is adjustable, install an additional length of flexible metal conduit at the motor.
- e. Connect a ground wire from the conduit termination to the motor frame on the inside of flexible conduit. Use approved grounding lugs or clamps or the conduit connection.
- f. Major equipment furnished under mechanical and other sections of specifications may require different rough-in requirements than those indicated on Drawings. Secure detailed drawings from source furnishing equipment to determine actual rough-in locations, conduit and conductor requirements to assure proper installation.
- g. Before connecting any piece of equipment, verify the name plate data corresponds with information shown on Drawings. Discrepancies shall be called to attention of the project manager.
- h. Change any feeders installed incorrectly as a result of not verifying equipment requirements, of equipment provided by others, prior to feeder installation.

METHOD OF MEASUREMENT AND PAYMENT

261500-4.1 There will no separate measurement for payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related.

END OF SECTION 261500

Section 262310 Packaged Engine Generator Systems

262310-1.1 Section Includes.

- a. Packaged engine generator systems, including:
 - 1. Packaged engine generator set.
 - 2. Battery and charger.
 - 3. Connection of cooling system to cooling tower.
 - 4. Exhaust silencer and fittings.
 - 5. Fuel lines, fittings, day tank and fuel pumps.
 - 6. Remote Generator Annunciator Panel

262310-1.2 Related Sections.

- a. Section 260530 – Maintenance Testing of Electrical Systems.
- b. Section 264130 - Automatic Transfer Switches.

262310-1.3 References.

- a. NEMA 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum).
- b. FAA-E-2204 - Diesel Engine Generator Sets, 10kW to 750kW.
- c. ANSI/NEMA – MG-1

262310-1.4 System Description.

- a. Provide engine generator system to provide source of continuous standby power.
- b. System Capacity: As scheduled on Drawings at elevation of up to 1,000 feet above sea level and ambient temperature between 0 degree and 110 degrees F continuous rating.
- c. Generator set and components must fit in available space indicated with proper clearance and operate with the free air space indicated.
- d. Generator exhaust system to be stainless steel.

262310-1.5 Submittals.

- a. Furnish shop drawings showing plan and elevation views with overall and interconnection point dimensions, fuel consumption rate curves at various loads, ventilation and combustion air requirements, and electrical diagrams including schematic and interconnection diagrams. Show actual layout and verify combustion air requirements and cooling water requirements.
- b. Furnish product data showing dimensions, weights, ratings, interconnection points and internal wiring diagrams for engine, generator, control panel, battery, battery rack, battery charger, exhaust silencer, vibration isolators, day tank and remote annunciator. Submit computer analysis for generator loading, motor starting, critical speed and vibratory stress.
- c. Furnish manufacturer's installation instructions.

d. Provide operation and maintenance manual. Furnish instructions for normal operation and emergency operation.

262310-1.6 Quality Assurance.

a. Manufacturer Qualifications: Company specializing in packaged engine generator system and with staff engineers factory trained by manufacturer of synchronizing switchgear.

b. Supplier Qualifications: Authorized distributor of engine generator manufacturer with staffed service facilities within 50 miles of project site.

262310-1.7 Maintenance Service.

a. Submit prospective contract for service and maintenance of packaged engine generator system for one year from date of substantial completion. Include a minimum of two visits at six month intervals exclusive of warranty work.

b. Do not include cost of maintenance service in bid. Maintenance agreement will be in a separate contract.

PRODUCTS

262310-2.1 Manufacturers.

a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer

1. Caterpillar.
2. Cummins.
3. Kohler. (Rehlko)

262310-2.2 Engine.

a. Type: Liquid-cooled, diesel, turbo-charged internal combustion engine with pressure lubrication system. Converted automotive engine will not be acceptable.

b. Rating: Sufficient to operate continuously as standby power source at rated load at specified elevations and ambient limits with all accessories attached.

c. Fuel System: Appropriate for use of No.2 diesel fuel.

d. Engine Speed: Not more than 1,800 rotations per minute.

e. Governor: Isochronous type to maintain engine speed within 0.5 percent, steady state, no load to full load, with maximum speed change of plus or minus 2 percent and recovery to steady state within two seconds following sudden load changes of up to 50 percent maximum. Equip governor with means for manual operation and adjustment. Maintain frequency regulation within 0.25 percent for any steady-state condition.

f. Safety Devices: Engine shutdown on high water temperature, low oil pressure, overspeed, and engine overcrank. Limits as selected by manufacturer. Individual indicating lights for each function.

g. Engine Starting: DC starting system with positive engagement, number and voltage of starter motors in accordance with manufacturer's instructions. Include remote starting control circuit, with MANUAL-OFF-AUTO selector switch on engine-generator control panel. Provide a remote start/stop station and status indicator where shown on Drawings.

h. Engine Jacket Heater: Thermal circulation type water heater with integral thermostatic control, sized to maintain engine jacket water at 90 degrees F and suitable for operation on 120 volts AC, manually adjustable.

i. Engine Mounted Radiator: Air cooled radiator with blower type fan sized to maintain safe engine temperature in 110 degrees F ambient air with 50 percent ethylene glycol solution.

j. Engine Accessories:

1. Fuel filter, lube oil filter, intake air filter, fuel transfer pump, fuel priming pump, water pump.
2. Locate fuel filters in one accessible location ahead of injection pumps. Do not use screens or filters requiring cleaning or replacement in injection pump or injection valve assembly.

k. Mounting: Provide unit with suitable spring-type vibration isolators and mount on structural steel base with housekeeping pad.

262310-2.3 Generator.

a. Generator: 3 phase, 3 pole, reconnectable synchronous generator with brushless exciter and solid-state, transient-suppressed, full wave rectifier.

b. Rating: Deliver KW and voltage ratings as shown on Drawings for continuous primary power at 1,800 rotations per minute and 80 percent power factor.

c. Insulation: Class H.

d. Temperature Rise: 130 degrees C stand-by.

e. Enclosure: Weather and sound enclosure, fully enclosed frame.

f. Voltage Regulation:

1. Include generator-mounted solid state exciter-regulator to match engine and generator characteristics, with voltage regulation plus or minus 2 percent from no load to full load at 0.8 power factor. Include manual controls to adjust voltage plus or minus 5 percent of rated voltage. Provide short circuit current support at 300 percent of rated current for up to ten seconds. Provide time-delayed overexcitation, overvoltage, and underfrequency protection in the exciter-regulator system.
2. Maximum instantaneous voltage dip of 12 percent on application of a load up to 100 percent of rated load. Recover to stable voltage within four seconds. Maximum voltage rise of 5 percent on 50 percent load decrease over a period of two seconds.
3. Provide capability of sustaining at least 250 percent of rated current for at least ten seconds under any possible phase-to-phase or phase-to-phase neutral short circuit condition.

g. Provide separate power and control termination boxes.

262310-2.4 Accessories.

a. Sub Base Day Tank: Mount double wall sub base day tank below the skid with interconnecting piping. Size tank for at least 48 hours of operation at full load. Include a transfer pump system and connect to tank.

1. Generator Base Tank Construction:

- a) Generator base tank shall be a standard option with the generator, and constructed in accordance with Underwriters Laboratories Standard UL-142. The generator base tank shall also be constructed in accordance with Flammable and Combustible Liquids Code, NFPA 30; and The Standard for Installation and use of Stationary Combustible Engine and Gas Turbines, NFPA 37. Generator base tank shall be made of heavy gauge steel

construction with continuous welded seams. Include reinforced steel box channel for generator support, with load rating of 5,000 lbs. per gen-set mounting hole location. Two full height gussets shall be provided at gen-set mounting holes. Tank interior shall be coated with a permanent, rust inhibiting, two part epoxy. Tank shall be primed and finish painted outside.

2. Generator Base Tank Testing

- a)** Primary tank sections shall be pressurized at a minimum of 3 psi and leak tested to ensure integrity of generator base weld seams per UL-142 standards.
- b)** Secondary Containment basin shall be pressurized at 3 psi and leak-tested to ensure integrity of generator base weld seams per UL-142 standards.

3. Generator Base Tank Fittings

- a)** The generator base tank shall include the following fittings labeled with adhesive backed metal labels:
 - 1)** 1" NPT fuel return from engine fitting
 - 2)** ½" NPT minimum diptube for engine supply
 - 3)** 1¼" NPT minimum for normal vent, sized as appropriate
 - 4)** NPT connection for emergency vent, sized as appropriate
 - 5)** 2" NPT for manual fill
 - 6)** 1½" NPT for level gauge
 - 7)** 1" NPT basin drain (tank drain if single wall)
 - 8)** 1" NPT for low level float switch
 - 9)** 1¼" NPT fitting for leak detection float switch
 - 10)** 5" square inspection port below electrical controls

4. Fuel Level Gauge

- a)** The generator base tank shall include a direct-reading fuel level gauge.

5. Fuel Containment Basin

- a)** Generator base tank shall include a welded steel Secondary Containment basin, sized at a minimum of 110% of the tank capacity to prevent escape of fuel into the environment in the event of a tank leakage.

6. Leak Detection System

- a)** A fuel containment basin leak detector float switch shall be provided.

7. Generator Base Tank Venting

a) Normal Venting

- 1)** Normal venting shall be sized at 1-1/4" NPT or larger in accordance with The American Petroleum Institute Standard No. 2000, for venting atmospheric and low pressure storage tanks. Tank shall be provided with atmospheric (normal) vent cap with screen.

b) Emergency Venting

- 1)** The emergency vent NPT fitting shall be sized to accommodate the total capacity of both normal and emergency vents, and not less than that derived from NFPA 30, Table 2-8, based on wetted surface area of the tank (calculated based on 100% of primary

tank). A UL Listed emergency pressure relief vent cap shall be furnished. The vent shall be pressure operated. Opening pressure shall be 0.5 psig; full opening pressure shall be 2.5 psig. Limits shall be marked on top of each vent.

- 2) A second UL Listed emergency vent fitting shall be provided for the interstitial space on Secondary Containment tanks.

8. Automatic Day Tank Level Controller

- a) The control circuitry shall be designed and supplied as an engineered system by Engine & Compressor Accessories, or approved equal. The controller shall have replaceable relays or approved equal. The controller shall have independent float switches to provide multiple signals to the control circuitry.

b) Control Functions

- 1) "Press-to-Test" fill control momentary switch
- 2) Critical high fuel level (Pump/motor shutdown)
- 3) High fuel level
- 4) Low fuel level
- 5) Critical low level
- 6) Rupture basin alarm (Pump/motor shutdown)
- 7) Pump/motor control

c) Indication Functions

- 1) Pump Running
- 2) Critical high fuel level
- 3) High fuel level
- 4) Low fuel level
- 5) Critical low level

- d) Outputs (one set of normally open and normally closed 10 amp @ 120 VAC relay contacts for remote annunciation.)

- 1) Critical high fuel level (Pump/motor shutdown)
- 2) High fuel level
- 3) Low fuel level
- 4) Critical low level
- 5) Rupture basin alarm (Pump/motor shutdown)

b. Weather and Sound Enclosure

1. The enclosure shall be constructed from high strength, aluminum and finish coated with powder baked paint for superior finish, durability, and appearance.
2. The enclosure must allow the generator set to operate at full load in an ambient temperature of 40 - 45°C with no additional derating of the electrical output.
3. Enclosures must be equipped with sufficient side and end doors to allow access for operation, inspection, and service of the unit and all options. Minimum requirements are two doors per side. When the generator set controller faces the rear of the generator set, an additional rear

- facing door is required. Access to the controller and main line circuit breaker must meet the requirements of the National Electric Code.
4. Doors must be hinged with stainless steel hinges and hardware and be removable, and equipped with lockable latches and panic bar, keyed alike.
 5. The enclosure roof must be pitched to prevent accumulation of water.
 6. The complete exhaust system shall be internal to the enclosure with external mounted silencer. The critical silencer shall be insulated with a tailpipe and rain cap.
 7. Provide GFI receptacle inside weather/sound enclosure.
 8. Provide LED lighting inside sound/weather enclosure.
- c. Exhaust Silencer: Critical spark arresting type silencer, with muffler companion flanges and flexible stainless steel exhaust fitting, suitable for orientation, as indicated on the drawings, and sized in accordance with engine manufacturer's instructions. Provide screen and terminal adapter.
- d. Batteries: Heavy-duty, diesel starting type lead-acid storage batteries, 200 ampere hours minimum capacity. Match battery voltage to starting system. Include necessary cables and clamps and rack. Mark and group batteries to provide full rated engine starting power at four hour discharge rates.
- e. Battery Tray: Epoxy painted steel tray treated for electrolyte resistance, constructed to contain spillage of electrolyte.
- f. Battery Charger: Current limiting type designed to float at 2.17 volts per cell, and equalize at 2.33 volts per cell. Include overload protection, full wave rectifier, DC voltmeter and ammeter and 120 volt AC fused input. Provide wall-mounted enclosure to meet NEMA 250, Type 1, requirements. Charging rate minimum of eight amperes with capacity to recharge battery unit within six hours.
- g. Engine-Generator Control Panel: Type 1 generator mounted control panel enclosure with engine and generator controls and indicators with 7" graphic display. Include provision for padlock and the following equipment and features:
1. Frequency Meter: 45 to 65 hertz range, 3-1/2 inch dial.
 2. AC Output Voltmeter: 3-1/2 inch dial, 2 percent accuracy, with phase selector switch.
 3. AC Output Ammeter: 3-1/2 inch dial, 2 percent accuracy, with phase selector switch.
 4. Output voltage adjustment.
 5. Push-to-test indicator lamps, one each for low oil pressure, high water temperature, overspeed and overcrank.
 6. Engine start/stop selector switch.
 7. Engine running time meter.
 8. Oil pressure gage.
 9. Water temperature gage.
 10. Auxiliary Relay: Three pole double throw, operates when engine runs, with contact terminals pre-wired single pole double throw contact to terminal strip.
 11. Remote Alarm Contact: Prewired single pole double throw contact to terminal strip for remote alarm functions required by NFPA 99.
- h. Supply engine protective devices as follows:
1. Alarm system for high water temperature and/or low oil pressure.

2. Engine overspeed shutdown device.
3. Indicating light for use with the above protective systems.
- i. Provide two (2) factory installed output circuit breakers. Install to maintain UL rating of engine generator.

262310-2.5 Fuel System.

- a. Sub base day tank mounted below the skid.

EXECUTION

262310-3.1 Examination.

- a. Verify that surfaces are ready to receive work and field dimensions are as shown on Drawings.
- b. Verify that required utilities are available in proper location and ready for use.
- c. Beginning of installation means installer accepts existing conditions.

262310-3.2 Installation.

- a. Install in accordance with manufacturer's instructions and provide testing data.
- b. Provide and turn over remote annunciator in building security command center as indicated and turn over to owner for future installation. Provide empty raceway for interconnecting wiring from vault to exterior stub-out. Extension and wiring by others.
- c. Coordinate all work necessary for a complete working standby generating system, including fuel lines, fuel tanks, and piping.
- d. Provide stainless steel exhaust duct.
- e. Mount generator with sub-base tank on minimum 8" h housekeeping pad with No. 2 rebar installed on 12" centers. Housekeeping pad shall extend minimum 6" outside generator and tank edges.

262310-3.3 Field Quality Control.

- a. Provide services of authorized manufacturer's technician to start, test, and adjust system for proper operations.
- b. Provide services of factory trained and authorized technician to give Owner an eight-hour class in proper operation and maintenance of UN 175.

262310-3.4 Cleaning.

- a. Clean engine and generator surfaces. Replace oil and fuel filters.

262310-3.5 Demonstration.

- a. Provide system demonstration to A/E.
- b. Simulate power outage by interrupting normal source and demonstrate that system operates to provide power, that all controls are operative, and that units operate satisfactorily in the event of interruption of normal power.

MEASUREMENT AND PAYMENT

262310-4.1 Method of Measurement.

a. Measurement for the Generator System shall include all work and materials required by this specification and plan details including, but not limited to, the generator set, controls, remote annunciator, exhaust system, weather enclosure with all accessories noted including load center, (2) automatic transfer switches and associated electrical disconnect, batteries and charger, fueling system, housekeeping pads, generator foundation and grading all piping and associated conduit, cables, emergency shutoff, pumps, silencer, leak detection system, exhaust, day tank, and fuel containment basin.

262310-4.2 Basis of Payment.

a. Payment for the packaged Generator System shall include all work and materials required by this specification and plan details. 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 in accordance with the provisions and intent of the plans and specifications.

Payment will be made under:

262310-5.1 - Install New Backup Standby Generator System - Per Lump Sum.

END OF ITEM L-262310

Section 263630 Disconnect Switches

263630-1.1 Section includes.

- a. Furnish and install disconnect switches, including:
 - 1. Fuses.
 - 2. Enclosures.

263630-1.2 Related sections.

- a. Section 260580 - Supporting Devices.
- b. Section 260553 - Electrical Identification.

263630-1.3 References.

- a. NFPA 70 - National Electrical Code.
- b. UL 198E - Class J Fuses.

263630-1.4 Submittals.

- a. Furnish dimensions and ratings for voltage, ampacity, horsepower and short circuit.
- b. Indicate enclosure material finish and NEMA classification type.

PRODUCTS AND MATERIALS

263630-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer
- b. Disconnect Switches
 - 1. Siemens.
 - 2. Schneider Electric
- c. Fuses
 - 1. Bussman.
 - 2. Mersen.
 - 3. Littelfuse.

263630-2.2 Disconnect switches.

- a. Fusible Switch Assemblies: Heavy duty; quick-make, quick-break, load interrupter enclosed switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF position. Fuse Clips: Designed to accommodate Class J.
- b. Non-fusible Switch Assemblies: Heavy duty; quick-make, quick-break, load interrupter enclosed switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF position.

- c. Enclosures: Unless indicated otherwise, provide general purpose, NEMA 1 for indoor locations; and weatherproof, NEMA 3R for outdoor locations; except at cooling tower, provide NEMA 4, stainless steel.
- d. General-Use Snap Switch: Motors of one HP or less as allowed by code.
- e. Construct all current carrying parts of high conductivity copper with silver-plated switch contacts.
- f. Provide solid copper neutral bar where a neutral is present in the circuit.

263630-2.3 Fuses.

- a. Fuses 600 Amperes and Less: UL 198E, Class J; as indicated on drawings; time delay, dual element, current limiting, 600 volt.
- b. Fuses Over 600 Amperes: Class L, bolt-on type with time delay and capability to hold 500 percent rated fuse current for a minimum of four seconds and clear 20 times rated fuse current in .01-second or less. Provide fuses with 'O' ring seals between end bells and glass melamine barrel similar to Bussman time delay KRP-C.
- c. Interrupting Rating: 200,000 RMS symmetrical amperes.
- d. Provide all fuses of the same manufacturer.
- e. Install fuses in motor circuits in accordance with motor manufacturer's recommendations.

EXECUTION

263630-3.1 Installation.

- a. Provide disconnect switches, where required by NFPA 70, where indicated on drawings, and where required by equipment manufacturer, in a location convenient for maintenance on each switch and adjacent equipment.
- b. Provide fused disconnect switches when required to maintain equipment manufacturer's warranty. Coordinate with Division 15 for warranty requirements of equipment approved by submittal.
- c. Install fuses in fusible disconnect switches. Provide permanent marking inside switch enclosure for fuse type.
- d. Wall mount switches, where possible, or mount on Uni-Strut supports.
- e. Provide spare fuse cabinet in main electrical room complete with three spare fuses for each rating installed for fuse sizes over 600 amperes, and ten percent spare fuses (minimum of three) of each type and rating installed for 600 amperes or less.
- f. Provide fuse identification label showing type and size inside door of each switch.

METHOD OF MEASUREMENT AND PAYMENT

263630-4.1 There will be no separate measurement or payment on the work discussed in this section. All work will be considered incidental for the completion of the component of work to which it is related.

END OF SECTION 263630

Section 264130 Automatic Transfer Switches

264130-1.1 Section includes.

- a. Furnish and install Automatic Transfer Switch including, but not limited to:
 - 1. Transfer Switch
 - 2. Switch Accessories

264130-1.2 Related sections.

- a. Section 260580 - Supporting Devices.
- b. Section 260530 - Maintenance Testing of Electrical Systems.
- c. Section 262310 - Packaged Engine Generator Systems.

264130-1.3 References.

- a. UL 1008 - Automatic Transfer Switches.
- b. AC 150/5340-30 - Design and Installation Details for Airport Visual Aids
- c. FAA-E-2083 - Bypass Switch, Engine Generator.

264130-1.4 Submittals.

- a. Submit product data.
- b. Provide operation and maintenance manual.

264130-1.5 Quality assurance.

- a. Regulatory Requirements:
 - 1. Conform to applicable code for standby electrical systems.
 - 2. Conform to UL 1008.

PRODUCTS

264130-2.1 Manufacturers.

- a. Manufacturers include but are not limited to those listed. All proposed components and materials are subject to the approval of the engineer
- b. ASCO.
- c. Russelectric (Siemens).
- d. Zenith (ABB).
- e. Cummins

264130-2.2 Mechanically held transfer switch.

- a. Configuration: Electrically-operated, mechanically-held transfer switch; dual-motor operated.

- b.** Service Entrance ratings adhering to all NEC codes and NFPA requirements.
- c.** Double-throw with simple over-center type linkage so that both sets of contacts move simultaneously.
- d.** Positively interlock, mechanically and electrically, the normal and emergency contacts to prevent simultaneous closing. Mechanically lock the switches without the use of hooks, latches, springs or semi-permanent magnets.
- e.** Provide separate arcing contacts for all poles. Molded case circuit breakers or contactors will not be acceptable. Provide brush type main contacts of silver alloy protected by arc barriers and arc quenchers.
- f.** Switches Rated 600 amperes above shall have segmented, blow-on construction for high withstand and close- on capability, and be protected by separate arcing contacts.
- g.** Equip transfer switch with permanently attached, safe, dead-front manual operator with same transfer speed as electrical operator to prevent flashovers.
- h.** Provide sturdily built operating mechanism of industrial type components which does not depend on critical electrical or mechanical adjustments. Use of miniature type limit switches and nonindustrial type components will not be acceptable.
- i.** Provide silver alloy contacts with a minimum rating of 10 amperes on all relays. Provide industrial type control that meet or exceed NEMA, IEEE, and FAA standards and are field adjustable and have front-accessible replaceable contacts.
- j.** Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. Switches rated 600 amps and higher shall have front removable and replaceable contacts. All stationary and moveable contacts shall be replaceable without removing power conductors and/or bus bars.
- k.** Where neutral conductors are to be solidly connected as shown on the plans, a neutral conductor plate with fully rated AL-CU pressure connectors shall be provided.
- l.** Where neutral conductors must be switched as shown on the plans, the contactor shall be provided with fully rated switched neutral transfer contacts. Overlapping neutral contacts may be used as an alternative.
- m.** Ratings:
 - 1. Voltage: 277/480 volt, 3 phase, 4 wire, 60 hertz.
 - 2. Switched Poles: Four
 - 3. Load Inrush Rating: Capable of transferring 600 percent rated current at 0.5 power factor between the 277/480 volt sources when sources are 120 degrees out of phase. Capable of closing on in-rush current equal to 20 times rating without excessive burning or welding of the contacts.
 - 4. Continuous Rating: As scheduled.
 - 5. Withstand Current Rating: 65,000 rms symmetrical amperes, when used with circuit breakers.
 - 6. Size and rating as per drawings.

264130-2.3 Automatic sequence of operation.

- a.** Initiate Transfer of Load to Alternate Source: Upon initiation by normal source monitor and permission by alternate source monitor.

b. Monitor Before Transfer to Alternate Power Source: Frequency and voltage to be within acceptable limits.

c. Monitor normal source of power by use of voltage sensitive relays in each switch. Adjust relays to detect failure when any phase or leg drops below 70 percent of normal voltage and sense restoration when all phases or legs have returned to at least 90 percent of normal voltage.

d. Provide close differential (90 percent dropout and 95 percent pickup) relays on connected load which will prevent transfer of load to emergency source upon a voltage frequency drop until it has reached at least 90 percent of rated voltage and frequency.

e. Provide a solid state timer to signal the generator to start after an adjustable time delay of 0.5 to 6 seconds. Provide lockout relay to prevent transfer until the generating set has reached 90 percent of voltage rating and frequency.

f. Time Delay Before Transfer to Emergency Power: Provide adjustable time delay of 0 to 60 seconds on transfer to emergency.

g. Initiate Retransfer Load to Normal Source: Upon permission by normal source monitor.

h. Time Delay Before Transfer to Normal Power: Provide an adjustable time delay on retransfer (0 to 25 minutes); factory set at 5 minutes, to assure a stable normal source before returning the load to the normal source. Include a bypass circuit switch to override time delay in the event of simultaneous failure of the emergency source and availability of a suitable normal source.

i. Time Delay on Retransfer: Provide an adjustable time delay between opening of emergency contacts and closing of normal contacts to allow motor loads to decay.

j. Time Delay on Engine Shutdown: Provide an adjustable time delay on retransfer to normal (0 to 5 minutes); factory set at 5 minutes.

k. Bypass-Isolation Switch

- 1.** A two-way bypass-isolation switch shall provide manual bypass of the load to either source and permit isolation of the automatic transfer switch from all source and load power conductors. All main contacts shall be manually driven.
- 2.** Power interconnections shall be silver-plated copper bus bar. The only field installed power connections shall be at the service and load terminals of the bypass-isolation switch. All control inter-wiring shall be provided with disconnect plugs.
- 3.** Separate bypass and isolation handles shall be utilized to provide clear distinction between the functions. Handles shall be permanently affixed and operable without opening the enclosure door. Designs requiring insertion of loose operating handles or opening of the enclosure door to operate are not acceptable.
- 4.** Bypass to the load-carrying source shall be accomplished with no interruption of power to the load (make before break contacts). Designs which disconnect the load when bypassing are not acceptable. The bypass handle shall have three operating modes: "Bypass to Normal," "Automatic," and "Bypass to Emergency." The operating speed of the bypass contacts shall be the same as the associated transfer switch and shall be independent of the speed at which the manual handle is operated. In the "Automatic" mode, the bypass contacts shall be out of the power circuit so that they will not be subjected to fault currents to which the system may be subjected.
- 5.** The isolation handle shall provide three operating modes: "Closed," "Test," and "Open." The "Test" mode shall permit testing of the entire emergency power system, including the automatic transfer switch with no interruption of power to the load. The "Open" mode shall

completely isolate the automatic transfer switch from all source and load power conductors. When in the "Open" mode, it shall be possible to completely withdraw the automatic transfer switch for inspection or maintenance to conform to code requirements without removal of power conductors or the use of any tools.

6. When the isolation switch is in the "Test" or "Open" mode, the bypass switch shall function as a manual transfer switch.
7. Designs requiring operation of key interlocks for bypass isolation or ATS(s) which cannot be completely withdrawn when isolated are not acceptable.

I. Enclosure: Type 3R.

264130-2.4 Accessories.

a. Indicating Lights and Controllable Display with Keypad: Mount in cover of enclosure to indicate normal source available, alternate source available, switch position. A four line, 20 character LCD display and dynamic 4 button keypad shall be an integral part of the controller for viewing all available data and setting desired operational parameters.

b. Operational parameters shall also be available for viewing and limited control through the communications interface port. The following parameters shall only be adjustable via a password protected programming on the controller (dip switches shall not be acceptable):

1. Nominal line voltage and frequency
2. Single or three phase sensing
3. Operating parameter protection
4. Transfer operating mode configuration (Open transition, Closed transition, or Delayed transition)

c. Test Switch: Mount in cover of enclosure to simulate failure of normal source.

d. Return to Normal Switch: Mount in cover of enclosure to initiate manual transfer from alternate to normal source.

e. Auxiliary Contacts: One normally open; one normally closed for: transfer switch position, utility available and generator available.

f. Normal Source Monitor: Monitor each line of normal source voltage and frequency; initiate transfer when voltage drops below 85 percent or frequency varies more than 5 hertz from rated nominal value.

g. Alternate Source Monitor: Monitor alternate source voltage and frequency; inhibit transfer when voltage is below 85 percent or frequency varies more than 5 hertz from rated nominal voltage.

h. Provide a power monitoring system to measure (as a minimum) voltage, current, kW, kVAR and power factor. Provide with communication option for remote access.

i. Provide capability for remote control by the Air Traffic Control Tower (ATCT), through the Airfield Lighting Control and Monitoring System.

j. Use switchgear class wiring.

k. Provide maintenance bypass per the design drawings.

l. Provide monitoring, microprocessor shop drawing (MI Rated).

m. The generator controller shall be capable of performing the following:

n. The controller shall be capable of detecting a single phasing condition of a source, even though a voltage may be regenerated by the load. This condition shall be considered a failed source.

o. Time delays: Time delay setting shall be adjustable by the user as follows:

1. 0 to 10 seconds to override momentary normal source outages and delay all transfer and engine starting signals.
2. 0 to 60 minutes, for controlled timing of transfer of loads to emergency
3. 0 to 60 minutes on re-transfer to normal: This delay is automatically bypassed if the emergency source fails and the normal source is acceptable.
4. 0 to 60 minutes for shut down of engine generator for cool down
5. A time delay activated output signal shall also be provided to drive external relay(s) for selective load disconnect control. The controller shall be capable of controlling a maximum of 9 individual output time
6. delays to step loads on after a transfer occurs. Each output may be individually programmed for their own time delay of up to 60 minutes. Each sequence shall be independently programmed for
7. transferring from normal to emergency and transferring from emergency to normal.
8. The controller shall also include the following built-in time delays for the following operations:
 - a) 0 to 60 minute time delay on failure to acquire the acceptable electrical parameters from the emergency source
 - b) 0 to 60 minute time delay for a failure to synchronize on an in-phase operation.
 - c) 60 minute time delay for the load disconnect position for delayed transition operation.

p. The controller shall provide an internal engine exerciser allowing the user to program different exercise routines based on a calendar mode. For each routine, the user shall be able to:

1. Enable or disable the routine
2. Enable or disable transfer of the load during routine.
3. Set the start time, time of day, day of week, week of month (1 st, 2nd, 3rd, 4th, alternate or every)
4. Set the duration of the run.
5. At the end of the specified loaded exercise duration the switch shall transfer the load back to normal and run the generator for the specified cool down period. All loaded exercises shall be immediately ended and retransfer shall occur if the standby source fails. The next exercise period shall be displayed on the main screen with the type of exercise, time and date. The type of exercise and the time remaining shall be display when the exercise is active. It shall be possible of ending the exercise event with a single button push.

q. Self Diagnostics - The controller shall contain a diagnostic screen for the purpose of detecting system errors. This screen shall provide information on the status input signals to the controller which may be preventing load transfer commands from being completed.

r. Communications Interface - The controller shall be capable of interfacing, through a standard communications with a network of transfer switches and generators. It shall be able to be connected via an RS-485 serial communication (up to 4000 ft. direct connect or multi-drop configuration), an Ethernet

connectivity (over standard 10 base T Ethernet networks utilizing a RJ-45 port or remotely utilizing a dial-up modem). This module shall allow for seamless integration of existing or new communication transfer devices and generators. Monitoring software shall allow for the viewing, control and setup of parameters of the genset and transfer switch network through a standard personal computer utilizing current Microsoft operating systems. Separate and specific transfer switch software interfaces shall not be acceptable.

s. The transfer switch shall also be able to interface to 3rd party applications using Modbus RTU and Modbus TCP/IP open standard protocols utilizing Modbus register maps. Proprietary protocols shall not be acceptable.

EXECUTION

264130-3.1 Examination.

- a. Verify that surfaces are ready to receive work.
- b. Verify field measurements are as shown on Drawings.
- c. Verify that required utilities are available, in proper location, and ready for use.

264130-3.2 Installation

- a. Install in accordance with manufacturer's instructions.
- b. Provide 4-inch concrete housekeeping pad with anchor bolts for floor mounted units. Bolt enclosure to pad plumb and square.
- c. Provide time delay and auxiliary contacts to signal elevator controller prior to transfer in either direction.

METHOD OF MEASUREMENT AND PAYMENT

264130-4.1 Method of measurement.

- a. A. Measurement for the Automatic Transfer Switch shall include all work and materials required by this specification and plan details including, but not limited to, the automatic transfer switches, enclosure, accessories, labels, testing, associated control conduit and cables.

264130-4.2 Basis of payment.

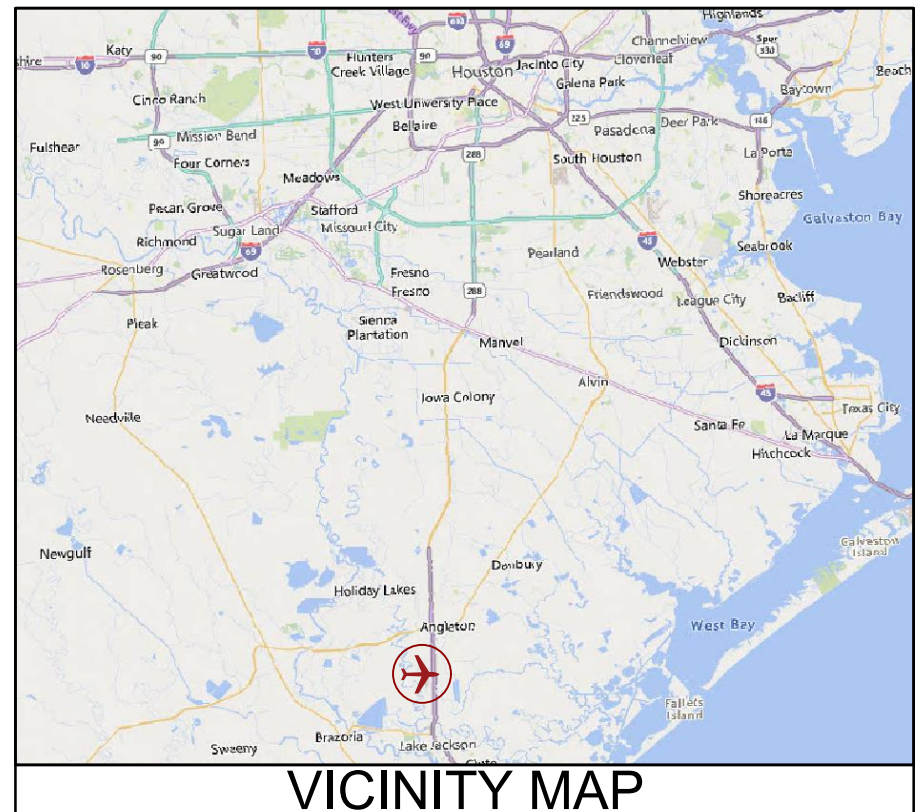
- a. A. There will no separate payment on the work discussed in this section. All work will be considered incidental for the completion of the component of the work to which it is related. Payment for this section is incidental to the Package Engine Generator Line Item in Section 262310.

END OF SECTION 264130

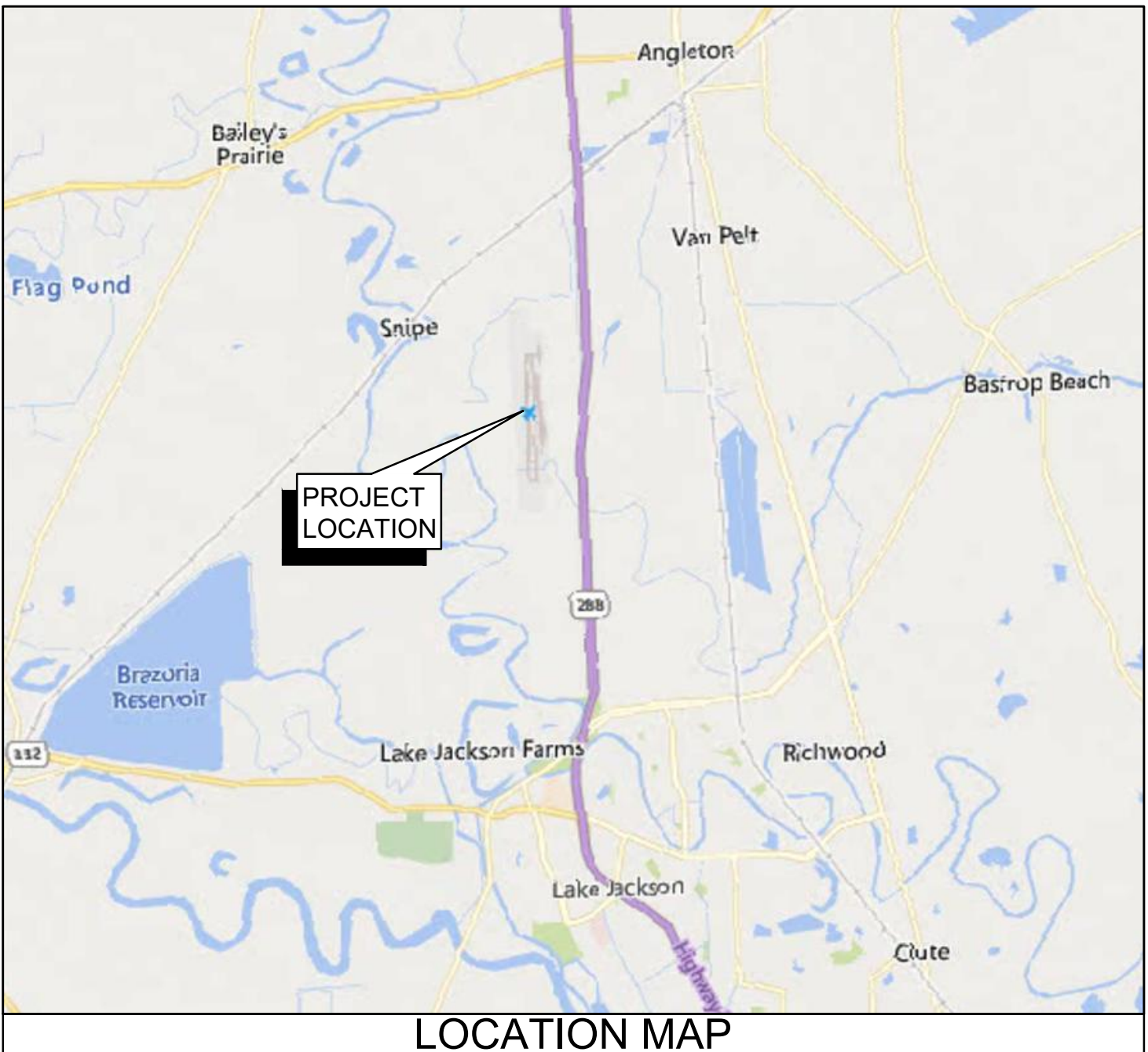


TEXAS GULF COAST REGIONAL AIRPORT BRAZORIA COUNTY ~ ANGLETON, TEXAS TERMINAL BUILDING STANDBY GENERATOR PROJECT

OCTOBER 2025
ISSUED FOR BID



VICINITY MAP



LOCATION MAP

INDEX OF SHEETS

CIVIL	
C01	COVERSHEET / INDEX OF SHEETS
C02	PROJECT LAYOUT
C03	GENERATOR FOUNDATION DETAILS
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ELECTRICAL	
EG100	STANDBY GENERATOR OVERALL PLAN
EG101	STANDBY GENERATOR LAYOUT PLAN
EG201	ELECTRICAL ONE-LINE DIAGRAM
EG202	ELECTRICAL ELEVATIONS

COUNTY JUDGE
L.M. "MATT" SEBESTA, JR

COUNTY COMMISIONERS
JAY BURRIDGE PRECINCT 1
RYAN CADE PRECINCT 2
STACY ADAMS PRECINCT 3
DAVID LINDER PRECINCT 4

COUNTY CLERK
JOYCE HUDMAN

DIRECTOR OF AVIATION
JEFF BILYEU, A.A.E.

KSA
a Pape-Dawson company
2107 CityWest Boulevard, Third Floor
Houston, TX 77042
T. 281-494-3252
www.ksaeng.com

KSA
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TBPE FIRM REGISTRATION No. F-1356

SUBMITTED BY:



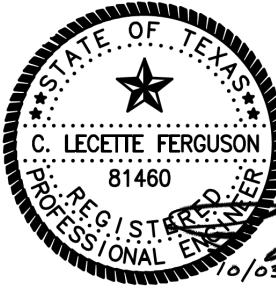
CRAIG H. PHIPPS, P.E.
SENIOR VICE PRESIDENT

CIVIL

Ferguson Consulting, Inc.
Airfield Electrical / Telecommunication / Security

TBPE FIRM REGISTRATION No. F-6864

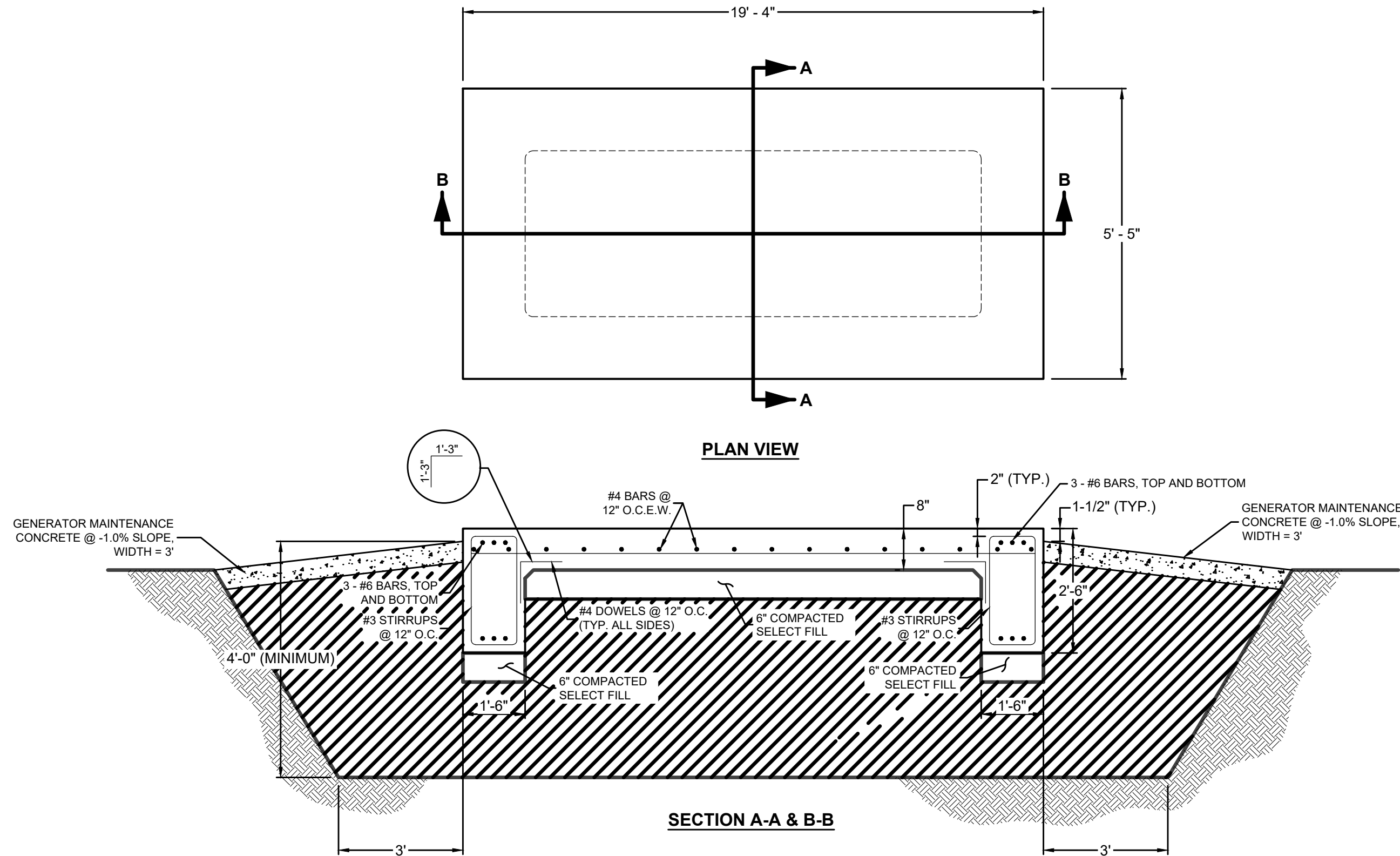
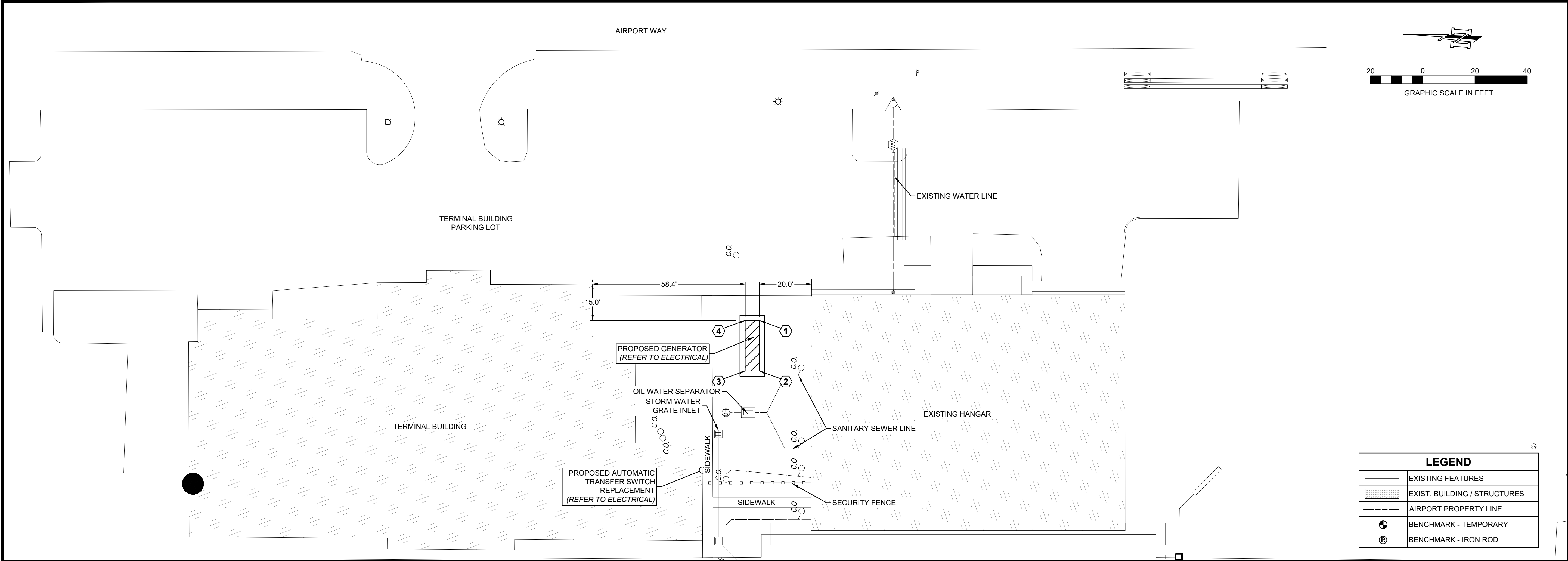
SUBMITTED BY:



R. COLE FERGUSON, P.E.
PROJECT ENGINEER

ELECTRICAL

\\KSA-NET\GATEWAY\PROJECTS\104132\008 CAD\30 SHEETS\02 CIVIL\104132-CLO-0002-PROJ.DWG | GENERATOR FOUNDATION DET. | 8/19/2025 - 1:37 PM - LAST SAVED BY: NMKELL



NOTES:

1. THE SIZE OF THE FOUNDATION FOR THE GENERATOR IS DIMENSIONED IN A WAY SO THAT THE FOOTPRINT OF THE FOUNDATION IS 1' LARGER IN LENGTH AND WIDTH THAN THE GENERATOR ITSELF. IF THE DIMENSION OF THE GENERATOR VARY FROM 18' - 4" X 4' - 5", NOTIFY ENGINEER SO NECESSARY ADJUSTMENTS CAN BE MADE.
2. CONTRACTOR SHALL OVER EXCAVATE MINIMUM OF 4'-0" BELOW EXISTING GRADE. PLACE SELECT FILL IN 6" LIFTS WITH COMPACTION EQUAL TO 95% STANDARD PROCTOR TO RESTORE GRADE BELOW GENERATOR FOUNDATION.
3. SELECT FILL SHALL BE FREE OF ORGANIC OR OTHER DELETERIOUS MATERIALS, HOMOGENOUS MIXTURES, HAVING A MAX. PARTICLE SIZE OF 3", HAVE LESS THAN 35 AND A PI BETWEEN 7 AND 15, CONSISTING OF SILTY-CLAYEY SANDS (SM-SC), LOW PLASTICITY CLAYS (CL), OR CLAYEY SANDS (SC) OR CLAYEY SAND (SC) OR TXDOT ITEM 247 FLEXIBLE BASE, TYPE A, GRADE 1-2 COMPACTED TO 100% OF MAXIMUM DRY DENSITY AS DETERMINED BY TEX-113-E AT OPTIMUM MOISTURE. SELECT FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR AT ±2% OPTIMUM MOISTURE.
4. IF SOFT SUBGRADE SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL USE 3" X 5" CRUSHED CONCRETE TO STABILIZE THE SUBGRADE PRIOR TO PLACING SELECT FILL. 3" X 5" CRUSHED CONCRETE SHALL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.
5. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, AND COMPLY WITH CLASS C TX421 SPECIFICATION.
6. REINFORCING STEEL ASTM A 615, GRADE 60. ALL BARS SECURELY HELD IN ACCURATE POSITION BY SUITABLE ACCESSORIES, TIE BARS, SUPPORT BARS, ETC.
7. MINIMUM CONCRETE COVER PROTECTION FOR REINFORCING BARS SHALL BE 2 INCHES: BOARD FORMED SIDES, 3 INCHES: EARTH FORMED SIDES, 3 INCHES: BOTTOM, 2 INCHES: TOP.
8. MOUNT GENERATOR TO FOUNDATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL PROVIDE ANCHORING AND MOUNTING DETAIL IN ACCORDANCE WITH GENERATOR MANUFACTURER RECOMMENDATIONS FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ENSURE GENERATOR FOUNDATION PROVIDED IS COMPATIBLE WITH THE CHOSEN MANUFACTURERS ANCHORING AND MOUNTING PLAN PRIOR TO CONSTRUCTION. IF THE MANUFACTURERS ANCHORING AND MOUNTING PLAN IS NOT COMPATIBLE, THE CONTRACTOR SHALL SUBMIT AN ALTERNATE FOUNDATION DESIGNED BY A TEXAS PROFESSIONAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR MAY SUBMIT ALTERNATE MANUFACTURER APPROVED FOUNDATION DESIGN FOR APPROVAL BY THE ENGINEER.

GENERATOR FOUNDATION DETAIL

N.T.S.

LEGEND	
	EXISTING FEATURES
	EXIST. BUILDING / STRUCTURES
	AIRPORT PROPERTY LINE
	BENCHMARK - TEMPORARY
	BENCHMARK - IRON ROD

DRAWN BY:		DCM
DESIGNED BY:		NM
LATEST REVISION:		10/03/2025
KSA JOB NO.:		104132
PROJECT NAME:		TEXAS GULF COAST REGIONAL AIRPORT - TERMINAL BUILDING STANDBY GENERATOR PROJECT - BRAZORIA COUNTY, TEXAS
SHEET NAME:		104132 - TEXAS GULF COAST REGIONAL AIRPORT - TERMINAL BUILDING STANDBY GENERATOR PROJECT - ANGLETON, TEXAS (BRAZORIA COUNTY)
MARK		REVISION
DATE		

GENERATOR FOUNDATION DETAILS

TEXAS GULF COAST REGIONAL AIRPORT

TERMINAL BUILDING STANDBY GENERATOR PROJECT

BRAZORIA COUNTY, TEXAS

KSA

a Pape-Dawson company

2107 CityWest Boulevard, Third Floor

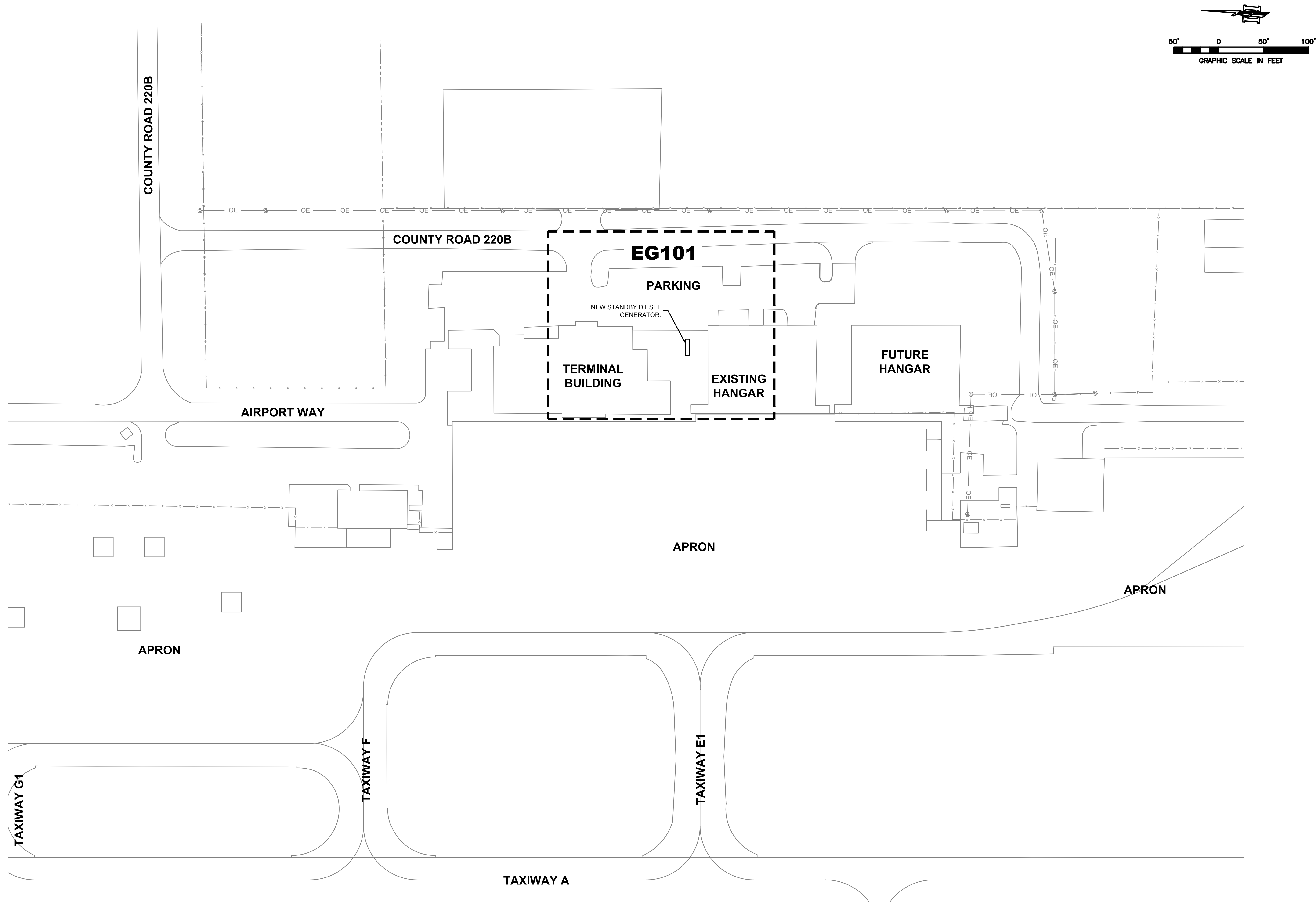
Houston, Texas 77057

T: 281-434-5252

www.ksaeng.com

SEAL: TBPE Firm Registration No. F-1356

SHEET NO. **C03**



COUNTY ROAD 220B



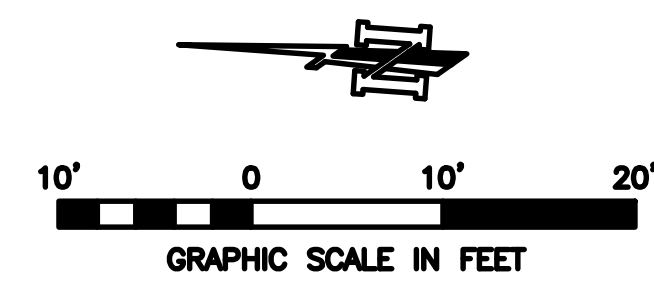
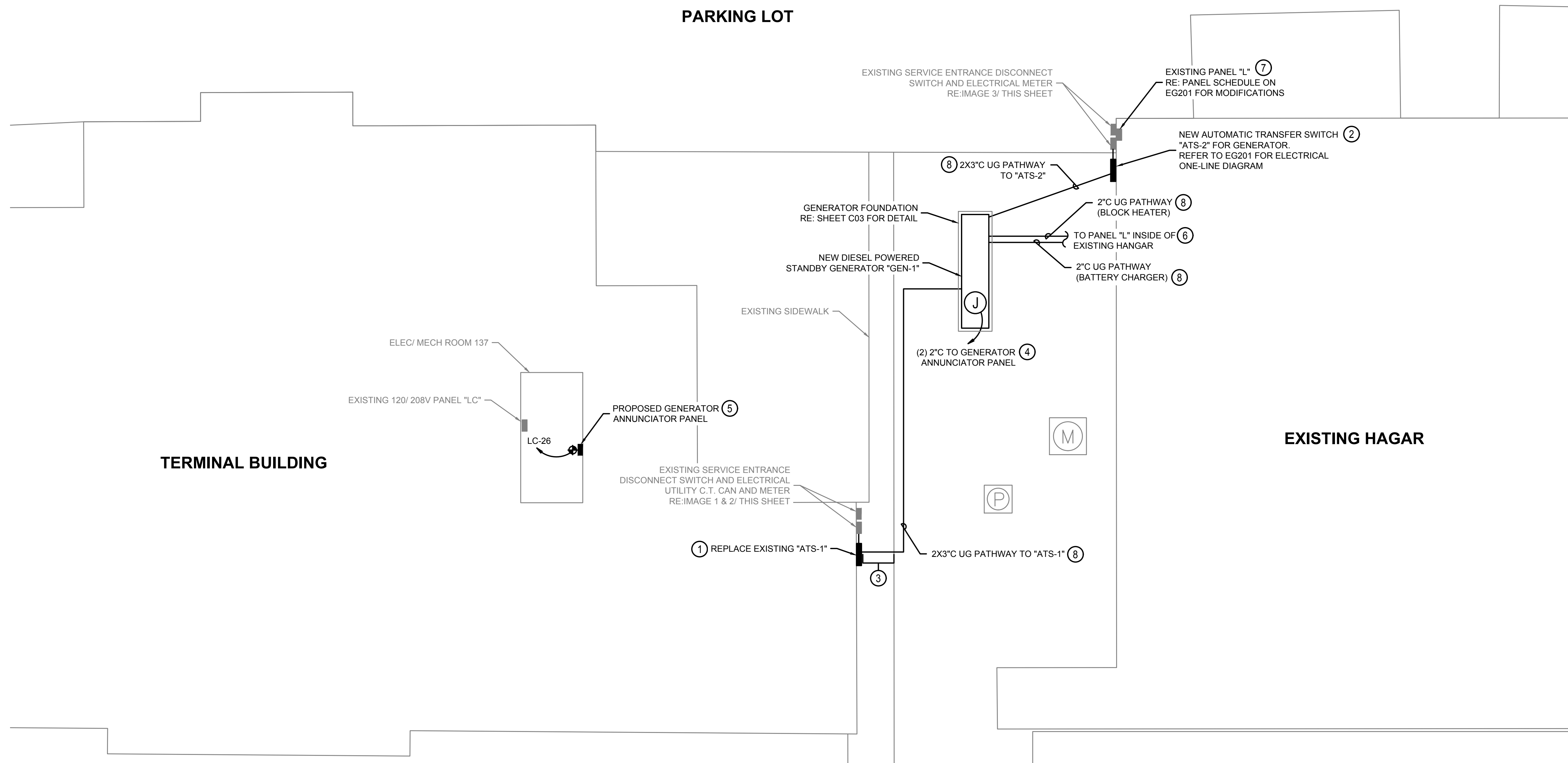
IMAGE 1



IMAGE 2



IMAGE 3



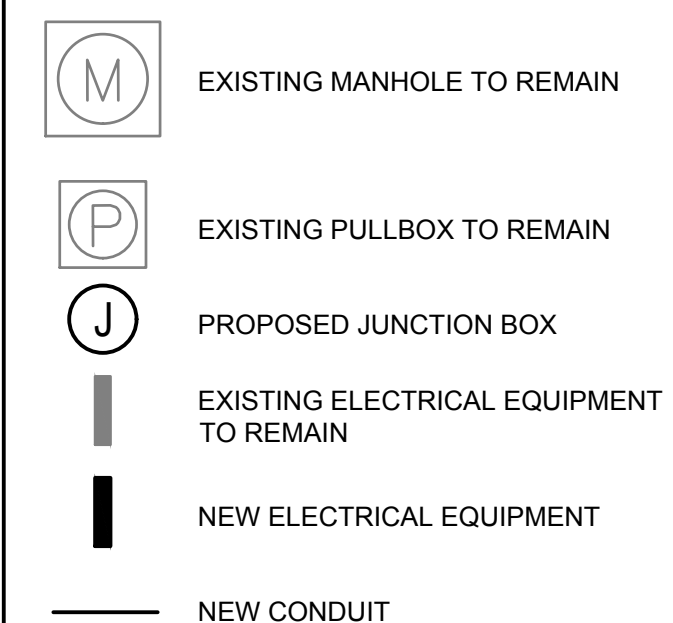
GENERAL NOTES

1. ALL ITEMS SHOWN IN HEAVY LINEWEIGHT ARE NEW OR MODIFIED, ALL ITEMS SHADED ARE EXISTING TO REMAIN. REFER TO THIS SHEET FOR ELECTRICAL SYMBOL LEGEND.

KEYED NOTES

1. REMOVE EXISTING AUTOMATIC TRANSFER SWITCH (ATS). NEW ATS TO BE MOUNTED IN THE SAME LOCATION ON EXISTING UNISTRUT BRACING. REFER TO EG201 FOR ELECTRICAL ONE-LINE DIAGRAM.
2. EQUIPMENT TO BE MOUNTED TO BUILDING VIA UNISTRUT BRACING. CONTRACTOR TO MATCH EXISTING EQUIPMENT MOUNTING AND CAULK COLOR FOR CONSISTENCY.
3. CONTRACTOR TO OPEN CUT EXISTING SIDEWALK CONCRETE AS NECESSARY TO ROUTE CONDUIT TO ATS.
4. ROUTE (2) 2" TO ELECTRICAL/ MECHANICAL ROOM 137 FOR CONNECTION TO GENERATOR ANNUNCIATOR PANEL. FIELD COORDINATE EXACT ROUTE WITH EXISTING UTILITIES AND STRUCTURES.
5. COORDINATE LOCATION OF EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.
6. TURN CONDUIT UP EXTERIOR WALL OF HANGAR TO 12' AHEAD. PROVIDE NEMA 3R BOX ON WALL WITH HINGED COVER (MIN 16"x16"x6"D). PROVIDE (2) 2" SLEEVES THROUGH WALL TO HANGAR INTERIOR. CONTINUE CONDUITS INSIDE TO EXISTING PANEL "1" FOR TERMINATION.
7. FIELD VERIFY EXACT LOCATION.
8. REFER TO EG201 FOR CONDUCTORS QUANTITY AND SIZE.

SYMBOLS LEGEND



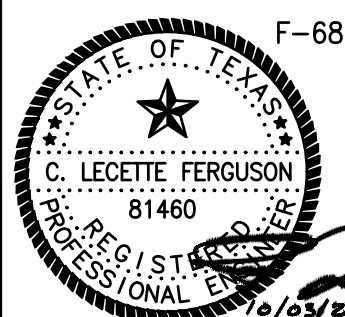
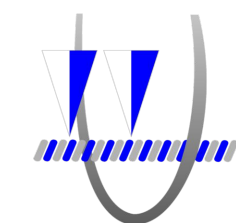
STANDBY GENERATOR LAYOUT PLAN

TEXAS GULF COAST
REGIONAL AIRPORT
STANDBY GENERATOR
PROJECT
BRAZORIA COUNTY, TEXAS

DRAWN BY:	ALC
DESIGNED BY:	ALC
LATEST REVISION:	10/03/2025
KSA JOB NO.:	

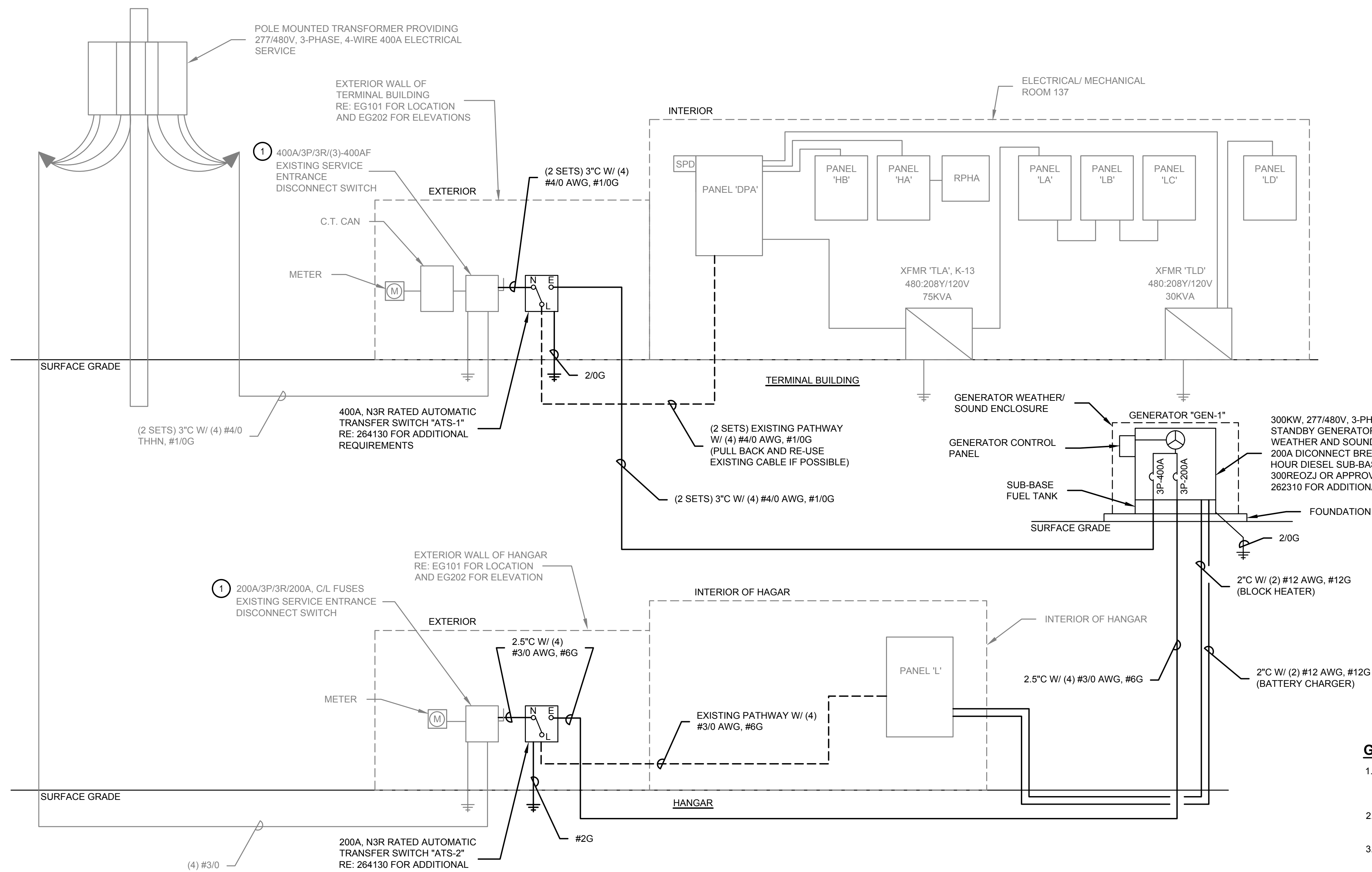
Ferguson Consulting
Aviation Specialists for Electrical,
Telecommunications and Security Systems

Ferguson Consulting Inc.
10200 Grogans Mill Rd. Ste. #420
The Woodlands, TX 77380
(281) 252-9232 Firm No. 6864



SEAL:
TBPE Firm Registration No. F-6864
SHEET NO.

EG101



1 PROPOSED ONE-LINE DIAGRAM
EG201 SCALE: N.T.S.

- ### GENERAL NOTES

1. ALL ITEMS SHOWN IN HEAVY LINEWEIGHT ARE NEW OR MODIFIED, ALL ITEMS SHADED ARE EXISTING TO REMAIN.
2. ALL CABLES SHALL BE COPPER TYPE THWN OR SIMILAR, UNLESS OTHERWISE NOTED.
3. ALL EQUIPMENT SHALL BE OUTDOOR RATED, MINIMUM OF NEMA 3R.
4. CONTRACTOR TO UPDATE ELECTRICAL IDENTIFICATION PLATES ON EXISTING EQUIPMENT AS NECESSARY.

KEYED NOTES

- 1 INSTALL NEW FUSES IN EXISTING DISCONNECT SWITCH. NEW FUSE SIZE TO MATCH EXISTING FUSE SIZE. IF NO EXISTING FUSE, SIZE FUSE TO MATCH DISCONNECT SWITCH RATING.

PANEL: L		VOLTAGE: 120/208V		3		*		4		W/AIC: 22,000		REMARKS:					
MAINS: 200 AMPS		☐ MLO		☒ MCB		☒ SURFACE		☐ FLUSH									
LUGS: ☐ SUB - FEED		☐ FEED - THRU		☐ NEMA 1		☐ NEMA 3R											
C"	WIRE*	LOAD DESCRIPTION	KVA	BKR.	CKT							CKT	BKR.	KVA	LOAD DESCRIPTION	WIRE*	C"
		INTER. LIGHTS	1.55	20	1		2	20	0.50	FANS							
		INTER. LIGHTS	1.55	20	3		4	30	0.24	OUTSIDE LIGHTS							
		INTER. LIGHTS	1.55	20	5		6	20	0.36	RECEPTACLES							
		RECEPTACLES	.36	20	7		8	20	1.92	WASHER							
		RECEPTACLES	.36	20	9		10	30	2.50	DRYER							
		RECEPTACLES	.18	20	11		12	20	2.50	↓							
		WATER HEATER	2.25	30	13		14	30	2.80	WASHER							
		↓	2.25	30	15		16	20	0.50	FANS							
		RECEPTACLES	.36	20	17		18	30	2.40	PARKING LOT LIGHTS							
		EXIT SIGNS	.50	20	19		20	20	0.50	TELEPHONE BOARD							
		SPACE			21		22	20	1.25	GEN. BLOCK HEATER							
		↓			23		24	20	1.25	↓							
		CIRCULATION FAN	1.80		25		26	20	0.84	GEN. BATTERY CHARGER							
		↓	1.80	20	27		28			SPACE							
		↓	1.80		29		30			↓							
* ALL CABLING IS 2 #12, 1 #12G UNLESS NOTED OTHERWISE.										33.87	KVA CONNECTED LOAD						
										37.17	KVA DEMAND						
										103.17	AMPS DEMAND @ 208V						

* ALL CABLING IS 2 #12, 1 #12G UNLESS NOTED OTHERWISE

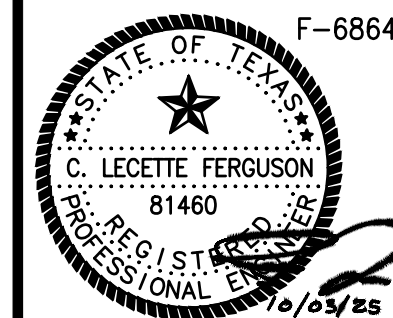
* THE EXISTING 200A SERVICE MEETS AND EXCEEDS THE NEC REQUIREMENTS

ELECTRICAL ONE-LINE DIAGRAM

TEXAS GULF COAST
REGIONAL AIRPORT
STANDBY GENERATOR
PROJECT
BRAZORIA COUNTY, TEXAS

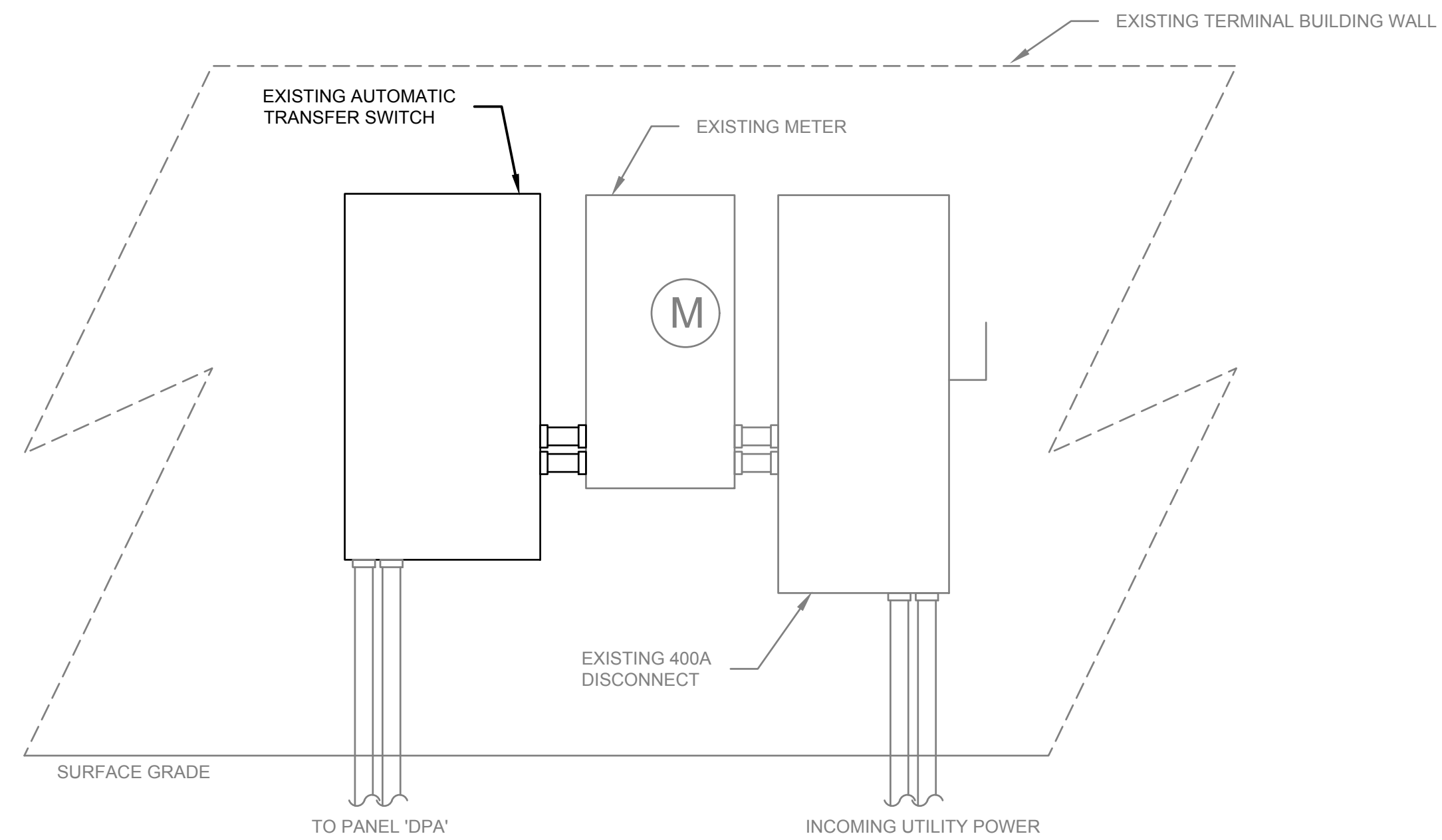
DRAWN BY:	ALC
DESIGNED BY:	ALC
LATEST REVISION:	10/03/2025
KSA JOB NO.:	104132

Ferguson Consulting
Aviation Specialists Ltd (a for £50,000+)

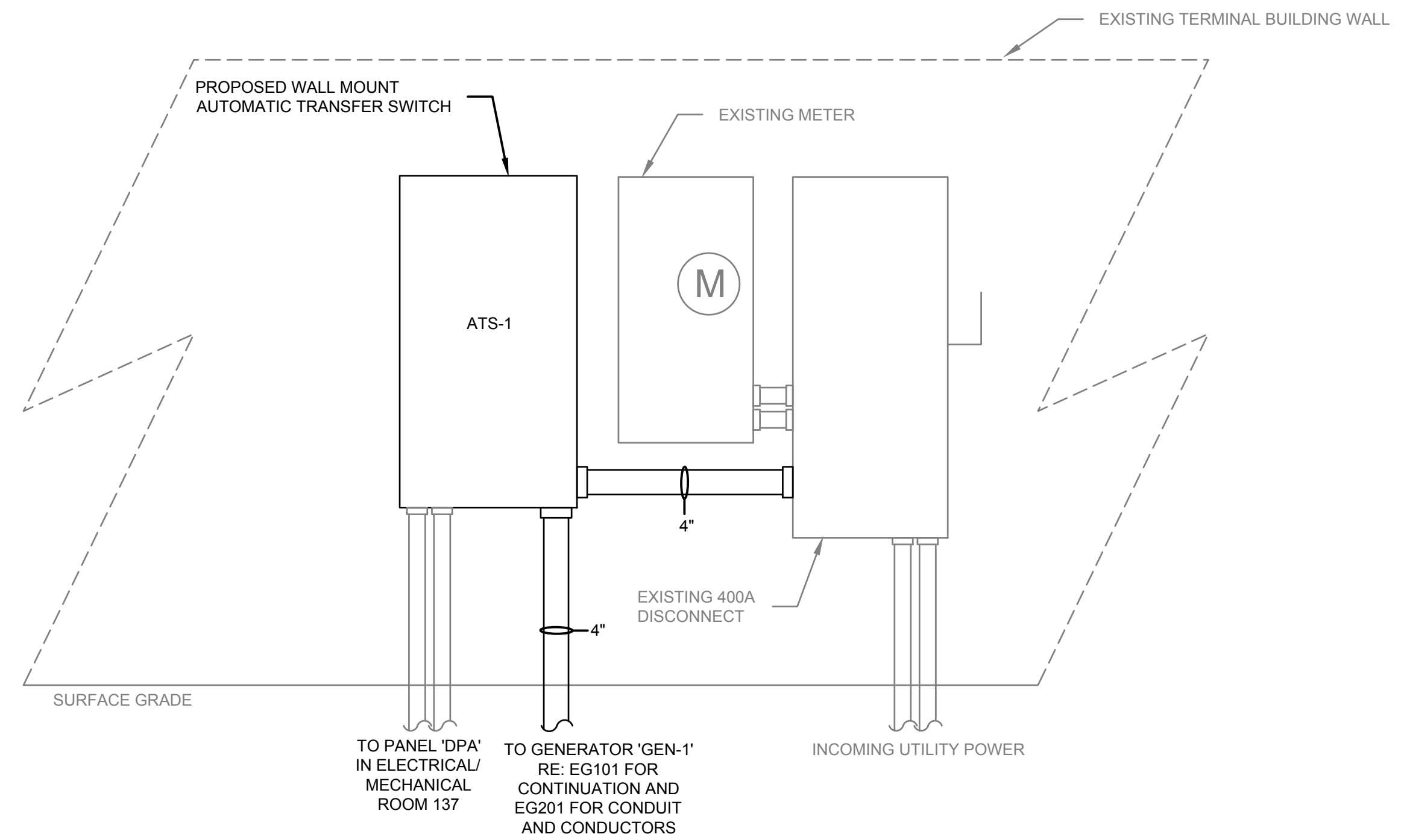


SEAL:
TBPE Firm Registration No. F-6864
SHEET NO.

EG201



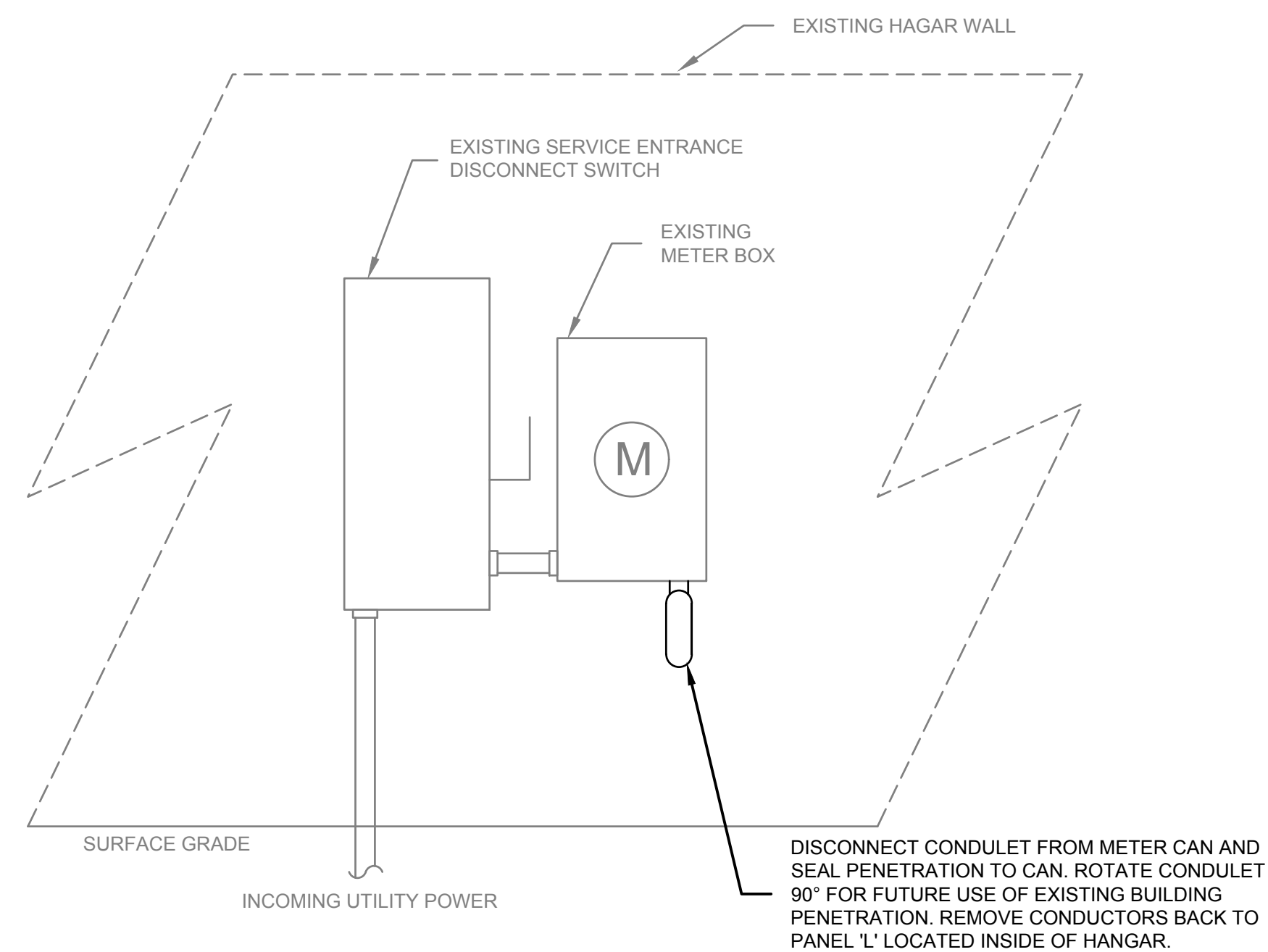
1 TERMINAL BUILDING WALL ELEVATION - DEMO
EG202 SCALE: N.T.S.



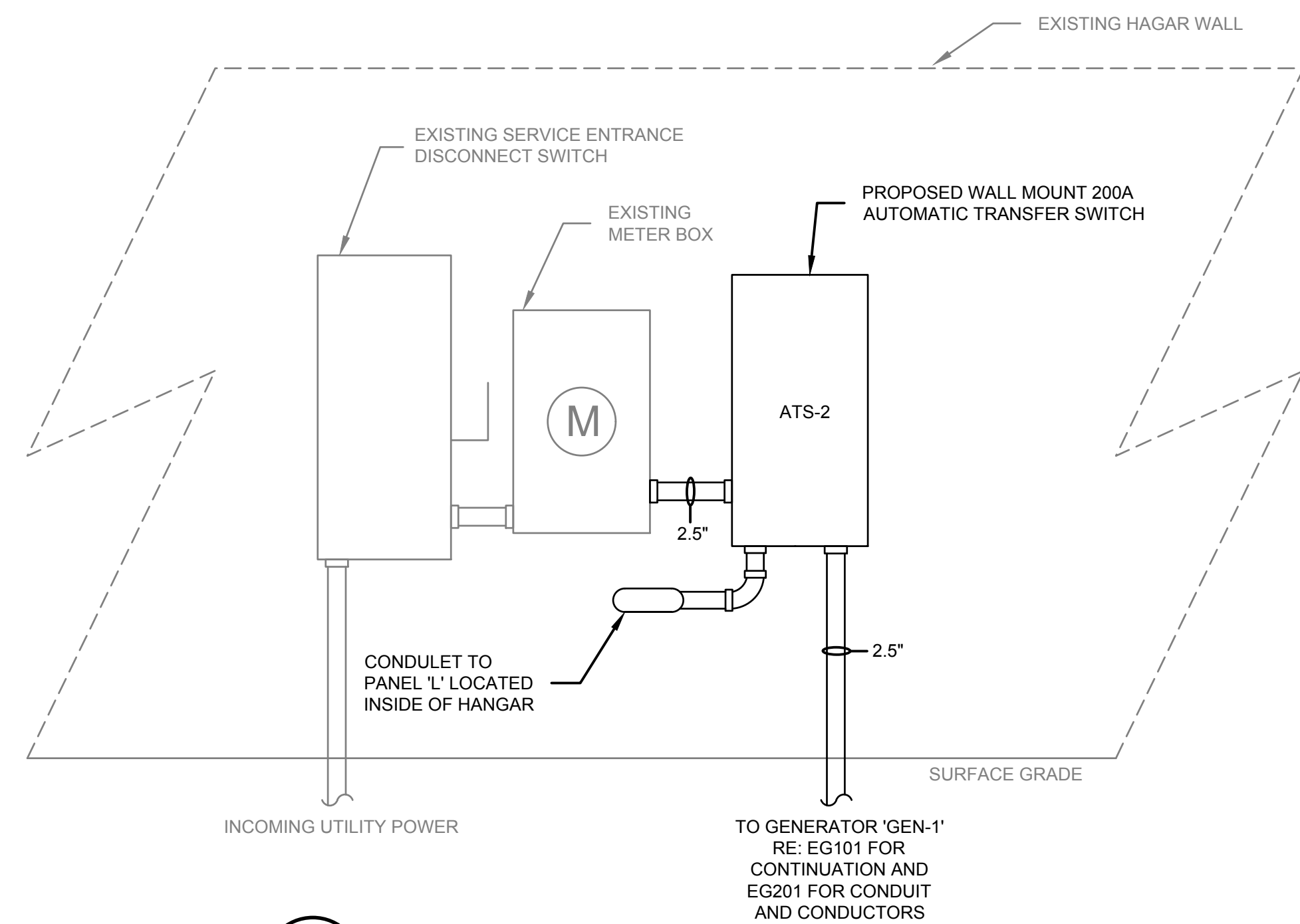
2
EG202

TERMINAL BUILDING WALL ELEVATION - PROPOSED

SCALE: N.T.S.



3 HANGAR WALL ELEVATION - DEMO
EG202 SCALE: N.T.S.



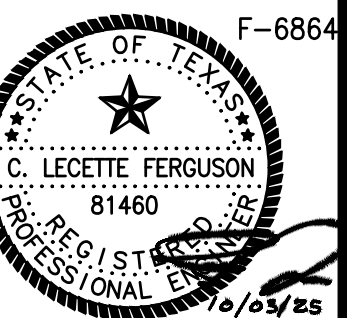
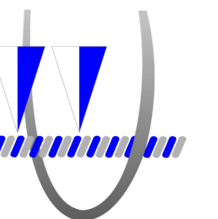
4 HANGAR WALL ELEVATION - PROPOSED
EG202 SCALE: N.T.S.

[illegible]ELECTRICAL
ELEVATIONS

TEXAS GULF COAST
REGIONAL AIRPORT
STANDBY GENERATOR
PROJECT
BRAZORIA COUNTY, TEXAS

DRAWN BY:	ALC
DESIGNED BY:	ALC
LATEST REVISION:	
10/03/2025	
KSA JOB NO.:	104132

Ferguson Consulting
Aviation Specialists for Electrical,
Telecommunications and Security Systems



REAL:
BPE Firm Registration No. F-6864
SHEET NO.

EG202

103006 ~ TEXAS GULF COAST REGIONAL AIRPORT ~ TAXIWAY PAVEMENT AND ELECTRICAL IMPROVEMENTS ~ ANGLETON, TEXAS (BRAZORIA COUNTY)