



**COLLIN COUNTY**

**Construction, Collin County Adult Detention  
Center Generator After-Market Emissions  
Control**

**IFB 2018-117**

**J. D. Griffin, CPPB  
Jack Hatchell Administration Building  
2300 Bloomdale Road, Ste. 3160  
McKinney, TX 75071**

**(P) 972-548-4116 (F) 972-548-4694  
jgriffin@collincountytx.gov**

Collin County exclusively uses IonWave Technologies, Inc. ([Collin County eBid](#)) for the notification and dissemination of all solicitations. The receipt of solicitations through any other means may result in your receipt of incomplete specifications and/or addendums which could ultimately render your bid/proposal non-compliant. Collin County accepts no responsibility for the receipt and/or notification of solicitations through any other means.

LEGAL NOTICE

By order of the Commissioners' Court of Collin County, Texas, sealed bids will be received by the Purchasing Agent, 2300 Bloomdale, Suite 3160, McKinney, TX 75071, until **2:00 P.M., Thursday, March 15, 2018**, for Invitation For Bid **Construction, Collin County Adult Detention Center Generator After-Market Emissions Control (IFB No. 2018-117)**. A **Mandatory Pre-Bid** conference will be held **Thursday, March 1, 2018 at 10:00 a.m.** at Collin County Justice Center Jail Lobby, 4300 Community Ave., McKinney, TX 75071. Bidders shall use lump sum pricing. All Bidders must submit, prior to the bid opening time, a Cashier's Check or acceptable Bid Bond payable without recourse to Collin County in the amount of not less than five percent (5%) of the total bid plus alternates as submitted. Contractor must furnish a performance, payment and maintenance bond within ten (10) consecutive calendar days following award of contract. Funds for payment have been provided through the Collin County budget approved by the Commissioner's Court for this fiscal year only. Bidders may obtain detailed specifications and other documents at Office of the Purchasing Agent: Collin County Administration Building, 2300 Bloomdale, Suite 3160, McKinney, TX 75071, 972-548-4165, or by going to: <https://collincountytx.ionwave.net>. Sealed bids will be opened on **Thursday, March 15, 2018 at 2:00 P.M.** by the Purchasing Agent, 2300 Bloomdale, Suite 3160, McKinney, TX 75071. The Commissioners' Court reserves the right to reject any and all bids.

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<b>ATTENTION:</b>	<b>CLASSIFIEDS</b>
<b>BILL TO:</b>	<b>ACCOUNT NO 06100315-000</b>
	<b>COMMISSIONER'S COURT</b>

NOTICE TO PUBLISHERS: Please publish in your issue on **Thursday, February 22, 2018** and **Thursday, March 1, 2018**. A copy of this notice and the publisher's affidavit must accompany the invoice when presented for payment.

<b>NEWSPAPER:</b>	<b><u>Plano Star Courier</u></b>
<b>DATE:</b>	<b><u>February 20, 2018</u></b>
<b>FAX:</b>	<b><u>972-529-1684</u></b>

# COLLIN COUNTY ADULT DETENTON CENTER GENERATOR AFTER-MARKET EMISSIONS CONTROL



02 February 2018  
HALFF AVO 033142.001

 **HALFF**  
1201 NORTH BOWSER DRIVE  
RICHARDSON, TEXAS 75081  
Firm Registration No. 312





**COLLIN COUNTY ADULT DETENTION CENTER  
GENERATOR AFTER-MARKET EMISSIONS CONTROL  
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## SECTION 001116 - ADVERTISEMENT FOR BIDS

BY ORDER OF the Collin County Commissioners Court, Collin County, Texas, bids will be received electronically through Collin County eBid located at <https://collincountytx.ionwave.net>. Bidders are encouraged to submit bids electronically by utilizing Collin County eBid. However, you may submit a sealed hard copy paper bid to the Office of the Collin County Purchasing Agent. All bids, both electronic or hard copy paper form must be submitted as stated below:

**SUBMIT BIDS HARD COPY PAPER  
BIDS TO:**

**Office of the Purchasing Agent  
Collin County Administration Building  
2300 Bloomdale Road, Suite 3160  
McKinney, Texas 75071**

**\*\*NOTE:**

**All Correspondence must include suite  
number to assist in proper delivery.\*\***

**SUBMIT NO LATER THAN:**

**2:00 P.M., Thursday, March 15, 2018**

**MARK ENVELOPE:**

**IFB 2018-117**

**Project: Construction, Collin County Adult  
Detention Center Generator After-Market  
Emissions Control**

***ALL BIDS MUST BE RECEIVED IN THE OFFICE OF THE PURCHASING AGENT  
BEFORE OPENING DATE AND TIME***

SCOPE OF WORK INCLUDES all materials, labor, equipment and services to provide all components, install required equipment, and produce documentation for TCEQ to bring four (4) existing engine generator sets into compliance with current RICE NESHAP requirements. Contract will be a general contract for the awarded contractor. The contractor shall be responsible for a turnkey solution as described in the plans and specifications. Payment for the contract work shall be made pursuant to the terms of the Contract Documents.

The opinion of probable construction cost for this contract is \$365,000.

Collin County uses Collin County eBid for the notification and dissemination of all solicitations for commodities and services. The receipt of solicitations through any other company may result in your receipt of incomplete specifications and/or addendums which could ultimately render your bid non-compliant. Collin County accepts no responsibility for the receipt and/or notification of solicitations through any other company.

COLLIN COUNTY APPRECIATES your time and effort in preparing a bid. Hard copy paper bid must be in a separate sealed envelope, manually signed in ink by a person having the authority to bind the firm in a contract and marked clearly on the outside as outlined above. Please note that all bids must be received at the designated location by the deadline shown. Bids received after deadline shall be considered void and unacceptable. Collin County is not responsible for lateness of mail, carrier, etc. and time/date stamp clock in the Collin County Purchasing Department shall be the official

time of receipt. All bid forms provided in this Invitation for Bid must be completed prior to submission. Failure to complete the forms shall render your bid null and void. We would appreciate you indicating on your "NO BID" response any requirements of this bid request which may have influenced your decision to "NO BID".

BIDS WILL BE publicly opened in the Office of the Purchasing Agent, 2300 Bloomdale Rd, Suite 3160, McKinney, TX 75071, at the date and time indicated above.

A MANDATORY PRE-BID CONFERENCE will be held by Collin County in the **Collin County Justice Center Jail Lobby** located at **4300 Community Ave, McKinney, TX 75071** on **Thursday, March 1, 2018**, at **10:00 AM** in order for bidders to ask questions regarding the proposed work. All bidders desiring to bid the work should have a representative at the pre-bid conference; bidders that do not attend the pre-bid conference shall not be considered in the evaluation for award of a contract per Texas Local Government Code 262.0256. Attendance shall be mandatory at the pre-bid conference.

No oral, telegraphic, telephonic or facsimile bids will be considered. IFB's, RFP's, RFQ's and RFI's may be submitted in electronic format via Collin County eBid at <https://collincountytx.ionwave.net>

**BID SECURITY:** All Bidders must submit, prior to the bid opening time, a Cashier's Check or acceptable Bid Bond payable without recourse to Collin County in the amount of not less than five percent (5%) of the total bid plus alternates as submitted.

1. Bid Bond or Cashier's Check may be mailed or hand delivered to the Office of the Collin County Purchasing Agent, Collin County Administration Building, 2300 Bloomdale Road, Ste 3160, McKinney, TX 75071 and shall be delivered in an envelope, marked plainly on the outside with the Bid Name and Number.
2. Bidders submitting a bid via Collin County eBid shall upload a Bid Bond at <https://collincountytx.ionwave.net>

Regardless of delivery method, all Bid Bonds shall be received prior to the bid opening time to be considered.

The original Bid Bond shall be received in the Collin County Purchasing Department **no later than** close of business on the third working day after the bid opening. Late receipt of original Bid Bond shall be cause for rejection of bid.

**BONDS:** Contractor must furnish a performance bond and payment bond within ten (10) consecutive calendar days following award of contract. The bonds shall be issued by a corporate surety in accordance with all Texas Law, including but not limited to, Chapter 2253 of the Texas Government Code and Chapter 3503 of the Texas Insurance Code, for public works projects.

**INFORMATION AND BIDDING DOCUMENTS:** Drawings, specifications, instructions to bidders, and bidding and contract documents may be examined without charge at the following locations:



Dodge Data & Analytics  
4300 Beltway Place  
Suite 180  
Arlington, Texas 76018  
Phone: (877) 784-9556

iSqFt  
30 Technology Parkway South  
Suite 100  
Norcross, Georgia 30092  
Phone: (800) 364-2059

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## **SECTION 002113 - INSTRUCTIONS TO BIDDERS**

### **PART 1 - GENERAL REQUIREMENTS**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Specification Sections, apply to this Section.

#### **1.2 DEFINITIONS**

- A. All definitions set forth in the General Conditions of the Contract for Construction or in other Contract Documents are applicable to these Bidding Documents.
- B. Bidding Documents include the Advertisement or Invitation for Bids, Instructions to Bidders, the bid form, other sample bidding and contract forms and the proposed Contract Documents including any Addenda issued prior to receipt of bids.
- C. Addenda are written or graphic instruments issued prior to the opening of the Bidding Documents, which modify or interpret the Bidding Documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed.
- D. Half Associates, Inc. will be hereafter referred to in the Project Manual as “Engineer” and all correspondence shall be addressed to: Phillip Applebaum, Half Associates Inc., 1201 North Bowser Drive, Richardson, TX 75081.
- E. “Bill Burke” will be hereinafter referred to in this Project Manual as “Project Manager”.
- F. “Collin County” will be hereafter referred to in this Project Manual as “Owner”.
- G. A Bid is a complete and properly signed submittal to do the Work for designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- H. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added or from which work may be deleted for sums stated in Alternate Bids.
- I. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid in the corresponding change in the Work, as described in the Bidding Documents or in the proposed Contract Documents.
- J. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials or service as described in the Bidding Documents or in the proposed Contract Documents.
- K. A Bidder is a person or entity who submits a Bid.
- L. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials or labor for a portion of the work.
- M. A Contractor is a person or entity who is determined to be the lowest responsible and responsive bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award.

- N. The Bid Requirements and Other General Conditions, as provided under the Division of the North Central Texas Council of Governments Standard Specifications for Public Works Construction will be applicable to this project, unless noted otherwise in the Contract Documents

### 1.3 EXAMINATION OF DOCUMENTS AND SITE

- A. Each bidder, by making his/her Bid, represents that he/she has read and understands the Bidding Documents.
- B. Each Bidder, by making his/her Bid, represents that he/she has visited the site, performed investigations and verifications as he/she deems necessary, and familiarized himself/herself with the local conditions under which the Work is to be performed and will be responsible for any and all errors in his/her bid resulting from his/her failure to do so.
- C. The location and elevations of the various utilities and pipe work included within the scope of the work are offered as a general guide only, without guarantee as to accuracy. The Contractor shall verify and investigate to his/her own satisfaction the location and elevation of all utilities, pipe work, and the like and shall adequately inform himself/herself of their relation to the work before submitting a bid.
- D. Before submitting a bid each bidder will, at bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information (surface, subsurface, and underground facilities) at or contiguous to the site, or otherwise which may affect cost, progress, performance or furnishing of the work and which bidder deems necessary to determine its bid for performing and furnishing the work in accordance with the time, price and other terms and conditions of the Contract Documents. Bidder will rely solely on its own site investigation and assumes the risk of any site conditions not discovered that may result in additional costs and all errors in the bid.
- E. On request in advance, Owner will provide each bidder access to the site to conduct explorations and tests as each bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.
- F. The lands upon which the work is to be performed, right-of way and easement for access thereto and other lands designated for use by Contractor in performing the work are identified in the Contract Documents.
- G. Each bidder by making his/her bid represents that his/her bid is based upon the materials, systems, and equipment required by the Bidding Documents without exception.

### 1.4 BIDDING DOCUMENTS

- A. Complete sets of Bidding Documents shall be used in preparing bids; neither County, nor Architect assume any responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.
- B. County or the Architect, in making copies of the Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

### 1.5 BIDDING PROCEDURES

- A. All bids shall be prepared on the forms provided by the Architect and submitted in accordance with the Instruction to Bidders. The Architect or owner will furnish bidders with

bid forms which will provide for the following bid items. Bidders shall provide all requested information. Prices bid/proposed shall *only* be considered if they are provided in the appropriate space(s) on the Collin County bid form(s). For consideration, any additions or deductions to the bid/proposal prices offered must be shown under the exceptions section of the bid/proposal in the case of electronic submittal, ONLY in the case of a hard copy submittal will an additional attachment be allowed. Extraneous numbers, prices, comments, etc. or bidder/offeror generated documents appearing elsewhere on the bid or as an additional attachment shall be deemed to have no effect on the prices offered in the designated locations.

1. A single contract price for each bid item as detailed and described in these specifications.
  2. Acknowledgment of Addenda.
  3. Number of consecutive calendar days to complete project.
  4. Alternate bids.
  5. Unit prices.
- B. A bid (electronic or hard copy) is invalid if it has not been deposited at the designed location prior to the time and date for receipt of bids indicated in the Advertisement or Invitation For Bid, or prior to any extension thereof issued to the bidders. Bids received in County Purchasing Department after submission deadline shall be returned unopened and will be considered void and unacceptable. Owner is not responsible for lateness of mail, carrier, etc. and time/date stamp clock in County Purchasing Department shall be the official time of receipt.
- C. Unless otherwise provided in any supplement to these Instructions to Bidders, no bidder shall modify, withdraw or cancel his/her bid or any part thereof for ninety (90) consecutive calendar days after the time designated for the receipt of bids in the Advertisement or Invitation For Bid.
- D. Bids shall not contain any recapitulation of the Work to be done.
- E. The Bidder shall make no additional stipulations on the Bid Form nor limit or qualify his/her bid in any other manner. Bids so qualified will be subject to disqualification.
- F. Collin County is by statute exempt from the State Sales Tax and Federal Excise Tax; therefore, the prices submitted shall not include taxes.

## 1.6 DISCREPANCIES AND AMBIGUITIES

Any interpretations, corrections and/or changes to an Invitation For Bid and related Specifications or extensions to the opening/receipt date will be made by addenda to the respective document by the Collin County Purchasing Department. Questions and/or clarification requests must be submitted no later than seven (7) days prior to the opening/receipt date. Those received at a later date may not be addressed prior to the public opening. Sole authority to authorize addenda shall be vested in Collin County Purchasing Agent as entrusted by the Collin County Commissioners' Court. Addenda may be transmitted electronically via Collin County eBid, by facsimile, E-mail transmission or mailed via the US Postal Service.

- 1.6.1 Addenda will be transmitted to all that are known to have received a copy of the IFB and related Specifications. However, it shall be the sole responsibility of the Bidder to verify issuance/non-issuance of addenda and to check all avenues of document availability (i.e. Collin County eBid at <https://collincountytx.ionwave.net>; telephoning Purchasing

Department directly, etc.) prior to opening/receipt date and time to insure Bidder's receipt of any addenda issued. Bidder shall acknowledge receipt of all addenda.

## 1.7 SUBSTITUTIONS

- A. Each bidder represents that his/her bid is based upon the materials and equipment described in the Bidding Documents.
- B. No substitution will be considered unless written request has been submitted to the Architect for approval at least seven (7) consecutive calendar days prior to the date for receipt of bids.
- C. If the Architect and Owner approves a proposed substitution, such approval will be set forth in an Addendum.

## 1.8 QUALIFICATION OF BIDDERS

- A. Within seven (7) consecutive calendar days following bid opening, the apparent low bidder shall submit with a properly executed Contractor's Qualification Statement as evidence to establish bidder's financial responsibility, experience and possession of such equipment as may be needed to prosecute the work in an expeditious, safe and satisfactory manner. This Statement shall include:
  - 1. List of current projects.
  - 2. List of projects completed within the past five years.
  - 3. Experience of key individuals of the organization.
  - 4. Trade and Bank references.
  - 5. A recent financial statement to confirm that the bidder has suitable financial status to meet obligations incidental to performing the work. Audited financial statements are not mandatory. Unaudited financial statements will be accepted. If bidder's firm does, however, have audited statements, please include a copy with your bid.
  - 6. A statement of cost for each major item of Work included in the Bid.
  - 7. A designation of the Work to be performed by the Bidder with his/her own forces.
  - 8. A list of names of the Subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for each portion of the Work. The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the proposed Subcontractors. Prior to the award of the Contract, the Architect will notify the Bidder in writing if either the County or the Architect, after due investigation, has reasonable and substantial objection to any person or organization on such lists. If Owner or Architect has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the Bidder may, at his/her option, withdraw his/her Bid without forfeiture of Bid Security or provide an acceptable substitute. Subcontractors and other persons and organizations proposed by the Bidder and accepted by Owner and Architect must be used on the Work for which they were proposed and accepted, and shall not be changed except with the written approval of Owner and the Architect.
- B. Bidders may be disqualified and their bids not considered for any of the following specific reasons:
  - 1. Reason for believing collusion exists among bidders.
  - 2. The bidder being interested in any litigation against Owner.
  - 3. The bidder being in arrears on any existing contract or having defaulted on a previous contract.
  - 4. Lack of competency as revealed by the financial statement, experience and equipment, questionnaires, or qualification statement.

5. Uncompleted work which in the judgment of Owner will prevent or hinder the prompt completion of additional work if awarded.
- C. Minimum Standards For Responsible Prospective Bidders: A prospective Bidder must meet the following minimum 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/ completion schedule;
  3. have a satisfactory record of performance;
  4. have a satisfactory record of integrity and ethics; and
  5. be otherwise qualified and eligible to receive an award.

Collin County may request representation and other information sufficient to determine Bidder's ability to meet these minimum standards listed above.

- D. In determining to whom to award the contract, the Owner may consider;
1. the purchase price;
  2. the reputation of the bidder/contractor/vendor and of the bidder/contractor/vendor's goods or services;
  3. the quality of the bidder/contractor/vendor's goods or services;
  4. the extent to which the goods or services meet the Owner's needs;
  5. the bidder/contractor/vendor's past relationship with the Owner;
  6. the total long-term cost to the Owner to acquire the bidder/contractor/vendor's goods or services; and
  7. any other relevant factors specifically listed in the Instruction to Bidders..

## 1.9 PREPARATION OF BID

- A. Bidder shall submit his/her bid on the forms furnished by the Architect. All blank spaces in forms shall be correctly filled in and the bidder shall state the prices, written in words and in figures. Where there is discrepancy between the price written in words and the price written in figures, the price written in words shall govern. If bid is submitted by an individual, his/her name must be signed by him/her or his/her duly authorized agency. If the bid is submitted by a firm, association or partnership, the name and address of each member must be given, and the bid must be signed by an official or duly authorized agent. Powers of attorney authorizing agents or others to sign bids must be properly certified and must be in writing and submitted with the bid.
- B. Bidder shall bear any/all costs associated with it's preparation of any bid, proposal or submittal.
- C. Public Information Act: Collin County is governed by the Texas Public Information Act, Chapter 552 of the Texas Government Code. All information submitted by prospective bidders during the bidding process is subject to release under the Act.

- D. The Bidder shall comply with Commissioners' Court Order No. 2004-167-03-11, County Logo Policy.

#### 1.10 BID SECURITY

- A. Each bid must be accompanied by Bid Security (in accordance with instructions set forth in section 00100-Advertisement For Bids) made payable to Owner in an amount of five percent (5%) of the bidder's maximum bid price and in the form of a Cashier's Check or a Bid Bond, duly executed by bidder as principal and having as surety thereon, a corporate surety authorized and admitted to do business in the State of Texas and licensed to issue such bond, as a guarantee that the bidder will enter into a Contract and execute required Performance, Payment, and one (1) year Maintenance Bonds within ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract.
- B. The Bid Security of the contractor will be retained until such bidder has executed the Contract Agreement and furnished the required Contract Security, whereupon, the Bid Security will be returned. If the contractor fails to execute and deliver the Agreement and furnish the required Contract Security within ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract, Owner may annul the award of contract and the Bid Security of that bidder will be forfeited. The Bid Security of the other bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh (7th) consecutive calendar day after the effective date of the Agreement or the ninety-fifth (95th) consecutive calendar day after the bid opening, whereupon, the Bid Security furnished by such bidders will be returned. Bid Security with bids which are not competitive will be returned within seven (7) consecutive calendar days after the contract award.
- C. Should the bidder to whom the Contract is awarded refuse or neglect to execute and file the contract and bonds within ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract, Owner may annul award of Contract and the Bid Security filed with the bid shall become the property of Owner, not as a penalty, but as liquidated damages. Owner reserves the right to award canceled Contract to next responsible, lowest and best bidder as it deems to be in the best interest of the County.
- D. Owner will have the right to retain the bid security of all bidders until either:
  - 1. the Contract has been executed and the bonds have been furnished, or
  - 2. the specified time has elapsed so that bids may be withdrawn, or
  - 3. all bids have been rejected.

#### 1.11 PERFORMANCE BOND, LABOR & MATERIAL PAYMENT BOND, MAINTENANCE BOND

- A. The Contractor shall post with Owner, not later than ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract, a Performance Bond in the amount of one hundred percent (100%) of the total contract price in such form as is satisfactory to Owner, in compliance with Chapter 2253 of the Texas Government Code and all other applicable Texas Law, and on the form specified in the Contract Documents. This bond shall be executed by a corporate surety company duly authorized and admitted to do business in the State of Texas and licensed to issue such a bond in the State of Texas. The Contractor shall notify its corporate surety of any Contract changes.
- B. The Contractor shall post with Owner, not later than ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract, a Payment Bond in the amount of one hundred percent (100%) of the total contract price in such form as is satisfactory to Owner, in compliance with Chapter 2253 of the Texas Government Code and all other



applicable Texas Law, and on the form specified in the Contract Documents. This bond shall be executed by a corporate surety company duly authorized and admitted to do business in the State of Texas and licensed to issue such a bond in the State of Texas. The Contractor shall notify its corporate surety of any Contract changes.

- C. The Contractor shall post with Owner, not later than ten (10) consecutive calendar days of Collin County Commissioners' Court award of Contract, a One (1) Year Maintenance Bond in the amount of ten percent (10%) of the total contract price in such form as is satisfactory to Owner, in compliance with Chapter 2253 of the Texas Government Code and all other applicable Texas Law, and on the form specified in the Contract Documents. This bond shall be executed by a corporate surety company duly authorized and admitted to do business in the State of Texas and licensed to issue such a bond in the State of Texas. The Contractor shall notify its corporate surety of any Contract changes.
- D. The Contractor must demonstrate to Owner that it can secure the required performance and payment bonds, issued by a corporate surety company authorized and admitted to do business in the State of Texas and licensed to issue such a bond in the State of Texas. Contractor must also demonstrate that the bond is not in excess of ten percent (10%) of the corporate surety company's capital and surplus. To the extent the amount of the bond exceeds ten percent (10%) of the corporate surety company's capital and surplus, such bond will not be accepted unless bidder provides written certification that the corporate surety company has reinsured the portion of the risk that exceeds ten percent (10%) of the corporate surety company's capital and surplus with one or more insurers who are duly authorized, accredited or trusted to do business in the State of Texas. The amount reinsured by any reinsurer must not exceed ten percent (10%) of the reinsurer's capital and surplus.
- E. The Contractor must file with the performance bond and payment bond, all documents and information necessary to establish that the agent signing the bond is authorized to write the bond in the amount requested, and if applicable, that reinsurance requirements, have been met, including limits and ratings or other evidence of company solvency.
- F. If the corporate surety company on any bond furnished by Contractor to Owner is declared bankrupt or becomes insolvent or such corporate surety company's right to do business in the State of Texas is revoked, the Contractor shall within five (5) consecutive calendar days thereafter substitute another bond and corporate surety company, both of which shall be acceptable to Owner.

#### 1.12 FILING BID

- A. All Bids, proposals, or submittals submitted in hard copy paper form shall be submitted in a sealed envelope, plainly marked on the outside with the Invitation for Bid (IFB) number and name. A hard copy paper form bid, proposal, or submittal shall be manually signed in ink by a person having the authority to bind the firm in a contract. Submittals, bids or proposals shall be mailed or hand delivered to the Collin County Purchasing Department.
- B. No oral, telegraphic or telephonic submittals will be accepted. Bids, proposals, or submittals may be submitted in electronic format via Collin County eBid at <https://collincountytx.ionwave.net>.
- C. All Bids, submittals or proposals submitted electronically via Collin County eBid at <https://collincountytx.ionwave.net> shall remain locked until official date and time of opening as stated in the Special Terms and Conditions of the IFB.
- D. For hard copy paper form bids, proposals, or submittals, any alterations made prior to opening date and time must be initialed by the signer of the bid, proposal, or submittal, guaranteeing authenticity. Bids, proposals, or submittals cannot be altered or amended after submission deadline.

- E. No bid, proposal, or submittal will be considered unless it is filed with the Owner Purchasing Department within the time limit for receiving bids as stated in the Advertisement for Bids or IFB. Each hard copy paper bid shall be in a sealed envelope plainly marked with the word "BID", and the name and bid number of the project as designated in the Advertisement for Bids or IFB.

#### 1.13 MODIFICATION AND WITHDRAWAL OF BID

- A. No bid, proposal, or submittal may be withdrawn or modified after the bid opening except where the award of the contract has been delayed beyond ninety (90) consecutive calendar days after date of bid opening or as per Texas Local Government Code, Title 8, Chapter 262, Subchapter C., Section 262.0305. Modifications after Award.

#### 1.14 IRREGULAR BID

- A. It is understood that Collin County, Texas reserves the right to accept or reject any and/or all Bids, proposals, or submittals for any or all products and/or services covered in an Invitation For Bid (IFB) and to waive informalities or defects in submittals or to accept such submittals as it shall deem to be in the best interest of Collin County.

#### 1.15 REJECTION OF BID

- A. The bidder acknowledges the right of Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the bidder recognizes the right of Owner to reject a bid if the bidder failed to furnish any required Bid Security, or to submit the data required by the Bidding Documents, or if the bid is in any way incomplete or irregular.

#### 1.16 METHOD OF AWARD

- A. In evaluating bids, Owner will consider whether or not the bids comply with the prescribed requirements, base prices, any alternates, unit pricing, completion time, bidder's qualifications, bidder's proposed subcontractors, suppliers, etc., and other data as may be requested in the Bid Documents.
- B. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications and financial ability of bidder, proposed subcontractors, suppliers and other persons and organizations to perform and furnish the Work in accordance with the Bidding Documents to Owner's satisfaction within the prescribed time.
- C. If the contract is to be awarded, it will be awarded to the lowest and best responsible bidder whose evaluation, by Owner, indicates to be in the best interests of the project. If no alternates are selected by Owner, the Owner may award the contract to a responsible bidder who submits the lowest and best bid.
- D. Evaluation of Alternates - Any and/or all or none of the alternates may be considered in evaluation. Owner may award Contract on base bid plus any and/or all or none of the alternates.
- E. Owner anticipates award within ninety (90) consecutive calendar days after bid opening.
- F. The bid, when properly accepted by the County, shall constitute a Contract equally binding between the contractor and Owner. No different or additional terms will become part of this Contract with the exception of a written Change Order, signed by both parties.

- G. No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing by Collin County Purchasing Agent.

#### 1.17 EXECUTION OF CONTRACT

- A. The person or persons, partnership, company, firm, association or corporation to whom a contract is awarded shall within ten (10) consecutive calendar days after such award, sign the necessary contract agreements and submit the required bonds entering into the required Contract with Owner. No contract shall be binding on Owner until it has been executed by Owner or his/her duly authorized representative, and delivered to the Contractor.

#### 1.18 FAILURE TO EXECUTE CONTRACT

- A. The failure of the Bidder to execute the required bonds or to sign the required Contract within ten (10) consecutive calendar days after the Contract is awarded, shall be considered by Owner as abandonment of his/her Bid, and Owner may annul the award, at the Owner's sole discretion.

#### 1.19 PURCHASE ORDER

- A. A purchase order(s) shall be generated by Owner to the contractor. The purchase order number **must** appear on all itemized invoices. Collin County will not be responsible for any orders placed or delivered without a valid purchase order number.

#### 1.20 NOTICE TO PROCEED

- A. Upon the execution and delivery of Bonds, Executed Contract by Contractor, progress schedule, proof of insurance, and all other documents required prior to commencing work herein, Owner will issue a written Notice to Proceed to the Contractor requesting that he/she proceed with construction, and the Contractor shall commence work within ten (10) consecutive calendar days after the date of Notice to Proceed.

#### 1.21 PAYMENT PROCEDURES

- A. Contractor shall submit Applications for Payment in accordance with the Contract, and payments shall be made in accordance with the Contract Documents.
- C. Final Payment: Upon final completion and acceptance of the work, Owner shall pay the remainder of the contract price as recommended by Architect, in accordance with Texas Government Code, Title 10, Subtitle F., Chapter 2251. Contractor(s) is required to pay subcontractors within ten (10) days after the contractor has received payment from the County.
- D. The Contractor understands, acknowledges and agrees that if the Contractor subcontracts with a third party for services and/or material, the primary Contractor (awardee) accepts responsibility for full and prompt payment to the third party. Any dispute between the primary Contractor and the third party, including any payment dispute, will be promptly remedied by the Contractor. Failure to promptly render a remedy or to make prompt payment to the third party (subcontractor) may result in the withholding of funds from the primary Contractor by Collin County for any payments owed to the third party.

1.22 AFFIDAVIT OF BILLS PAID

- A. Prior to final acceptance of this project by Owner, the Contractor shall execute an affidavit that all bills for labor, materials, and incidentals incurred in the project construction have been paid in full, and that there are no claims pending.

1.23 EXEMPTION FROM STATE OF TEXAS AND LOCAL SALES TAX ON MATERIALS

- A. Owner qualifies for exemption from State and Local Sales Tax pursuant to the provisions of Chapter 151, Section 151.309 of the Texas Limited Sales, Excise and Use Tax Act. The Contractor performing this Contract may purchase all materials, supplies, equipment consumed in the performance of this Contract by issuing to his/her suppliers an exemption certificate in lieu of the tax. .

1.24 CONFLICT OF INTEREST

- A. No public official shall have interest, direct or indirect, in this contract, in accordance with Texas Local Government Code Title 5, Subtitle C, Chapter 171.

1.25 ETHICS

- A. The bidder/contractor shall comply with Commissioners Court Order No. 96-680-10-28, Establishment of Guidelines & Restrictions Regarding The Acceptance of Gifts by County Officials & County employees.

1.26 BID COMPLIANCE

- A. Bid must comply with all federal, state, county and local laws concerning this type of project and the fulfillment of all ADA (Americans With Disabilities Act) requirements.
- B. Design, strength, quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practice.
- C. All products must be new and unused, unless otherwise specified, in first-class condition and of current manufacture.

1.27 DRUG FREE

- A. All bidders shall provide any and all notices as may be required under the Drug-Free Work Place Act of 1988, 41 U.S.C. 701, and Collin County Commissioners' Court Order No. 90-455-06-11, to its employees and all sub-contractors to insure that Owner maintains a drug-free work place. The use, possession or being under the influence of drugs and/or alcohol while working on this bid project or while on County property is prohibited and may result in removal of an individual from the project and/or immediate termination of contract. The County reserves the right to review drug testing records of any personnel involved in this bid project. The County may require, at contractor's expense, drug testing of contractor's personnel if no drug testing records exists or if such test results are older than six (6) months.
- B. Substances and cut-off levels are as follows:

<u>SUBSTANCE</u>	<u>MAXIMUM LEVEL</u>
Amphetamines	1000 NG/ML
Barbiturates	300 NG/ML
Benzodiazepines	300 NG/ML
Cocaine Metabolite	300 NG/ML

Opiates	300 NG/ML
Phencyclidine (PCP)	25 NG/ML
THC (Marijuana) Metabolite	100 NG/ML
Methadone, Urinary	300 NG/ML
Methaqualone, Urine	300 NG/ML
Propoxyphene	300 NG/ML

## 1.28 INDEMNIFICATION

A. To the fullest extent permitted by law, the CONTRACTOR and his sureties shall indemnify, defend and hold harmless the OWNER and all of its, past, present and future, officers, agents and employees from all suits, cause of action, claims, liabilities, losses, fines, penalties, liens, demands, obligations, actions, proceedings, of any kind, character, name and description brought or arising, on account of any injuries or damages received or sustained by any person, destruction or damage to any property on account of, in whole or part, the operations of the CONTRACTOR, his agents, employees or subcontractors; or on account of any negligent act or fault of the CONTRACTOR, his agents, employees or subcontractors in the execution of said Contract; failing to comply with any law, ordinance, regulation, rule or order of any governmental or regulatory body including those dealing with health, safety, welfare or the environment; on account of the failure of the CONTRACTOR to provide the necessary barricades, warning lights or signs; and shall be required to pay any judgment, with cost, which may be obtained against the OWNER growing out of such injury or damage. In no event shall OWNER be liable to CONTRACTOR for indirect or consequential damages or loss of income or profit irrespective of the cause, fault or reason for same. CONTRACTOR'S duty to indemnify herein shall not be limited by any limitation on the type or amount of damages payable by or for CONTRACTOR or any Subcontractor under workman's compensation acts, disability benefit acts or any other employee benefit acts.

In addition, the CONTRACTOR likewise covenants and agrees to, and does hereby, indemnify and hold harmless the OWNER from and against any and all injuries, loss or damages to property of the OWNER during the performance of any of the terms and conditions of this Contract, arising out of or in connection with or resulting from, in whole or in part, any and all alleged acts or omissions of officers, agents, servants, employees, contractors, subcontractors, licenses or invitees of the CONTRACTOR.

The rights and responsibilities provided in this indemnification provision shall survive the termination or completion of this Contract.

## 1.29 CONSTRUCTION SCHEDULE

- A. The time for completion is set forth herein and will be included in the Contract. All work shall be completed within the consecutive calendar day count shown in the Contractor's bid. The calendar day count shall commence ten (10) consecutive calendar days after the date of the Notice to Proceed.
- B. Prior to the issuance of the Notice to Proceed by Owner, the Contractor shall submit a detailed progress and schedule chart to Owner for review. This chart will be used to assure completion of the job within the number of consecutive calendar days stated in bid documents.

## 1.30 DELAYS AND EXTENSIONS OF TIME

- A. If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, or by delay authorized by the Owner pending mediation and arbitration, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.
- B. If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that the weather conditions had an adverse effect on the scheduled construction.
- C. Contractor's sole remedy for any delays in the project, which are not the fault of the Contractor, shall be an equitable extension of time to perform the work, required by the Contract. In no event shall the Contractor be entitled to make a claim for delay, impact or acceleration damages against the Owner.

#### 1.31 DAMAGES

- A. Should the contractor fail to complete the project within the specified completion schedule the sum of \$240.00 per calendar day will be deducted from the moneys due the contractor for the work. This sum shall not be considered as a penalty, but rather as reasonable liquidated damages, since it would be impracticable or extremely difficult to fix the actual damages. An extension of time may be allowed for delays beyond the control of the contractor at the discretion of Owner.

#### 1.32 TERMINATION

This contract shall remain in effect until any of the following occurs:

- A. completion of project;
- B. acceptance of work ordered; or
- C. termination by either party pursuant to the terms of the Contract with a thirty (30) days written notice prior to cancellation that must state therein the reasons for such cancellation.
- D. Breach of the contract by the Contractor for failure
  1. to meet completion schedules, or
  2. otherwise perform in accordance with these specifications.

Breach of contract or default authorizes the County to purchase elsewhere and charge the full increase in cost and handling to the defaulting Contractor.

#### 1.33 PATENTS - COPYRIGHTS

- A. The contractor agrees to protect Owner from any claims involving infringements of patents and/or copyrights. In no event shall Owner be liable to a contractor for any/all suits arising on the grounds of patent(s) or copyright(s) infringement.

#### 1.34 VENUE; GOVERNING LAW

- A. This contract will be governed by the laws of the State of Texas. Should any portion of this contract be in conflict with the laws of the State of Texas, the State laws shall invalidate only that portion. The remaining portion of the contract shall remain in effect. This contract is performable in Collin County, Texas.

1.35 ASSIGNMENT

- A. The contractor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written approval from Collin County Commissioners' Court.

1.36 SILENCE OF SPECIFICATION

- A. The apparent silence of any part of the specification as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of the specification shall be made on the basis of this statement.

1.37 PROVISION CONCERNING ESCALATOR CLAUSES

- A. Bid(s) containing any condition which provides for changes in the stated bid prices due to increase or decrease in the costs of materials, labor, or other items required for this project, will be rejected and returned to the bidder without being considered.

1.38 ESTIMATES OF QUANTITIES

- A. The quantities listed in the Bid Form will be considered as approximate and will be used for the comparison of bids. Payments will be made to the Contractor only for the actual quantities of work performed or materials furnished in accordance with the contract. The quantity of work to be done and the materials may be increased or decreased as provided for in the Contract Documents.

1.39 TREE PROTECTION OUTSIDE LIMITS OF WORK

- A. The Contractor will be required to obtain written authorization from Owner for the removal of any tree three inches (3") in diameter or greater for any area outside the limits of the street right-of-way or slope easement. It is the intent of Owner to preserve as much as possible the natural condition of the floodplains.

1.40 EXCAVATION/TRENCH SAFETY

A. TRENCH SAFETY

The CONTRACTOR shall be responsible for complying with state laws and federal regulations relating to trench safety, including those which may be enacted during the performance under this contract. The CONTRACTOR shall be responsible for selecting an appropriate method of providing trench safety after due consideration of the job conditions, location of utilities, pavement conditions and other relevant factors. Slope-back methods which may result in unnecessary displacement of utilities and/or destruction of pavement may not be used without permission from the OWNER. The CONTRACTOR shall be responsible for providing to the OWNER an acceptable trench safety plan signed and sealed by a Professional Architect qualified to do such work and registered in Texas. Devices used to provide trench safety such as trench shields and shoring systems will be likewise certified by professional Architects registered in the State of Texas or by a professional Engineer registered in the state of manufacture of the shield.

B. PAYMENT FOR TRENCH SAFETY

Payment for trench safety shall be by the lineal feet of trench exceeding a depth of five (5) ft. Excavation for slope-back methods shall be subsidiary to the trench safety pay item including replacement and recompaction. Excess excavation for other trench safety methods is also subsidiary to the trench safety pay item. Costs relating to the preparation of the trench safety plan including geotechnical investigation, testing and report preparation fees are all subsidiary to the pay item for trench safety. Should trench safety measures be required during contract performance where no pay item has been provided, then the CONTRACTOR shall immediately notify the OWNER and, if directed to do so, provide trench safety under the provisions of the contract. Should the OWNER fail to authorize the work, then the CONTRACTOR shall proceed under the provisions of the Contract. Trench safety requirements are mandatory and may not be waived.

C. PAYMENT FOR SPECIAL SHORING

Payment for special shoring, if any, shall be based on the square feet of shoring used.

- D. The Contractor must be made aware that on construction projects in which trench excavation will exceed a depth of five feet (5'), the uniform set of general conditions must require that the bid documents and the contract include detailed plans and specifications for adequate safety systems that meet Occupational Safety and Health Administration standards that will be in effect during the period of construction of the project. The Contractor shall provide a separate pay item for trench excavation safety in accordance with the Texas Health & Safety Code Chapter 756. The Contractor shall verify that these plans and specifications include a pay item for these same trench excavation safety systems, in accordance with Texas Government Code, Title 10, Section 2166.303, Uniform Trench Safety Conditions. The contractor shall insure that drainage from adjacent properties is not blocked by his/her excavations. Measurement and payment for excavation/trench safety systems will not be made directly, but considered subsidiary to the work.
- E. The Contractor shall be responsible for obtaining and paying for all surveys and testing, including geotechnical surveys and testing, necessary to insure it can comply with all laws regarding adequate trench excavation safety.

1.41 CONSTRUCTION STAKING

- A. Architect will provide the Contractor with primary horizontal and vertical control to consist of one construction baseline and two benchmarks.
- B. The Contractor shall take all necessary precautions to preserve any and/or all markings and staking. Payment for costs of restaking shall be the responsibility of the Contractor.

1.42 PERMITS

- A. Contractor shall be responsible for obtaining all necessary permits.

1.43 MATERIALS TESTING

- A. Owner will be responsible for all materials testing.

1.44 WAGE SCALE



- A. In accordance with Texas Government Code, Title 10, Section 2258, Prevailing Wage Rates, the general prevailing wage rate has been determined for this locality for the craft or type of workman needed to execute work of a similar character of the project listed herein. The Contractor shall pay the prevailing wage rate in this locality to all his/her employees and subcontractors performing work on this project, and in no event shall the Contractor pay less than the rate shown in the following schedule.

General Decision Number: TX180289 01/12/2018 TX289

Superseded General Decision Number: TX20170289

State: Texas

Construction Type: Building

County: Collin County in Texas.

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 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 calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/05/2018
1	01/12/2018

ASBE0021-011 06/01/2016

Rates	Fringes
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ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)....	\$ 24.32	7.52
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BOIL0074-003 01/01/2017

Rates	Fringes
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BOILERMAKER.....	\$ 28.00	22.35
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CARP1421-002 04/01/2016

	Rates	Fringes
MILLWRIGHT.....	\$ 26.60	8.65

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\* ELEV0021-006 01/01/2018

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 39.97	32.645+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. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Veterans Day.

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ENGI0178-005 06/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 29.00	10.60
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 27.50	10.60

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IRON0263-005 06/01/2017

	Rates	Fringes
IRONWORKER (ORNAMENTAL AND STRUCTURAL).....	\$ 23.25	7.32

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PLUM0100-005 11/01/2017

	Rates	Fringes
HVAC MECHANIC (HVAC Unit Installation Only).....	\$ 30.84	11.51
PIPEFITTER (Excludes HVAC Pipe Installation).....	\$ 30.84	11.51

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SUTX2014-015 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 21.06	0.00
CARPENTER, Excludes Drywall Hanging, Form Work, and Metal Stud Installation.....	\$ 15.78	0.00
CAULKER.....	\$ 15.16	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.04	0.00
DRYWALL HANGER AND METAL STUD INSTALLER.....	\$ 13.00	0.00
ELECTRICIAN (Alarm Installation Only).....	\$ 20.93	3.86
ELECTRICIAN (Communication Technician Only).....	\$ 15.35	1.39
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 17.04	1.39
ELECTRICIAN, Excludes Low Voltage Wiring and Installation of Alarms/Sound and Communication Systems.....	\$ 20.01	2.69
FORM WORKER.....	\$ 11.89	0.00
GLAZIER.....	\$ 16.46	3.94
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine)....	\$ 10.04	2.31
INSTALLER - SIDING (METAL/ALUMINUM/VINYL).....	\$ 14.74	0.00
INSTALLER - SIGN.....	\$ 15.50	0.00
INSULATOR - BATT.....	\$ 13.00	0.00
IRONWORKER, REINFORCING.....	\$ 12.29	0.00
LABORER: Common or General.....	\$ 10.52	0.00

LABORER: Mason Tender - Brick...	\$ 10.54	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.93	0.00
LABORER: Pipelayer.....	\$ 13.00	0.35
LABORER: Plaster Tender.....	\$ 12.22	0.00
LABORER: Roof Tearoff.....	\$ 11.28	0.00
LABORER: Landscape and Irrigation.....	\$ 10.55	0.00
LATHER.....	\$ 16.00	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 12.83	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 15.69	0.50
OPERATOR: Forklift.....	\$ 13.21	0.81
OPERATOR: Grader/Blade.....	\$ 13.03	0.00
OPERATOR: Loader.....	\$ 13.46	0.85
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 18.44	0.00
OPERATOR: Roller.....	\$ 15.04	0.00
PAINTER (Brush, Roller and Spray), Excludes Drywall Finishing/Taping.....	\$ 13.35	5.10
PAINTER: Drywall Finishing/Taping Only.....	\$ 14.24	3.83
PIPEFITTER (HVAC Pipe		

Installation Only).....\$ 20.45	4.00
PLASTERER.....\$ 16.58	0.00
PLUMBER, Excludes HVAC Pipe Installation.....\$ 22.46	4.06
ROOFER.....\$ 17.19	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....\$ 21.13	4.79
SHEET METAL WORKER, Excludes HVAC Duct Installation.....\$ 24.88	5.97
SPRINKLER FITTER (Fire Sprinklers).....\$ 37.50	0.00
TILE FINISHER.....\$ 11.22	0.00
TILE SETTER.....\$ 14.25	0.00
TRUCK DRIVER: 1/Single Axle Truck.....\$ 16.00	0.81
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

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

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

domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

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

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

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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## WAGE DETERMINATION APPEALS PROCESS

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

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

- B. Except for work on legal holidays, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) the number of hours worked per day, except for overtime hours, times (b) the above respective rate per hour.
- C. For legal holidays, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) one and one-half times the above respective rate per hour, times (b) the number of hours worked on the legal holiday.
- D. For overtime work, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) one and one-half times the above respective rate per hour, times (b) the number of hours worked on overtime.
- E. Under the provisions of Texas Government Code, Title 10, Section 2258, Prevailing Wage Rates, the contractor or subcontractor of the contractor shall forfeit as a penalty to the entity on whose behalf the contract is made or awarded, sixty dollars (\$60.00) for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the contract.
- F. If the construction project involves the expenditure of Federal funds in excess of \$2,000, the minimum wages to be paid various classes of laborers and mechanics will be based upon the wages that will be determined by the Secretary of Labor to be prevailing for the corresponding classes of laborers and mechanics employed on the project of a character similar to the contract work.

- 1.45 Collin County Purchasing Department shall serve as Contract Administrator or shall supervise agents designated by Collin County.
- 1.46 All warranties shall be stated as required in the Uniform Commercial Code.
- 1.47 The Contractor and Collin County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- 1.48 Contractor shall not fraudulently advertise, publish or otherwise make reference to the existence of a contract between Collin County and Contractor for purposes of solicitation. As exception, Contractor may refer to Collin County as an evaluating reference for purposes of establishing a contract with other entities.
- 1.49 Contractor shall provide Collin County with diagnostic access tools at no additional cost to Collin County, for all Electrical and Mechanical systems, components, etc., procured through this contract.



- 1.50 CRIMINAL HISTORY BACKGROUND CHECK: If required, ALL individuals may be subject to a criminal history background check performed by the Collin County's Sheriff's Office prior to access being granted to Collin County property or facilities. Upon request, Contractor shall provide list of individuals to Collin County Purchasing Department within five (5) working days.
- 1.51 Vendors/Contractors/Providers must be in compliance with the Immigration and Reform Act of 1986 and all employees specific to this solicitation must be legally eligible to work in the United States of America.
- 1.52 CERTIFICATION OF ELIGIBILITY: This provision applies if the anticipated Contract exceeds \$100,000.00 and as it relates to the expenditure of federal grant funds. By submitting a bid or proposal in response to this solicitation, the Bidder/Quoter/Offeror certifies that at the time of submission, he/she is not on the Federal Government's list of suspended, ineligible, or debarred contractors. In the event of placement on the list between the time of bid/proposal submission and time of award, the Bidder/Quoter/Offeror will notify the Collin County Purchasing Agent. Failure to do so may result in terminating this contract for default.
- 1.53 NOTICE TO CONTRACTORS: The Collin County Detention Facility houses persons who have been charged with and/or convicted of serious criminal offenses. When entering the Detention Facility, you could: (1) hear obscene or graphic language; (2) view partially clothed male inmates; (3) be subjected to verbal abuse or taunting; (4) risk physical altercations or physical contact, which could be minimal or possibly serious; (5) be exposed to communicable or infectious diseases; (6) be temporarily detained or prevented from immediately leaving the Detention Facility in the case of an emergency or "lockdown; and (7) subjected to a search of your person or property. While the Collin County Sheriff's Office takes every reasonable precaution to protect the safety of visitors to the Detention Facility, because of the inherently dangerous nature of a Detention Facility and the type of the persons incarcerated therein, please be advised that the possibility of such situations exist and you should carefully consider such risks when entering the Detention Facility. By entering the Collin County Detention Facility, you acknowledge that you are aware of such potential risks and willingly and knowingly choose to enter the Collin County Detention Facility.
- 1.54 Contractors doing business with OWNER agree to comply with Federal Executive Order 13465 E-Verify. It is OWNER's intention and duty to comply and support the Immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification and non-discrimination. According to the INA, contractors/employers may hire only persons who may legally work in the United States. Subsequently, contractors and subcontractors doing business with OWNER must confirm their enrollment in the E-Verify system which verifies employment eligibility through completion and checking of I-9 forms. OWNER reserves the right to audit contractors process to verify enrollment compliance.
- 1.55 INSURANCE REQUIREMENTS
- A. CONTRACTOR'S INSURANCE
1. Before commencing work, the CONTRACTOR and each subcontractor shall be required, at its own expense, to furnish the Collin County Purchasing Agent with certified copies of all insurance certificate(s) required by Texas Law, and the coverages required herein, indicating the coverage is to remain in force throughout the term of this Contract. Without limiting any of the other obligations or liabilities of the CONTRACTOR, during the term of the Contract the CONTRACTOR and each subcontractor at their own expense shall purchase and maintain the herein stipulated minimum insurance with companies duly approved to do business in the State of Texas and satisfactory to the OWNER.

Certificates of each policy shall be delivered to the OWNER before any work is started, along with a written statement from the issuing company stating that said policy shall not be canceled, nonrenewed or materially changed without 30 days advance written notice being given to the OWNER.

2. In addition to any coverage required by Texas Law, the CONTRACTOR shall provide the following coverages at not less than the specified amounts:

B. Workers Compensation insurance required by Texas Law at statutory limits, including employer's liability coverage of not less than \$1,000,000. In addition to these, the CONTRACTOR must comply with all the requirements of the Texas Department of Insurance, Division of Workers' Compensation; (Note: If you have questions concerning these requirements, you are instructed to contact the DWC.)

1. By signing this contract or providing or causing to be provided a certificate of coverage, the CONTRACTOR is representing to the OWNER that all employees of the CONTRACTOR and its subcontractors 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 or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.

2. The CONTRACTOR'S failure to comply with any of these provisions is a breach of Contract by the Contractor which entitles the OWNER 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 OWNER.

C. Broad form commercial general liability insurance, including independent contractor's liability, completed operations and contractual liability, written on an occurrence form, covering, but not limited to, the liability assumed under the indemnification provisions of this contract, fully insuring CONTRACTOR'S (or subcontractor's) liability for injury to or death of OWNER'S employees and third parties, extended to include personal injury liability coverage with damage to property, with minimum limits as set forth below:

General Aggregate \$2,000,000

Products — Components/Operations Aggregate \$2,000,000

Personal and Advertising Injury \$ 1,000,000

Each Occurrence \$ 2,000,000

1. The policy shall include coverage extended to apply to completed operations, asbestos hazards (if this project involves work with asbestos) and XCU (explosion, collapse and underground) hazards. The completed operations coverage must be maintained for a minimum of one year after final completion and acceptance of the work, with evidence of same filed with OWNER.

C. D. Comprehensive automobile and truck liability insurance, covering owned, hired and non-owned vehicles, with a combined bodily injury and property damage minimum limit of \$1,000,000 per occurrence; or separate limits of \$1,000,000 for bodily injury (per person), \$1,000,000 for bodily injury (per accident) and \$1,000,000 for property damage. Such insurance shall include coverage for loading and unloading hazards.

E. OWNER'S PROTECTIVE LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain at all times during the prosecution of the work under this contract an OWNER'S protective liability insurance policy naming the OWNER as insured for property damage and bodily injury, which may arise in the prosecution of the Work or CONTRACTOR'S operations under this Contract. Coverage shall be on an "occurrence" basis, and the policy shall be issued by the same insurance company that carries the CONTRACTOR'S liability insurance with a combined bodily injury and property damage minimum limit of \$1,000,000 per occurrence and \$2,000,000 aggregate.

F. "UMBRELLA" LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain umbrella liability insurance during the contract term, insuring CONTRACTOR for an amount of not less than \$1,000,000 per occurrence combined limit for bodily injury and property damage that follows from and applies in excess of the primary liability coverages required hereinabove. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted. OWNER shall be named as an additional insured.

G. RAILROAD PROTECTIVE INSURANCE

When required in the Special Provisions, CONTRACTOR shall obtain, maintain and present evidence of railroad protective insurance (RPI). The policy shall be in the name of the railroad company having jurisdiction over the right-of-way involved. The minimum limit of coverage shall meet the specifications provided by the railroad company. The OWNER shall specify the amount of RPI necessary.

H. POLICY ENDORSEMENTS AND SPECIAL CONDITIONS

1. Each insurance policy to be furnished by CONTRACTOR shall include the following conditions by endorsement to the policy:

(a) each policy shall name the OWNER as an additional insured as to all applicable coverage;

(b) each policy shall require that 30 days prior to the cancellation, nonrenewal or any material change in coverage, a notice thereof shall be given to OWNER by certified mail;

(c) the term "OWNER" shall include all past, present or future, authorities, boards, bureaus, commissions, divisions, departments and offices of the OWNER and individual members, elected official, officers, employees and agents thereof in their official capacities and/or while acting on behalf of the OWNER;

- (d) the policy phrase “other insurance” shall not apply to the OWNER where the OWNER is an additional insured on the policy;
- (e) all provisions of the contract concerning liability, duty and standard of care together with the indemnification provision, shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies;
- (f) each policy shall contain a waiver of subrogation in favor of OWNER, and its, past, present and future, officials, employees, and volunteers; and,
- (g) each certificate of insurance shall reference the Project and Contract number, contain all the endorsement required herein, and require a notice to the OWNER of cancellation.

2. Insurance furnished by the CONTRACTOR shall be in accordance with the following requirements:

- (a) any policy submitted shall not be subject to limitations, conditions or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by the CONTRACTOR. The OWNER’S decision thereon shall be final;
- (b) all policies are to be written through companies duly licensed to transact that class of insurance in the State of Texas with a financial ratings of A+ VII or better as assigned by BEST Rating Company or equivalent; and
- (c) All liability policies required herein shall be written with an “occurrence” basis coverage trigger.

3. CONTRACTOR agrees to the following:

- (a) CONTRACTOR hereby waives subrogation rights for loss or damage to the extent same are covered by insurance. Insurers shall have no right of recovery or subrogation against the OWNER, it being the intention that the insurance policies shall protect all parties to the Contract and be primary coverage for all losses covered by the policies;
- (b) Companies issuing the insurance policies and CONTRACTOR shall have no recourse against the OWNER for payment of any premiums or assessments for any deductibles, as all such premiums and deductibles are the sole responsibility and risk of the CONTRACTOR;
- (c) Approval, disapproval or failure to act by the OWNER regarding any insurance supplied by the CONTRACTOR (or any subcontractors) shall not relieve the CONTRACTOR of full responsibility or liability for damages and accidents as set forth in the Contract Documents. Neither shall the bankruptcy, insolvency or denial of liability by the insurance company exonerate the CONTRACTOR from liability; and
- (d) No special payments shall be made for any insurance that the CONTRACTOR and subcontractors are required to carry; all are included in the Contract Price and the Contract unit prices. Any of such insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

1.56 Vendors/Contractors/Providers must be in compliance with the provisions of Section 2270.001 of the Texas Government Code which states a governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and, (2) will not boycott Israel during the term of the contract. By submitting a response to a Collin County solicitation, the vendor will be required to sign the Chapter 2270 Verification form prior to a recommendation of the contract. This Act is effective September 1, 2017.

1.57 Vendors/Contractors/Providers must be in compliance with the provisions of Section 2252.152 and Section 2252.153 of the Texas Government Code which states, in part, contracts with companies engaged in business with Iran, Sudan, or Foreign Terrorist Organizations are prohibited. A governmental entity may not enter into a contract with a company that is listed on the Comptroller of the State of Texas website identified under Section 806.051, Section 807.051 or Section 2253.253 which do business with Iran, Sudan or any Foreign Terrorist Organization. This Act is effective September 1, 2017.

# Section 004100-Bid Form Collin County, Texas

## Bid Information

Bid Owner JD Griffin, CPPB Buyer II  
 Email jgriffin@co.collin.tx.us  
 Phone (972) 548-4116  
 Fax (972) 548-4694  
 Bid Number 2018-117  
 Title Construction, Collin County Adult Detention Center Generator After-Market Emissions Control  
 Bid Type IFB  
 Issue Date 02/20/2018  
 Close Date 3/15/2018 02:00:00 PM (CT)

## Contact Information

Address 2300 Bloomdale Rd. Ste. 3160 McKinney, TX 75071  
 Contact JD Griffin, CPPB Buyer II  
 Department Purchasing  
 Building Admin. Building  
 Floor/Room Ste.3160  
 Telephone (972) 548-4116  
 Fax (972) 548-4694  
 Email jgriffin@co.collin.tx.us

## Ship to Information

Address 4300 Community Ave. McKinney, TX 75071  
 Contact  
 Department  
 Building Collin County Justice Center  
 Floor/Room  
 Telephone  
 Fax  
 Email

## Supplier Information

Company Name \_\_\_\_\_  
 Contact Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 Telephone \_\_\_\_\_  
 Fax \_\_\_\_\_  
 Email \_\_\_\_\_

## Supplier Notes

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The undersigned hereby certifies the foregoing bid submitted by the company listed below hereinafter called "bidder" is the duly authorized agent of said company and the person signing said bid has been duly authorized to execute same. Bidder affirms that they are duly authorized to execute this contract; this company; corporation, firm, partnership or individual has not prepared this bid in collusion with any other bidder or other person or persons engaged in the same line of business; and that the contents of this bid as to prices, terms and conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid.

Signature \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## Bid Notes

Please log in to view bid documents.

## Bid Activities

Date	Name	Description
3/1/2018 10:00 AM (CT)	Mandatory Pre-Bid Conference	A MANDATORY PRE-BID CONFERENCE will be held by Collin County in the Collin County Justice Center Jail Lobby located at 4300 Community Ave, McKinney, TX 75071 on Thursday, March 1, 2018, at 10:00 AM in order for bidders to ask questions regarding the proposed work. All bidders desiring to bid the work should have a representative at the pre-bid conference; bidders that do not attend the pre-bid conference shall not be considered in the evaluation for award of a contract per Texas Local Government Code 262.0256. Attendance shall be mandatory at the pre-bid conference.
3/9/2018 05:00 PM (CT)	Intent to Bid	Do you intend to submit a bid?

## Bid Messages

## Bid Attachments

The following attachments are associated with this opportunity and will need to be retrieved separately

#	Filename	Description
Header	LEGAL NOTICE-2018-117.doc	Legal Notice
Header	FinalAMC-specs.pdf	Specifications
Header	FinalAMC-Plans.pdf	Plans

### Bid Attachments Requested

The following attachments are requested with this opportunity

#	Required	Specified Attachment
1	YES	<p>Bid Bond : BID SECURITY: All Bidders must submit, prior to the bid opening time, a Cashier's Check or acceptable Bid Bond payable without recourse to Collin County in the amount of not less than five percent (5%) of the total bid plus alternates as submitted.</p> <p>1. Bid Bond or Cashier's Check may be mailed or hand delivered to the Office of the Collin County Purchasing Agent, Collin County Administration Building, 2300 Bloomdale Road, Ste 3160, McKinney, TX 75071 and shall be delivered in an envelope, marked plainly on the outside with the Bid Name and Number.</p> <p>2. Bidders submitting a bid via Collin County eBid shall upload a Bid Bond at <a href="https://collincountytx.ionwave.net">https://collincountytx.ionwave.net</a></p> <p>Regardless of delivery method, all Bid Bonds shall be received prior to the bid opening time to be considered.</p> <p>The original Bid Bond shall be received in the Collin County Purchasing Department no later than close of business on the third working day after the bid opening. Late receipt of original Bid Bond shall be cause for rejection of bid.</p>
2	NO	Conflict of Interest Questionnaire
3	NO	W-9

### Bid Attributes

Please review the following and respond where necessary

#	Name	Note	Response
1	Calendar Days Bid	Please state the consecutive calendar days bid.	_____ (Required)
2	Exceptions	Do you take exceptions to the specifications. If so, by separate attachment, please state your exceptions. Valid Responses: [Please Select], Yes, No	_____ (Required)
3	Insurance	I understand that the insurance requirements of this solicitation are required and a certificate of insurance shall be submitted to the Purchasing department if I am awarded all or a portion of the resulting contract.  Please initial.	_____ (Required)
4	Subcontractors	State the business name of all subcontractors and the type of work they will be performing under this contract.  If you are fully qualified to self-perform the entire contract, please respond with "Not Applicable-Self Perform".	_____ (Required)
5	Reference No. 1	List a company or governmental agency where these same/like products /services, as stated herein, have been provided.  Include the following: Company/Entity, Contact, Address,	_____ (Required)

City/State/Zip, Phone, and E-Mail.

- 6 Reference No. 2 List a company or governmental agency where these same/like products /services, as stated herein, have been provided. \_\_\_\_\_ (Required)
- Include the following: Company/Entity, Contact, Address, City/State/Zip, Phone, and E-Mail.
- 7 Reference No. 3 List a company or governmental agency where these same/like products /services, as stated herein, have been provided. \_\_\_\_\_ (Required)
- Include the following: Company/Entity, Contact, Address, City/State/Zip, Phone, and E-Mail.
- 8 Preferential Treatment The County of Collin, as a governmental agency of the State of Texas, may not award a contract to a nonresident bidder unless the nonresident's bid is lower than the lowest bid submitted by a responsible Texas resident bidder by the same amount that a Texas resident bidder would be required to underbid a nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located (Government Code, Title 10, V.T.C.A., Chapter 2252, Subchapter A). \_\_\_\_\_ (Required)
1. Is your principal place of business in the State of Texas?
2. If your principal place of business is not in Texas, in which State is your principal place of business?
3. If your principal place of business is not in Texas, does your state favor resident bidders (bidders in your state) by some dollar increment or percentage?
4. If your state favors resident bidders, state by what dollar amount or percentage.
- 9 Debarment Certification I certify that neither my company nor an owner or principal of my company has been debarred, suspended or otherwise made ineligible for participation in Federal Assistance programs under Executive Order 12549, "Debarment and Suspension," as described in the Federal Register and Rules and Regulations. \_\_\_\_\_ (Required)
- Please initial.
- 10 Immigration and Reform Act I declare and affirm that my company is in compliance with the Immigration and Reform Act of 1986 and all employees are legally eligible to work in the United States of America. \_\_\_\_\_ (Required)
- I further understand and acknowledge that any non-compliance with the Immigration and Reform Act of 1986 at any time during the term of this contract will render the contract voidable by Collin County.
- Please initial.
- 11 Disclosure of Certain Relationships Chapter 176 of the Texas Local Government Code requires that any vendor considering doing business with a local government entity disclose the vendor's affiliation or business relationship that might cause a conflict of interest with a local government entity. Subchapter 6 of the code requires a vendor to file a conflict of interest questionnaire (CIQ) if a conflict exists. By law this questionnaire must be filed with the records administrator of Collin County no \_\_\_\_\_ (Required)



later than the 7th business day after the date the vendor becomes aware of an event that requires the statement to be filed. A vendor commits an offense if the vendor knowingly violates the code. An offense under this section is a misdemeanor.

By submitting a response to this request, the vendor represents that it is in compliance with the requirements of Chapter 176 of the Texas Local Government Code.

Please send completed forms to the Collin County County Clerk's Office located at 2300 Bloomdale Rd., Suite 2104, McKinney, TX 75071.

Please initial.

12 Anti-Collusion Statement

Bidder certifies that its Bid/Proposal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a Bid/Proposal for the same materials, services, supplies, or equipment and is in all respects fair and without collusion or fraud. \_\_\_\_\_ (Required)

No premiums, rebates or gratuities permitted; either with, prior to, or after any delivery of material or provision of services. Any such violation may result in Agreement cancellation, return of materials or discontinuation of services and the possible removal from bidders list.

Please initial.

13 Disclosure of Interested Parties

Section 2252.908 of the Texas Government Code requires a business entity entering into certain contracts with a governmental entity to file with the governmental entity a disclosure of interested parties at the time the business entity submits the signed contract to the governmental entity. Section 2252.908 requires the disclosure form (Form 1295) to be signed by the authorized agent of the contracting business entity, acknowledging that the disclosure is made under oath and under penalty of perjury. Section 2252.908 applies only to a contract that requires an action or vote by the governing body of the governmental entity before the contract may be signed or has a value of at least \$1 million. Section 2252.908 provides definitions of certain terms occurring in the section. \_\_\_\_\_ (Required)

Section 2252.908 applies only to a contract entered into on or after January 1, 2016.

Please initial.

14 Notification Survey

In order to better serve our offerors, the Collin County Purchasing Department is conducting the following survey. We appreciate your time and effort expended to submit your bid. Should you have any questions or require more information please call (972) 548-4165. \_\_\_\_\_ (Required)

How did you receive notice of this request?  
Valid Responses: [Please Select], Plano Star Courier, Plan Room, Collin County eBid Notification, Collin County Website, Other

15 Bid Bond Acknowledgement

Accompanying this bid, is a certified check, cashier's check or Bid Bond in the amount of five percent (5%) of the total amount bid. Also accompanying this bid, all the information required in Section 00200 – Instructions to Bidders. \_\_\_\_\_ (Required)

16 Construction Acknowledgement

Please initial.

Bidder, declares that the only person or parties interested in this bid are those principals named herein, that his/her bid is made without collusion with any other person, firm or corporation, that he/she has carefully examined the Contract Documents including the Advertisement for Bids, Instruction to Bidders, Construction Agreement, Specifications and the Drawings, therein referred to and has carefully examined the locations, conditions and classes of materials for the proposed work, and agrees that he/she will provide all the necessary labor, machinery, tools, equipment, apparatus and other items incidental to construction and will do all the work and furnish all the materials called for in the Contract Documents in the manner prescribed therein. \_\_\_\_\_ (Required)

Bidder hereby declares that he/she has visited the site of the Work and has carefully examined the Contract Documents pertaining to the Work covered by the above Bid, and he/she further agrees to commence work within ten (10) consecutive calendar days after date of written Notice to Proceed and to substantially complete the work on which he/she has bid within the number of days specified subject to such extensions of time allowed by Specifications.

Bidder certifies that the bid prices contained in this bid have been carefully checked and are submitted as correct and final. The prices have been shown in words and figures for each item listed in this bid and it is understood that in the event of a discrepancy, the words shall govern.

Please initial.

Line Items

#	Qty	UOM	Description	Response
1	1	lump sum	Bid Grand Total	\$ _____ (Required) Price

Supplier Notes: \_\_\_\_\_  
\_\_\_\_\_

Item Attributes: Please review the following and respond where necessary

#	Name	Note	Response
1	Bid Grand Total- Written in Words	The contract award will be based on the total bid price.	_____ (Required)
2	Total Material Cost Incorporated in Project		\$ _____ (Required)
3	Total Material Cost Incorporated in Project- Written in Words		_____ (Required)
4	Total Labor Cost Incorporated in Project		\$ _____ (Required)
5	Total Labor Cost Incorporated in Project- Written in Words		_____ (Required)

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**004313 BID BOND**

STATE OF TEXAS §  
COUNTY OF COLLIN §

**KNOW ALL MEN BY THESE PRESENTS:**

**THAT** \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_ County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety", a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto \_\_\_\_\_ (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**SIGNED, SEALED and DATED** this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_.

**WHEREAS**, the Principal is herewith submitting its proposal for IFB 2018-117, Construction, Collin County Adult Detention Center Generator After-Market Emissions Control

The condition of the above obligations are such that if the aforesaid Principal shall be awarded the Contract, the said Principal will, within the time required, enter into a Contract and give Bonds, if required, for the faithful performance of the Contract and the prompt payment for labor and materials in the prosecution thereof, then this obligation shall be null and void; otherwise the Principal and Surety will pay unto the OWNER the full penal sum hereof, as liquidated damages, it being difficult and impractical to determine accurately the actual amount of damages occurring to OWNER by reason of Principal's failure to execute said Contract and Bonds.

PROVIDED FURTHER, that if any legal action be filed on this Bond, venue shall lie in \_\_\_\_\_ County, Texas.

The Resident Agent of the Surety for delivery of notice and service of process is:  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

**WITNESS**

\_\_\_\_\_

**PRINCIPAL**

\_\_\_\_\_  
Printed/Typed Name \_\_\_\_\_  
Title: \_\_\_\_\_  
Company: \_\_\_\_\_  
\_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

**WITNESS**

\_\_\_\_\_

**SURETY**

\_\_\_\_\_  
Printed/Typed Name \_\_\_\_\_  
Title: \_\_\_\_\_  
Company: \_\_\_\_\_  
\_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

**NOTE: CERTIFIED COPY OF POWER-OF-ATTORNEY SHOULD BE ATTACHED HERETO.**

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**SECTION 004547-CONFLICT OF INTEREST**  
**INFORMATION REGARDING**  
**CONFLICT OF INTEREST QUESTIONNAIRE**

During the 79<sup>th</sup> Legislative Session, House Bill 914 was signed into law effective September 1, 2015, which added Chapter 176 to the Texas Local Government Code. Recent changes have been made to Chapter 176 pursuant to HB23, which passed the 84<sup>th</sup> Legislative Session. Chapter 176 mandates the public disclosure of certain information concerning persons doing business or seeking to do business with Collin County, including family, business, and financial relationships such persons may have with Collin County officers or employees involved in the planning, recommending, selecting and contracting of a vendor for this procurement.

For a copy of Form CIQ and CIS:

[http://www.ethics.state.tx.us/filinginfo/conflict\\_forms.htm](http://www.ethics.state.tx.us/filinginfo/conflict_forms.htm)

The vendor acknowledges by doing business or seeking to do business with Collin County that he/she has been notified of the requirements under Chapter 176 of the Texas Local Government Code and that he/she is solely responsible for complying with the terms and conditions therein. Furthermore, any individual or business entity seeking to do business with Collin County who does not comply with this practice may risk award consideration of any County contract.

For a listing of current Collin County Officers:

<http://www.collincountytexas.gov/government/Pages/officials.aspx>

The following County employees will be involved in the planning, recommending, selecting, and contracting for the attached procurement:

Department/Evaluation Team:

Bill Burke - Director of Building Projects

Brad Harris - Building Projects Coordinator

Purchasing:

Michalyn Rains – Purchasing Agent, CPPO, CPPB

Michelle Charnoski – Assistant Purchasing Agent, CPPB

J. D. Griffin – Buyer II, CPPB

Commissioners' Court:

Keith Self – County Judge

Susan Fletcher – Commissioner Precinct No. 1

Cheryl Williams – Commissioner Precinct No. 2

John Thomas – Commissioner Precinct No. 3

Duncan Webb – Commissioner Precinct No. 4

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# 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.

**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.

\_\_\_\_\_  
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

\_\_\_\_\_  
Date

## **CONFLICT OF INTEREST QUESTIONNAIRE**

### **For vendor doing business with local governmental entity**

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed;
- or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

## SECTION 004548-CHAPTER 2270 VERIFICATION

I, \_\_\_\_\_, the undersigned representative of  
(PRINT NAME)

\_\_\_\_\_  
(COMPANY)

do hereby verify that the company named-above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

*Pursuant to Section 2270.001, Texas Government Code:*

1. *“Boycott Israel” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and*
2. *“Company” means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.*

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE OF COMPANY REPRESENTATIVE

\_\_\_\_\_  
TITLE

*(This page is intentionally left blank.)*

## 005213 CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT is made and entered into by and between \_\_\_\_\_, a \_\_\_\_\_ corporation (hereinafter referred to as "Contractor"), and **COLLIN COUNTY, TEXAS**, a political subdivision of the State of Texas (hereinafter referred to as "County" or "OWNER"), to be effective from and after the date hereinafter provided.

For and in consideration of the covenants and agreements contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

### CONTRACT SUM

The County shall pay the Contractor in current funds for the performance of the work, subject to additions and deductions by Change orders as provided in the Contract Documents. The contract sum shall be the amount of **(\$ \_\_\_\_\_)**.

### EFFECTIVE DATE

This Construction Agreement, having been previously approved by the Commissioners' Court of Collin County, Texas, shall be effective upon the date of delivery and execution by Contractor, provided the County executes the same within five (5) consecutive calendar days after said delivery and execution by Contractor.

## I. CONTRACT GENERAL PROVISIONS

### 1.1 DEFINITIONS

Words which have well-known technical or construction industry meanings shall have their commonly understood meanings in the Contract Documents, unless a different meaning is stated in the Contract Documents. The following words and expressions, or pronouns used in their place, shall wherever they appear in this contract be construed as follows, unless a different meaning is clear from the context:

**Addendum, Bulletin or Letter of Clarification:** Any additional contract provisions, or change, revisions or clarification of the Contract Documents issued in writing by the OWNER, to prospective bidders prior to the receipt of bids.

**Contract or Contract Documents:** The written agreement covering the performance of the work. The Contract and Contract Documents include this written Construction Agreement between OWNER and CONTRACTOR, Advertisement for Bids, Instructions to Bidders, Requests for Proposal, all Addenda, the Specifications, including the general and supplemental special and technical conditions, Drawings, provisions, plans or working drawings — and any supplemental changes or agreements pertaining to the Work or materials therefor; and bonds and any additional documents incorporated by reference in the above.

**CONTRACTOR:** The person, persons, partnership, firm, corporation, association or organization, or any combination thereof, entering into the contract for the execution of the work, acting directly or through a duly authorized representative.

**Other CONTRACTORS:** Any contractor, other than the CONTRACTOR or his subcontractors, who has a direct contact with the OWNER for work on or adjacent to the site of the work.

**Contract Work or Work:** Everything expressly or impliedly required to be furnished and done by the CONTRACTOR by the Contract Documents.

**Architect:** The term “Architect” means the Architect or his duly authorized representative. The Architect shall be understood to be the Architect of the OWNER, and nothing contained in the Contract Documents shall create any contractual or agency relationship between the Architect and the CONTRACTOR.

**Extra Work:** Work other than that which is expressly or impliedly required by the Contract Documents at the time of the execution of the contract.

**Change Order:** A written order to the CONTRACTOR authorizing and directing an addition, deletion or revision in the work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or the Contract time.

**Contract Price:** The total amount of money payable to the CONTRACTOR under the terms and conditions of the Contract Documents. When used in such context, it may also mean the unit price of an item of work under the Contract terms.

**OWNER’S Representative:** The Architect or other duly authorized assistant, agent, engineer, inspector or superintendent acting within the scope of their particular duties.

**Drawings or Contract Drawings:** Those drawings that are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, including but not limited to, the plans, elevations, sections, details, schedules, diagrams, any bulletin, or any detailed drawing furnished by the OWNER, pertaining or supplemental thereto.

**Specifications:** Those portions of the Contract Documents that specify the requirements for materials, equipment, systems, standards and workmanship for performance of the Work, and related services.

**Inspector:** Any representative of the OWNER designated to inspect the work.

**Materialman or Supplier:** Any subcontractor contracting with the CONTRACTOR, or any of his subcontractors, to fabricate or deliver or who actually fabricates or delivers materials, supplies or equipment to be consumed or incorporated into the Work.

**Notice:** Written notice effective the date of the postmark thereon, or if hand delivered, effective the date of hand delivery.

**OWNER:** COLLIN COUNTY, TEXAS, a political subdivision of the State of Texas. The term OWNER means the OWNER or its authorized representative.

**Payment Bond:** A bond in the amount of the Contract executed by a corporate surety in accordance with all Texas Law, including but not limited to, Chapter 2253 of the Texas Government Code and Chapter 3503 of the Texas Insurance Code, for public works projects as security furnished by the CONTRACTOR and his sureties solely for the protection of payment bond beneficiaries supplying labor and materials in the prosecution of the Contract Work.

**Performance Bond:** A bond in the amount of the Contract executed by a corporate surety in accordance with all Texas Law, including but not limited to, Chapter 2253 of the Texas Government Code and Chapter 3503 of the Texas Insurance Code, for public works projects as security furnished by the CONTRACTOR and his sureties solely for the protection of the Owner, conditioned on the faithful performance of the Contract Work in accordance with the plans, specification, and Contract Documents.

**Maintenance Bond:** A bond executed by a corporate surety for 10% of the Contract Price that complies with all Texas Laws, including but not limited to, Chapter 3503 of the Texas Insurance Code, guaranteeing the prompt, full and faithful performance of the general guaranty and warranty contained in the Contract Documents, and Texas Law.

**Project:** The total construction of the work described in the Contract Documents performed by the Contractor, Other Contractor or the Owner in whole or part.

**Proposal:** The written statement or statements duly submitted to the OWNER by the person, persons, partnership, company, firm, association or corporation proposing to do the Work contemplated, including the approved form on which the formal bids for the Work are to be proposed.

**Plan, or Plans:** The plans are the drawings or reproductions therefrom made by the Owner or Owner's Representative and approved by the Owner showing the dimensions, location, design and position of the various elements of the Project and Work, including plans, elevations, sections, details, schedules, diagrams, working drawings, preliminary drawings, and such supplemental drawings as the Owner may issue to clarify other drawings or for the purpose of showing changes in the Contract Work authorized by the Owner, or for showing details not shown therein.

**Special Provisions or Conditions:** The special clauses of the Contract, or Contract Documents, setting forth conditions or requirements peculiar to the specific Project involved, supplementing the standard or general specifications and taking precedence over any

conditions or requirements of the standard or general specifications with which they are in conflict.

**Specifications or Contract Specifications:** All of the general, special and technical conditions or provisions, and all addendum or supplements thereto consisting of written requirements for materials, equipment, systems, standards and performance of the work.

**Site:** The area upon or in which the CONTRACTOR'S operations are carried on, and such other areas adjacent thereto as may be designated as such by the OWNER.

**Subcontractors:** Any persons, firm or corporation, other than employees of the CONTRACTOR, who or which contracts with the CONTRACTOR to furnish, or who actually furnishes, labor and/or materials and equipment at or about the site.

**Sureties:** The corporate bodies which are bound by such bonds as are required with and for the CONTRACTOR. The sureties engaged to be responsible for the entire and satisfactory fulfillment of the Contract and for any and all requirements as set out in the specifications, Contract or plans.

**The Work:** All work including the furnishing of all labor, materials, tools, equipment, required submittals and incidentals to be performed by the CONTRACTOR under the terms of the Contract.

**Directed, Required, Approved and Words of Like Import:** Whenever they apply to the Work or its performance, the words "directed," "required," "permitted," "ordered," "designated," "established," "prescribed" and words of like import used in the Contract, specifications or upon the drawings shall imply the direction, requirement, permission, order, designation or prescription of the OWNER; and "approved," "acceptable," "satisfactory" and words of like import shall mean approved by, acceptable to or satisfactory to the OWNER.

**Equal:** Materials, articles or methods which are of equal or higher quality than those specified or shown on the drawings and as further defined in the "or equal" clause. Substitution of Materials shall be determined by the Architect at his or her discretion, and approved by the Owner.

**Working Time, Completion Time or Contract Time:** The time set forth in the Contract for the performance and completion of the Work contracted for. The time may be expressed as calendar days, working days or a specific date.

**Calendar Day or Days:** Any successive days of the week or month, no days being excepted.

**Working Day:** A working day is defined as a calendar day not including Saturdays, Sundays or those legal holidays as specified in the list prepared by the OWNER for contract purposes. Nothing in this definition shall be construed as prohibiting the CONTRACTOR from working on Saturdays if he so desires, however permission of the OWNER shall be necessary if the



CONTRACTOR chooses to work on Saturday. Work on Sundays shall not be permitted without the written permission of the OWNER. If Saturday or Sunday work is permitted, working time shall be charged on the same basis as week days. Where the working time is expressed as calendar days or a specific date, the concept of working days shall no longer be relevant to the contract.

## **CONTRACT DOCUMENTS**

1.2 The parties agree that the Contract Documents shall consist of the following documents in addition to any other documents referenced or incorporated herein:

- A. This written Construction Agreement, including any changes or modifications;
- B. All addenda including the following listed and numbered addenda:  
Addendum No. 1 dated \_\_\_\_\_ Received \_\_\_\_\_  
Addendum No. 2 dated \_\_\_\_\_ Received \_\_\_\_\_  
Addendum No. 3 dated \_\_\_\_\_ Received \_\_\_\_\_
- C. Advertisement for Bids, Instructions to Bidder, the Invitation to Bid and Bid Form;
- D. The Special/Supplemental Conditions;
- E. The Specifications and the Project Drawings (if any);
- F. The Construction Details shown on plans;
- G. The Standard Specifications and Standard Drawings from the Public Works Construction Standards-North Central Texas Council of Governments, 2004 edition and all subsequent addendums;
- H. The Performance Bond in the sum of ONE HUNDRED PERCENT (100%) of the total Contract Price;
- I. The Payment Bond in the sum of ONE HUNDRED PERCENT (100%) of the total Contract Price; and,
- J. The Maintenance Bond in the sum of TEN PERCENT (10%) of the total Contract Price.

### 1.2.1 PRIORITY OF THE CONTRACT DOCUMENTS

These Contract Documents (A through J above) form the Construction Agreement and are a part of this Construction Agreement as if fully set forth herein. In the event of an inconsistency in any of the provisions of the Contract Documents, the inconsistency shall be resolved by giving precedence to the Contract Documents in the order in which they are listed above.

### 1.2.2 THE CONTRACT

The Contract Documents form the Contract. The Contract represents the entire integrated agreement between the OWNER and the CONTRACTOR and supercedes all prior negotiations, and representations by either party.

## 1.3 CORRELATION AND INTENT OF DOCUMENTS

The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. The intent of the documents, unless otherwise specifically

provided, is to produce complete and finished work, which the CONTRACTOR undertakes to do in full compliance with the Contract Documents. It is not intended to mention every item of work in the specifications which can be adequately shown on the drawings nor to show on the drawings all items of work described or required by the specifications. All materials or labor for work shown on the drawings or reasonably inferable therefrom as being necessary to produce a finished job shall be provided by the CONTRACTOR whether or not same is expressly covered in the specifications. No verbal conversation, understanding or agreement with any officer or employee or agent of the OWNER, either before or after the execution of the Contract, shall affect or modify any of the terms, conditions or obligations contained in the Contract Documents.

#### 1.3.1 CONTRACT DRAWINGS AND SPECIFICATIONS

The OWNER shall furnish the CONTRACTOR one copy of the Contract Drawings and any supplemental drawings and specifications reasonably necessary for the proper execution of the work. At least one copy of all drawings and specifications shall be accessible at all times to the OWNER at the job site.

#### 1.3.2 SUPPLEMENTAL DRAWINGS AND SPECIFICATIONS

In order to carry out the intent of the Contract Documents and to assist the CONTRACTOR in performing its work, the OWNER, after the execution of the Contract, may, by supplemental drawings, specifications or otherwise, furnish additional information or instructions as may be necessary for construction purposes.

All such supplemental drawings, specifications or instructions are intended to be consistent with the Contract Documents and reasonably inferable therefrom. Therefore, no extra costs shall be allowed by the OWNER on a claim that particular supplemental drawings, specifications or instructions differ from the requirements of the Contract Documents, incurring extra costs, unless the CONTRACTOR has first brought the matter, in writing, to the OWNER'S attention for adjustment before proceeding with the work covered by such.

If the OWNER decides that there is no departure from the requirements of the Contract Documents, the CONTRACTOR shall then proceed with the work as shown, specified or directed. If the OWNER shall decide that extra work is involved, he shall so modify the supplemental drawings, specifications or instructions to eliminate the extra work, or cause a written Change Order to be issued in accordance with the Contract Documents.

#### 1.3.3 ERRORS AND CORRECTIONS IN DRAWINGS AND SPECIFICATIONS

The CONTRACTOR shall not take advantage of any apparent errors, omissions or discrepancies in the drawings or specifications; and the Architect or Engineer shall

be permitted to make such corrections or interpretations as may be necessary for the fulfillment of the intent of the Contract Documents. In case of any errors, omissions or discrepancies in the drawings or specifications, the CONTRACTOR shall promptly submit the matter to the OWNER or OWNER'S Representative in writing who, in turn, shall promptly make a determination and issue the necessary instructions in writing. Any adjustment by the CONTRACTOR without this determination and instructions shall be at the CONTRACTOR'S own risk and expense. The Work is to be made complete as intended by the Contract Documents.

#### 1.3.4 EXISTING STRUCTURES

The plans show the general locations of some known surface and subsurface structures. The locations of many gas mains, water mains, conduits, sewers, other utilities, etc., however, are unknown, and the OWNER assumes no responsibility for failure to show any or all of these structures on the plans or to show them in their exact locations. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for Extra Work or for increasing the pay quantities in any manner whatsoever. The CONTRACTOR shall be solely responsible for locating all gas mains, water mains, conduits, sewers, other utilities etc., so as to perform the Work without damaging the same.

## II. THE WORK

### 2.1 SCOPE OF WORK

Contractor shall provide all labor, supervision, materials, and equipment necessary to perform all work required by the Contract Documents in connection with **IFB 2018-117, Construction, Collin County Adult Detention Center Generator After-Market Emissions Control.**

### 2.2 CHANGE OR MODIFICATION OF CONTRACT

#### 2.2.1 ALTERATION OF PLANS AND SPECIFICATIONS

The OWNER reserves the right to make such changes in the plans and specifications and in the character of the work as may be necessary or desirable to insure completion in the most satisfactory manner, provided such changes do not materially alter the original plans and specifications or change the general nature of the Work as a whole. Such changes shall not be considered as waiving or invalidating any condition or provision of the Contract or bonds. Such changes shall be issued by the Architect.

#### 2.2.2 INCREASED OR DECREASED QUANTITIES OF WORK

The OWNER reserves the right and may from time to time, by written order, and without notice to any surety, make changes in the quantity or time of performance of the Work, as may be considered necessary or desirable and such changes shall

not be considered as waiving or invalidating any conditions or provisions of the Contract or bonds. The CONTRACTOR shall perform all the Contract Work in strict compliance with the Contract Documents, and shall not make any changes to the Work without prior written authorization from the OWNER, in the form of a written Change Order. If such changes increase or decrease either the cost or the time necessary for the performance of the Work, then the parties will mutually agree upon an equitable adjustment to the price or time to perform the Work pursuant to the terms of the Contract.

### 2.2.3 EXTRA WORK/CHANGE ORDERS

When any work is necessary to the proper completion of the Project and for which no prices are provided for in the Bid or Proposal and Contract, the CONTRACTOR shall do such work, but only when and as ordered in writing by the OWNER. The OWNER may order changes in the Work without invalidating Contract. Payment for Extra Work shall be made as provided herein. Contractor agrees that overhead and profit for Extra Work shall not exceed 10% of the total cost of the Extra Work. The Contractor shall not be entitled to any additional funds for any work or extra work performed on the Project, unless a Change Order is issued and signed by the Owner. The CONTRACTOR shall perform the work as altered, whether increased or decreased, and no allowances shall be made for anticipated profits. Nothing in this section shall give rise to any claims for any delay or acceleration damages, and the CONTRACTORS sole remedy for any delays in the Project shall remain an equitable extension of time as provided for in the Contract Documents. CONTRACTOR acknowledges and agrees to waive all rights or claims for compensation for any additional or other work not specifically authorized by the OWNER.

## 2.3 DISPUTED WORK AND CLAIMS FOR ADDITIONAL COMPENSATION

If the CONTRACTOR is of the opinion that (a) the work necessary or required to accomplish the result intended by this Contract, or (b) any work ordered to be done as Contract Work by the OWNER is extra work or additional work and not Contract Work, or (c) any determination or order of the OWNER violates the terms and provisions of this Contract, the CONTRACTOR shall promptly, either before proceeding with such work or complying with such order or determination, notify the OWNER in writing of his contentions with respect thereto and request a final determination thereof.

Such determination of the OWNER shall be given in writing to the CONTRACTOR. If the OWNER determines that the work in question is Extra Work and not Contract Work, or that the order complained of requires performance by the CONTRACTOR beyond that required by the Contract or violates the terms and provisions of the Contract, thereupon the OWNER shall cause either (a) the issuance of a written Change Order covering the Extra Work as provided herein, or (b) the determination or order complained of to be rescinded or so modified so as to not require performance beyond that required by the terms and provisions of the Contract.

If the OWNER determines that the work in question is Contract Work and not Extra Work, or that the determination or order complained of does not require performance by the CONTRACTOR beyond that required by the Contract or violate the terms and provisions of the Contract, he shall direct the CONTRACTOR to proceed, and the CONTRACTOR must promptly comply. In order to reserve his right to claim compensation for such work resulting from such compliance, however, the CONTRACTOR must, within 20 calendar days after receiving the OWNER'S determination and direction, notify the OWNER in writing that the work is being performed, or that the determination and direction is being complied with, under protest.

If the CONTRACTOR fails to so appeal to the OWNER for a determination or, having so appealed, should the CONTRACTOR thus fail to notify the OWNER in writing of his protest, the CONTRACTOR shall be deemed to have waived any claim for extra compensation or damages therefore. No oral appeals or oral protests, no matter to whom made, shall be deemed even substantial compliance with the provisions of this item.

In addition to the foregoing requirements, the CONTRACTOR shall, upon notice from the OWNER, for a minimum period of three (3) years following final payment or termination of contract, produce for examination and audit at the CONTRACTOR'S office, by the representatives of the OWNER, all his books and records showing all of his acts and transactions in connection with contractual performance as well as relating to or arising by reason of the matter in dispute. At such examination a duly authorized representative of the CONTRACTOR may be present.

Unless the aforesaid requirements and conditions are complied with by the CONTRACTOR, the OWNER shall be released from all claims arising under, relating to or by reason of disputed work or extra work. It is further stipulated and agreed that no conduct on the part of the OWNER or any agent or employee of the OWNER shall ever be construed as a waiver of the requirements of this section, when such requirements constitute an absolute condition precedent to any approval of any claim for extra compensation, notwithstanding any other provisions of the Contract Documents; and in any action against the OWNER to recover any sum in excess of the contract amount, the CONTRACTOR must allege and prove strict compliance with the provisions of this section. The CONTRACTOR ASSUMES THE RISK OF NONPAYMENT, for failing to comply with any of the requirements of this section.

### **III. CONTRACTORS RESPONSIBILITIES**

#### **3.1 CONTRACTOR'S REPRESENTATIONS, WARRANTIES AND ASSURANCES.**

In consideration of, and to induce the award of this contract to him, the CONTRACTOR represents and warrants: (a) That he is financially solvent, and sufficiently experienced and competent to perform the work; (b) That the facts stated in the proposal and the information given by him pursuant to the bidding documents are true and correct in all respects; (c) That he has read, understood and complied with all the requirements set forth in the bidding

documents; (d) That he is familiar with and understands all laws and regulations applicable to the work; and (e) unless otherwise specifically provided for in the Contract Documents, the CONTRACTOR shall do all the Work and shall furnish all the tools, equipment, machinery, materials, labor and appliances, except as herein otherwise specified, necessary or proper for performing and completing the work required by this Contract, in the manner and within the time herein prescribed.

By executing the contract, the CONTRACTOR represents that he has visited the site of Work, has fully familiarized himself with the local and on-site conditions under which the work is to be performed and has correlated his observation with the requirements of the Contract Documents. In addition, the CONTRACTOR represents that he has satisfied himself as to subsurface conditions at the site of the Work. Information, data and representations contained in the Contract Documents pertaining to the conditions at the site, including subsurface conditions, are for information only and are not warranted or represented in any manner to accurately show the conditions at the site of the Work. The CONTRACTOR agrees that he shall make no claims for damages, additional compensation or extension of time against the OWNER because of encountering actual conditions in the course of the Work which vary or differ from conditions or information contained in the Contract Documents. All risks of differing subsurface conditions shall be borne solely by the CONTRACTOR.

The CONTRACTOR shall carefully study and compare the Contract Documents and shall at once report to the OWNER any error, inconsistency or omission he may discover. The CONTRACTOR shall perform no portion of the Work at any time without Contract Documents or, where required, approved shop drawings, product data or samples for such portion of the work.

### 3.1.1 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Shop drawings are drawings, diagrams, schedules and other data specially prepared for the work by the CONTRACTOR or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

B. Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the CONTRACTOR to illustrate a material, product or system for some portion of the work.

C. Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work shall be judged.

D. the CONTRACTOR shall provide, review, approve and submit to the Architect with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the OWNER or any separate contractor, all shop drawings, product data and samples required by the Contract Documents. The Work will be performed

in accordance with submittals approved by the Architect. The CONTRACTOR shall not be relieved responsibility for deviations from the requirements of the Contract Documents by errors or omissions by the OWNER or Architect in approving Shop Drawings, Product Data, samples or any other submittals.

E. By approving and submitting shop drawings, product data and samples, the CONTRACTOR represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or shall do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

F. As the Architect's review is only for general conformance with the requirements of the Contract Documents, the CONTRACTOR shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval of shop drawings, product data or samples unless the CONTRACTOR has specifically informed the Architect in writing of such deviation at the time of submission and the Architect have given written approval to the specific deviation. The CONTRACTOR shall not be relieved from responsibility for errors or omissions in the shop drawings, product data or samples by the Architect's approval thereof. The CONTRACTOR shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples, to revisions other than those requested by the Architect on previous submittals.

G. the CONTRACTOR shall be responsible for delays caused by rejection of the submittal of inadequate or incorrect shop drawings, product data or samples. The CONTRACTOR shall be responsible for seeing that any "approved" copies of shop drawings bearing the approval of the Architect are allowed on the job site. The CONTRACTOR shall be responsible for providing all copies of approved shop drawings necessary for the construction operations.

H. the CONTRACTOR shall keep adequate records of submittal and approvals so that an accurate up-to-date record file is maintained at the job site at all times.

I. No portion of the work requiring submission of a shop drawing, product data or sample shall be commenced until the submittal has been approved by the Architect. All such portions of the work shall be in accordance with approved submittals.

### 3.1.2 SURETY BONDS

With the execution and delivery of the contract, the CONTRACTOR shall furnish and file with the OWNER in the amounts herein required, the surety bonds specified hereunder. Without exception, the OWNER'S bond forms, attached hereto as Section 00610 must be used, and exclusive venue for any lawsuit in connection with such bonds shall be specified as the county in which the OWNER'S principal office is located. Such surety bonds shall be in accordance with Texas Law,

including but not limited to, the provisions of Chapter 2253 of the Texas Government Code and Chapter 3503 of the Texas Insurance Code. These bonds shall automatically be increased by the amount of any change order or supplemental agreement which increases the contract price with or without notice to the surety, but in no event shall a change which reduces the contract amount reduce the penal amount of such bonds.

A. Performance Bond. A good and sufficient bond in an amount not less than 100 percent of the total amount of the Contract Price guaranteeing the full and faithful execution of the Work and performance of the Contract in accordance with the plans, specifications and Contract Documents, including any extensions thereof, for the protection of the OWNER. This bond shall provide for the repair and/or replacement of all defects due to faulty materials and workmanship that appear within a period of one year from the date of completion and acceptance of the improvement by the OWNER or such lesser or greater period as may be designated in the Contract Documents.

B. Payment Bond. A good and sufficient bond in an amount not less than 100 percent of the total amount of the Contract Price guaranteeing the full and proper protection of all payment bond beneficiaries and claimants supplying labor and material in the prosecution of the work provided for in said Contract and for the use of each claimant.

C. Maintenance Bond. A good and sufficient bond in an amount not less than ten percent (10%) of the total amount of the Contract Price guaranteeing the project against defects.

D. Sureties. No sureties shall be accepted by the OWNER who are now in default or delinquent on any bonds or who are interested in any litigation against the OWNER. All bonds shall be made on forms furnished by the OWNER and shall be executed by not less than one corporate surety authorized to do business in the State of Texas and acceptable to the OWNER. The sureties shall be listed in the most current Federal Register Treasury List. Each bond shall be executed by the CONTRACTOR and surety. Each surety shall designate an agent resident in the OWNER'S jurisdictional area acceptable to the OWNER to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship. The OWNER reserves the right to reject any and all sureties.

E. Additional or Substitute Bonds. If at any time the OWNER is or becomes dissatisfied with any surety, then upon the performance or payment bond, the CONTRACTOR shall, within five days after notice from the OWNER to do so, substitute an acceptable bond (or bonds), or provide an additional bond, in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such bonds shall be paid by the CONTRACTOR without recourse to the OWNER. No further payments under the contract shall be



deemed due or payable until the substitute or additional bonds shall have been furnished and accepted by the OWNER.

### 3.1.3 PERMITS AND FEES

The CONTRACTOR shall secure and pay for all building permits and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are normally and legally required for the construction of similar projects in the State of Texas. The CONTRACTOR will give all notices required by laws, ordinances, rules, regulations and lawful orders of authorized public authorities required for the proper and legal performance of the Work.

### 3.14 CONTRACT DOCUMENTS AT SITE

The CONTRACTOR shall keep and maintain at the Project site one record copy of the Contract Documents, including but not limited to, the Drawings, Specifications, addenda, Change Orders, submittals, Product Data, Samples and other modifications, in good order and marked to show the current construction of the Project. These documents shall be available to the OWNER or Architect to review at any time and shall be submitted to the OWNER upon completion of the Project, along with a complete set of as built drawings.

## 3.2 CONTRACTOR'S RESPONSIBILITIES

### 3.2.1 PERFORMANCE OF THE WORK

In addition to those matters elsewhere expressly made the responsibility of the CONTRACTOR, the CONTRACTOR shall have the full and direct responsibility for the performance and completion of the Work under this Contract and for any act or neglect of the CONTRACTOR, his agents, employees or subcontractors. He shall bear all losses, if any, resulting on account of the amount and character of the Work, or because the conditions under which the work must be done are different from what were estimated or anticipated by him, or because of weather, floods, elements or other causes.

### 3.2.2 MEANS AND METHODS OF CONSTRUCTION

Unless otherwise expressly provided in the contract drawings, specifications or bulletins, the means and methods of construction shall be such as the CONTRACTOR may choose; subject, however, to the OWNER'S right to prohibit means and methods proposed by the CONTRACTOR which in the OWNER'S judgment:

- A. shall constitute a hazard to the Work, or to persons or property, or shall violate express requirements of applicable laws or ordinances; or
- B. shall cause unnecessary or unreasonable inconvenience to the public; or
- C. shall not produce finished work in accordance with the requirements of the Contract Documents; or
- D. shall not assure the Work to be completed within the time allowed by the contract.

The OWNER'S approval of the CONTRACTOR'S means or methods of construction, or the OWNER'S failure to exercise his right to prohibit such means or methods, shall not relieve the CONTRACTOR of his responsibility for the Work or of his obligation to accomplish the result intended by the Contract Documents; nor shall the exercise or non-exercise of such rights to prohibit create a cause of action for damages or provide a basis for any claim by the CONTRACTOR against the OWNER. The CONTRACTOR shall be solely responsible for, the construction means and methods, techniques, sequences, procedures, and for the safety precautions and programs in connection with the Work or the Project.

If the Contract Documents specify any means, methods, techniques, sequences or procedures, the CONTRACTOR shall evaluate said specifications and determine that they are safe for the proper prosecution of the Work. The CONTRACTOR shall be solely responsible for the job site safety of such means, methods, techniques, sequences or procedures. If the CONTRACTOR determines the the specified means, methods, techniques, sequences or procedures may not be safe, the CONTRACTOR shall immediately notify the OWNER and Architect and shall not proceed without further instructions.

### 3.2.3 CONSTRUCTION SCHEDULE

The CONTRACTOR, immediately after being awarded the contract, shall prepare and submit for the OWNER or Architect's information an estimated progress schedule for the work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents and shall provide for expeditious and reasonable execution of the work, not to exceed the time limits for completion provided in the Contract Documents. The progress schedule shall be updated as the Work proceeds or the schedule changes and immediately upon request by the OWNER. The CONTRACTOR shall also prepare a schedule of submittals that allows for a reasonable time for the OWNER or Architect to review the submittals so as not to delay the Project.

### 3.2.4 TIME OF PERFORMANCE OF THE WORK

The CONTRACTOR shall begin the work to be performed under this Contract not later than 10 days from the date specified in the purchase or work order and shall

conduct the work in such a manner and with sufficient equipment, material and labor as is necessary to insure its completion within the working time. It is the intent of this specification to provide a continuous construction operation without delay except as occasioned by unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, and it shall be the CONTRACTOR's responsibility to execute the work in the most expeditious manner.

Work shall be done only during the regular and commonly accepted and prescribed working hours. No work shall be done on nights, Sundays or regular holidays unless permission is given by the OWNER

Time is of the Essence for the performance of the Work by the CONTRACTOR. CONTRACTOR agrees that the time allotted for the performance of the Work is reasonable.

### 3.2.5 PERFORMANCE OF EXTRA OR DISPUTED WORK

While the CONTRACTOR or his subcontractor is performing Extra Work in accordance with the OWNER'S written order, the cost of which is to be determined on a time and material basis, or is performing disputed work or complying with a determination or order under protest, the CONTRACTOR shall, on the Monday following the performance of the work, furnish the OWNER'S representative at the site with three copies of verified statements showing:

- A. the name and number of each workman employed on such extra work or engaged in complying with such determination or order, the character of extra work each is doing and the wages paid to him, including the rate and amount of payroll taxes, contributions for insurance, and federal social security; and
- B. the nature, cost and quantity of any materials, plant equipment or construction equipment furnished or used in connection with the performance of such extra work or in complying with such determination or order, and from who purchased or rented.

The CONTRACTOR and his subcontractors, when required by the OWNER, must also produce for inspection and audit by designated OWNER representatives for a minimum period of three (3) years following final payment or termination of contract any and all of his books, vouchers, records, daily job diaries and reports, canceled checks, etc. showing the nature and quantity of labor, materials and equipment actually used in the performance of the extra work; the amounts expended therefore; and the costs incurred for insurance premiums and other items of expense directly chargeable to such extra work. The CONTRACTOR must permit the OWNER'S representatives to make extracts therefrom or copies thereof as may be desired.

Failure of the CONTRACTOR to comply strictly with the requirements of this section shall constitute a waiver of any claim for extra compensation on account of the performance of such extra work.

### 3.3 QUALITY OF WORK

#### 3.3.1 INSPECTION AND TESTS

The CONTRACTOR shall furnish the OWNER with every reasonable accommodation and opportunity to ascertain whether or not the work performed is in accordance with the requirements and intent of the plans and specifications. Any work done or materials used without suitable inspection by the OWNER may be ordered removed and replaced at the CONTRACTOR'S expense. The CONTRACTOR shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the OWNER in his administration of the contract, or by inspections, tests or approvals required or performed by persons other than the CONTRACTOR.

Unless otherwise provided, the CONTRACTOR shall make arrangements for all tests, inspections and approvals with an independent testing laboratory or entity required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction over the Work or items to be tested, inspected or approved. If additional testing or inspection is required they shall be performed at the CONTRACTOR'S expense.

#### 3.3.2 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

All work which has been rejected or condemned shall be repaired, or if it cannot be repaired satisfactorily, it shall be removed and replaced at the CONTRACTOR'S expense. Defective materials shall be immediately removed from the site of the work. Work done without line and grade having been given, work done beyond the lines or not in conformity with the grades shown on the plans or as given, save as herein provided, work done without written authority and prior agreement in writing as to process, shall be done at the CONTRACTOR'S risk and shall be considered unauthorized and at the option of the OWNER may be ordered removed at the CONTRACTOR'S expense.

Upon failure of the CONTRACTOR to repair satisfactorily or to remove and replace, if so directed, rejected, unauthorized or condemned work or materials immediately after receiving notice from the OWNER, the OWNER shall, after giving written notice to the CONTRACTOR, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and to deduct the cost thereof from any monies due or to become due the

CONTRACTOR. Alternatively, the OWNER may, at its option, declare the CONTRACTOR in default.

### 3.3.3 WORKING AREA; COORDINATION WITH OTHER CONTRACTORS; FINAL CLEANUP

The CONTRACTOR shall confine his equipment, storage of materials and construction operations to the area shown on the contract drawings or stated in the specifications, prescribed by ordinance, laws, or permits or as may be directed by the OWNER, and shall not unreasonably encumber the site or public right-of-way with his construction equipment, plant or materials.

Such area shall not be deemed for the exclusive use of the CONTRACTOR. Other contractors of the OWNER may enter upon and use such portions of the area and for such items as determined by the OWNER are necessary for all purposes required by their contracts. The CONTRACTOR shall give to such other contractors all reasonable facilities and assistance to the end that the work on this and other contracts shall not be unduly or unreasonably delayed. Any additional areas desired by the CONTRACTOR for his use shall be provided by him at his own cost and expense.

The CONTRACTOR is responsible for cutting, fitting or patching any parts of the Work where such work is necessary to make the Work complete, for parts to fit together, or for any damage to the Work prior to Final Acceptance.

The CONTRACTOR shall keep the Project and the surrounding area clean and free from the accumulation of waste materials or trash. Upon completion of the work and before final acceptance and final payment shall be made, the CONTRACTOR shall completely clean and remove from the site of the work surplus and discarded materials, temporary structures and debris of every kind. He shall leave the site of the work in a neat and orderly condition equal to that which originally existed, or as called for in the Contract Documents. Surplus and waste materials removed from the site of the work shall be disposed of at locations satisfactory to the OWNER, and at the CONTRACTOR'S sole cost.

## 3.4 LEGAL RESPONSIBILITIES

### 3.4.1. PATENTS AND COPYRIGHTS

The CONTRACTOR shall pay all royalties and license fees and shall provide, by suitable legal agreement with the patentee or owner, for the use of any design, device, material or process covered by letters, patent or any copyright. The CONTRACTOR shall indemnify, defend, hold and save the OWNER and its officers, employees and agents harmless from all liability and claims for infringement of any patent or copyright.

In the event that any claims, suit or action at law or in equity of any kind whatsoever is brought against the OWNER, or its officers, employees or agents involving any such patents, copyrights or license rights, then the OWNER shall have the right to and may retain from any money due or to become due to the CONTRACTOR such sum deemed necessary by the OWNER for its protection until such claim or suit shall have been settled and satisfactory evidence to that effect shall have been furnished the OWNER.

#### 3.4.2 INDEMNIFICATION

To the fullest extent permitted by law, the CONTRACTOR and his sureties shall indemnify, defend and hold harmless the OWNER and all of its, past, present and future, officers, agents and employees from all suits, cause of action, claims, liabilities, losses, fines, penalties, liens, demands, obligations, actions, proceedings, of any kind, character, name and description brought or arising, on account of any injuries or damages received or sustained by any person, destruction or damage to any property on account of, in whole or part, the operations of the CONTRACTOR, his agents, employees or subcontractors; or on account of any negligent act or fault of the CONTRACTOR, his agents, employees or subcontractors in the execution of said Contract; failing to comply with any law, ordinance, regulation, rule or order of any governmental or regulatory body including those dealing with health, safety, welfare or the environment; on account of the failure of the CONTRACTOR to provide the necessary barricades, warning lights or signs; and shall be required to pay any judgment, with cost, which may be obtained against the OWNER growing out of such injury or damage. In no event shall OWNER be liable to CONTRACTOR for indirect or consequential damages or loss of income or profit irrespective of the cause, fault or reason for same. CONTRACTOR'S duty to indemnify herein shall not be limited by any limitation on the type or amount of damages payable by or for CONTRACTOR or any Subcontractor under workman's compensation acts, disability benefit acts or any other employee benefit acts.

In addition, the CONTRACTOR likewise covenants and agrees to, and does hereby, indemnify and hold harmless the OWNER from and against any and all injuries, loss or damages to property of the OWNER during the performance of any of the terms and conditions of this Contract, arising out of or in connection with or resulting from, in whole or in part, any and all alleged acts or omissions of officers, agents, servants, employees, contractors, subcontractors, licenses or invitees of the CONTRACTOR.

The rights and responsibilities provided in this indemnification provision shall survive the termination or completion of this Contract.

#### 3.5 SUPERVISION AND CONSTRUCTION PROCEDURES

### 3.5.1. SUPERVISION BY CONTRACTOR

The status of the CONTRACTOR is that of an independent CONTRACTOR under Texas law and the work under this Contract shall be under the direct charge and superintendence of the CONTRACTOR. Except where the CONTRACTOR is an individual and gives his personal superintendence to the work, the CONTRACTOR shall provide a competent superintendent or general foreman on the work site at all times during progress with full authority to act for the CONTRACTOR. The CONTRACTOR shall also provide an adequate staff for the coordination and expediting of the Work.

The superintendent and staff shall be satisfactory to the OWNER. The superintendent or general foreman shall not be changed during this Contract except with the written consent of the OWNER or unless the superintendent or general foreman proves unsatisfactory to the CONTRACTOR and ceases to be in his employ.

If the superintendent should be or become unsatisfactory to the OWNER, he shall be replaced by the CONTRACTOR upon written direction of the OWNER, and in such event, the CONTRACTOR shall not be entitled to file a claim for any additional working time or money from the OWNER.

### 3.5.2 EMPLOYEES

The CONTRACTOR shall employ only competent, efficient workmen and shall not use on the work any unfit person or one not skilled in the work assigned to him and shall at all times maintain good order among its employees. Whenever the OWNER shall inform the CONTRACTOR in writing that, in his opinion, any employee is unfit, unskilled, disobedient, or is disrupting the orderly progress of the work, such employee shall be removed from the work and shall not again be employed on it. Under urgent circumstances, the OWNER may orally require immediate removal of an employee for cause, to be followed by written confirmation.

The CONTRACTOR shall supervise and direct all the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences, procedures and safety procedures and for coordinating all portions of the Work under the Contract. The CONTRACTOR shall be responsible to the OWNER for the acts and omissions of his employees, subcontractors and their agents, employees and subcontractors performing any of the work under a contract with the CONTRACTOR.

### 3.5.3 LABOR AND MATERIALS

Unless otherwise provided in the Contract Documents, the CONTRACTOR shall provide and pay for all labor, materials, equipment, tools, construction equipment

and machinery, water, heat, utilities, transportation and other facilities and services necessary for the proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated into the work.

The CONTRACTOR shall at all times enforce strict discipline and good order among his employees and shall not employ on the work site any unfit person or anyone not skilled in the task assigned to him.

The rate of progress shall be such that the whole work shall be performed and the premises cleaned up in accordance with the Contract within the working time established in the Contract, unless an extension of time is made in the manner hereinafter specified.

#### 3.5.4 WAGE SCALE

In accordance with The Texas Government Code, Title 10, Chapter 2258, Prevailing Wage Rates, the general prevailing wage rate has been determined for this locality for the craft or type of workman needed to execute work of a similar character of the project listed herein. The Contractor shall pay the prevailing wage rate in this locality to all his/her employees and subcontractors performing work on this project, and in no event shall the Contractor pay less than the rate shown in the following schedule.

General Decision Number: TX180289 01/12/2018 TX289

Superseded General Decision Number: TX20170289

State: Texas

Construction Type: Building

County: Collin County in Texas.

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 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 calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).



Modification Number	Publication Date
0	01/05/2018
1	01/12/2018

ASBE0021-011 06/01/2016

Rates	Fringes
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ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)....	\$ 24.32	7.52
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BOIL0074-003 01/01/2017

Rates	Fringes
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BOILERMAKER.....	\$ 28.00	22.35
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CARP1421-002 04/01/2016

Rates	Fringes
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MILLWRIGHT.....	\$ 26.60	8.65
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\* ELEV0021-006 01/01/2018

Rates	Fringes
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ELEVATOR MECHANIC.....	\$ 39.97	32.645+a+b
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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. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Veterans Day.

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ENGI0178-005 06/01/2014

Rates	Fringes
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POWER EQUIPMENT OPERATOR (1) Tower Crane.....	\$ 29.00	10.60
(2) Cranes with Pile Driving or Caisson		

Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 27.50	10.60

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IRON0263-005 06/01/2017

Rates      Fringes

IRONWORKER (ORNAMENTAL AND STRUCTURAL).....	\$ 23.25	7.32
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PLUM0100-005 11/01/2017

Rates      Fringes

HVAC MECHANIC (HVAC Unit Installation Only).....	\$ 30.84	11.51
PIPEFITTER (Excludes HVAC Pipe Installation).....	\$ 30.84	11.51

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SUTX2014-015 07/21/2014

Rates      Fringes

BRICKLAYER.....	\$ 21.06	0.00
CARPENTER, Excludes Drywall Hanging, Form Work, and Metal Stud Installation.....	\$ 15.78	0.00
CAULKER.....	\$ 15.16	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.04	0.00
DRYWALL HANGER AND METAL STUD INSTALLER.....	\$ 13.00	0.00
ELECTRICIAN (Alarm Installation Only).....	\$ 20.93	3.86
ELECTRICIAN (Communication Technician Only).....	\$ 15.35	1.39
ELECTRICIAN (Low Voltage		

Wiring Only).....	\$ 17.04	1.39
ELECTRICIAN, Excludes Low Voltage Wiring and Installation of Alarms/Sound and Communication Systems.....	\$ 20.01	2.69
FORM WORKER.....	\$ 11.89	0.00
GLAZIER.....	\$ 16.46	3.94
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine).....	\$ 10.04	2.31
INSTALLER - SIDING (METAL/ALUMINUM/VINYL).....	\$ 14.74	0.00
INSTALLER - SIGN.....	\$ 15.50	0.00
INSULATOR - BATT.....	\$ 13.00	0.00
IRONWORKER, REINFORCING.....	\$ 12.29	0.00
LABORER: Common or General.....	\$ 10.52	0.00
LABORER: Mason Tender - Brick...	\$ 10.54	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.93	0.00
LABORER: Pipelayer.....	\$ 13.00	0.35
LABORER: Plaster Tender.....	\$ 12.22	0.00
LABORER: Roof Tearoff.....	\$ 11.28	0.00
LABORER: Landscape and Irrigation.....	\$ 10.55	0.00
LATHER.....	\$ 16.00	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 12.83	0.00
OPERATOR: Bobcat/Skid		

Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 15.69	0.50
OPERATOR: Forklift.....	\$ 13.21	0.81
OPERATOR: Grader/Blade.....	\$ 13.03	0.00
OPERATOR: Loader.....	\$ 13.46	0.85
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 18.44	0.00
OPERATOR: Roller.....	\$ 15.04	0.00
PAINTER (Brush, Roller and Spray), Excludes Drywall Finishing/Taping.....	\$ 13.35	5.10
PAINTER: Drywall Finishing/Taping Only.....	\$ 14.24	3.83
PIPEFITTER (HVAC Pipe Installation Only).....	\$ 20.45	4.00
PLASTERER.....	\$ 16.58	0.00
PLUMBER, Excludes HVAC Pipe Installation.....	\$ 22.46	4.06
ROOFER.....	\$ 17.19	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 21.13	4.79
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 24.88	5.97
SPRINKLER FITTER (Fire Sprinklers).....	\$ 37.50	0.00

TILE FINISHER.....	\$ 11.22	0.00
TILE SETTER.....	\$ 14.25	0.00
TRUCK DRIVER: 1/Single Axle Truck.....	\$ 16.00	0.81
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

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

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

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

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

### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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## WAGE DETERMINATION APPEALS PROCESS

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

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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## END OF GENERAL DECISION

Except for work on legal holidays, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) the number of hours worked per day, except for overtime hours, times (b) the above respective rate per hour.

For legal holidays, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) one and one-half times the above respective rate per hour, times (b) the number of hours worked on the legal holiday.

For overtime work, the “General Prevailing Rate of Per Diem Wage” for the various crafts or type of workers or mechanics is the product of (a) one and one-half times the above respective rate per hour, times (b) the number of hours worked on overtime.

Under the provisions of Texas Government Code, Title 10, Chapter 2258, Prevailing Wage Rates, the contractor or subcontractor of the contractor shall forfeit as a penalty to the entity on whose behalf the contract is made or awarded, sixty dollars (\$60.00) for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the contract.

If the construction project involves the expenditure of Federal funds in excess of \$2,000, the minimum wages to be paid various classes of laborers and mechanics will be based upon the wages that will be determined by the Secretary of Labor to be prevailing for the corresponding classes of laborers and mechanics employed on the project of a character similar to the Contract Work.

- 3.5.5 Contractors doing business with OWNER agree to comply with Federal Executive Order 13465 E-Verify. It is OWNER’S intention and duty to comply and support the Immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification and non-discrimination. According to the INA, contractors/employers may hire only persons who may legally work in the United States. Subsequently, contractors and subcontractors doing business with OWNER must confirm their enrollment in the E-Verify system which verifies employment eligibility through completion and checking of I-9 forms. OWNER reserves the right to audit contractor’s process to verify enrollment compliance.

### 3.5.6 COMPLIANCE WITH LAWS

The CONTRACTOR shall fully comply with all local, state and federal laws, including all codes, ordinances and regulations applicable to this Contract and the Work to be done thereunder, which exist or which may be enacted later by governmental bodies having jurisdiction or authority for such enactment.



All work required under this Contract is intended to comply with all requirements of law, regulation, permit or license. If the CONTRACTOR finds that there is a variance, he shall immediately report this to the OWNER for resolution.

#### 3.5.6.1 EQUAL EMPLOYMENT OPPORTUNITY

The CONTRACTOR shall comply with all local, state and federal employment and discrimination laws and shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin or any other class protected by law.

#### 3.5.7 RAILWAY CROSSINGS

Where the Work encroaches upon any right-of-way of any railway, the OWNER shall secure the necessary easement for the work. Where railway tracks are to be crossed, the CONTRACTOR shall observe all the regulations and instructions of the railway company as to methods of doing the work or precautions for safety of property and the public. All negotiations with the railway company, except for right-of-way, shall be made by the CONTRACTOR. The railway company shall be notified by the CONTRACTOR not less than five days prior to commencing the work. The CONTRACTOR shall not be paid separate compensation for such railway crossing but shall receive only the compensation as set out in the proposal.

#### 3.5.8 OTHER CONTRACTORS; OBLIGATION TO COOPERATE

The OWNER reserves the right to perform construction on the Project with its own forces or may award other contracts for additional work on this Project, and the CONTRACTOR shall fully cooperate with such other contractors and shall coordinate and fit his work to be done hereunder to such additional work as may be contracted by the OWNER. The CONTRACTOR shall not commit or permit any act which shall interfere with the performance of work by any other contractor.

Upon receiving written notice from the CONTRACTOR that the OWNER or another contractor is failing to coordinate his work with the Work under this Contract as directed by the OWNER, the OWNER shall promptly investigate the charge and take such necessary action as the situation may require. However, the OWNER shall not be liable to the CONTRACTOR for damages suffered by the CONTRACTOR due to the fault or negligence of another contractor or through failure of another contractor to carry out the directions of the OWNER. Should any interference occur between contractors, the Architect may furnish the CONTRACTOR with written instructions designating priority of effort, whereupon the CONTRACTOR shall immediately comply with such direction. In such event, the CONTRACTOR shall be entitled to an extension of working time only for

unavoidable delays verified by the Architect; however, no increase in the Contract Price shall be due the CONTRACTOR.

### 3.5.9 SUBCONTRACTS

The CONTRACTOR shall not make any subcontract for performing any portion of the Work included in the contract without written notice to the OWNER. This contract having been made pursuant to the bid submitted by the CONTRACTOR and in reliance with the CONTRACTOR'S personal qualifications and responsibility, the OWNER reserves the right to withhold approval of any subcontractor which the OWNER may deem would not be in the OWNER'S best interest.

The CONTRACTOR shall, as soon as practicable after signing the Contract, submit a separate written notice to the OWNER identifying each proposed subcontractor. Upon request of the OWNER, the CONTRACTOR shall promptly furnish additional information tending to establish that any proposed subcontractor has the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and conditions of this Contract.

If the OWNER determines that any proposed subcontractor is unacceptable, he shall so notify the CONTRACTOR, who may thereupon submit another proposed subcontractor unless the CONTRACTOR decides to do the work himself. Disapproval by the OWNER of any proposed subcontractor shall not provide a basis for any claim by the CONTRACTOR.

If an approved subcontractor fails to properly perform the work undertaken, he shall be removed from the job upon request of the OWNER, following notification to the CONTRACTOR in writing of the request for removal and the reasons therefore.

Each subcontract entered into shall provide that the provisions of this Contract shall apply to such subcontractor and his officers and employees in all respects as if he and they were employees of the CONTRACTOR. The OWNER'S decision not to disapprove of any subcontract shall not relieve the CONTRACTOR of any of his responsibilities, duties and liabilities hereunder. The CONTRACTOR shall be solely responsible for the acts, omissions, negligence or defaults of his subcontractors and of such subcontractor's officers, agents and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the CONTRACTOR to the extent of his subcontract.

The CONTRACTOR agrees to bind each subcontractor and each subcontractor agrees to be bound by the terms of the Contract Documents insofar as applicable to his work. The CONTRACTOR and each subcontractor jointly and severally agree that nothing in the Contract Documents or otherwise shall create or be deemed to create any rights in favor of a subcontractor against the OWNER; nor shall be

deemed or construed to impose upon the OWNER any obligation, liability or duty to a subcontractor; or to create any contractual relation whatsoever between a subcontractor and the OWNER.

The provisions contained herein shall likewise apply to any sub-subcontracts.

### 3.6 PROTECTION OF WORK AND OF PERSONS AND PROPERTY

#### 3.6.1 PROTECTION OF WORK

During performance and up to date of final acceptance, the CONTRACTOR shall be under the absolute obligation to protect the finished work against any damage, loss or injury. In the event of such damage, loss or injury, the CONTRACTOR shall promptly replace or repair such work, whichever the OWNER shall determine to be preferable. The obligation to deliver finished work in strict accordance with the Contract prior to final acceptance shall be absolute and shall not be affected by the OWNER'S approval of or failure to prohibit means and methods of construction used by the CONTRACTOR. All risk of loss or damage to the work shall be borne solely by the CONTRACTOR until final completion and acceptance of all work by the OWNER, as evidenced by the OWNER'S issuance of a certificate of acceptance.

#### 3.6.2 PROTECTION OF PERSONS AND PROPERTY

The CONTRACTOR shall have the responsibility to provide and maintain all warning devices and take all precautionary measures required by law or otherwise to protect persons and property while said persons or property are approaching, leaving or within the work site or any area adjacent to said work site. No separate compensation shall be paid to the CONTRACTOR for the installation or maintenance of any warning devices, barricades, lights, signs or any other precautionary measures required by law or otherwise for the protection of persons or property.

The CONTRACTOR shall assume all duties owed by the OWNER to the general public in connection with the general public's immediate approach to and travel through the work site and the area adjacent to said work site.

Where the work is carried on in or adjacent to any street, alley, sidewalk, public right-of-way or public place, the CONTRACTOR shall at his own cost and expense provide such flagmen and watchmen and furnish, erect and maintain such warning devices, barricades, lights, signs and other precautionary measures for the protection of persons or property as may be prudent or necessary, or as are required by law. The CONTRACTOR'S responsibility for providing and maintaining flagmen, watchmen, warning devices, barricades, signs and lights and other precautionary measures shall not cease until the project shall have been completed and accepted

by the OWNER, and shall cease when the certificate of acceptance is issued by the OWNER pursuant to the Contract Documents.

If the OWNER discovers that the CONTRACTOR has failed to comply with the applicable federal and state law (by failing to furnish the necessary flagmen, warning devices, barricades, lights, signs or other precautionary measures for the protection of persons or property), the OWNER may order the CONTRACTOR to take such additional precautionary measures as required by law to be taken to protect persons and property.

In addition, the CONTRACTOR shall be held responsible for all damages to the work and other public or private property due to the failure of warning devices, barricades, signs, lights or other precautionary measures in protecting said property; and whenever evidence is found of such damage, the OWNER may order the damaged portion immediately removed and replaced by and at the cost and expense of the CONTRACTOR.

### 3.6.3 SAFETY; TRENCH SAFETY; UNDERGROUND UTILITY SAFETY; PUBLIC CONVENIENCE AND SAFETY;

The CONTRACTOR shall be responsible for complying with state laws and federal regulations relating to safety, trench safety, and underground utility safety, including those which may be enacted during the performance under this Contract. The CONTRACTOR shall comply with the provisions of the The Standard Specifications and Standard Drawings from the Public Works Construction Standards-North Central Texas Council of Governments, 2004 edition and all subsequent addendums and the Instructions to Bidders regarding trench safety, public convenience and safety, and sanitary provisions. The CONTRACTOR shall be solely responsible for, the construction means and methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the Work and the Project.

### 3.7 MATERIALS AND WORKMANSHIP; WARRANTIES AND GUARANTEES

Unless otherwise expressly provided in the contract drawings or specifications, the work shall be performed in accordance with the best modern practice with materials and workmanship of the highest quality and suitable for their purpose. The OWNER shall judge and determine the CONTRACTOR'S compliance with these requirements.

#### 3.7.1 MATERIALS AND EQUIPMENT

The CONTRACTOR shall be free to secure the approved materials, equipment and articles from sources of his own selection. However, if the OWNER finds that the work shall be delayed or adversely affected in any way because a selected source of supply cannot furnish a uniform product in sufficient quantity and at the time required and a suitable source does exist, or the product is not suitable for the Work,

the OWNER shall have the right to require the original source of supply changed by the CONTRACTOR. The CONTRACTOR shall have no claim for extra cost or damage because of this requirement.

The CONTRACTOR warrants to the OWNER that all materials and equipment furnished under this contract shall be new unless otherwise specified in the Contract Documents and that same shall be of good quality and workmanship, free from faults and defects and in conformance with the Contract Documents. All materials and equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and shall be promptly repaired or replaced by the CONTRACTOR at the CONTRACTOR's sole cost upon demand of the OWNER. If required by the OWNER, the CONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

#### 3.7.1.1 "OR EQUAL" CLAUSE

A. Whenever a material or article required is specified or shown on the plans, by using the name of a proprietary product or of a particular manufacturer or vendor, any material or article which the Architect determines shall perform adequately the duties imposed by the general design or which the Architect deems to be of similar appearance (in cases where appearance is of importance) shall be considered equal and satisfactory, provided the material or article so proposed is of equal substance and function. Authorization for any substitution of materials or articles must be obtained by the CONTRACTOR from the Architect before proceeding with such substitution.

B. Should an authorized substitution require redesign of a portion of the work or alterations to the plans or specifications in order for the materials or articles which are to be substituted to properly fit or in other ways to be satisfactory, the Architect shall accomplish such redesigns and alterations. The CONTRACTOR shall bear all reasonable costs associated with redesign and alteration efforts performed by the Architect.

#### 3.7.2 WORKMANSHIP

The CONTRACTOR shall promptly correct or replace all work rejected by the OWNER as defective or as failing to conform to the Contract Documents whether observed before or after substantial completion and whether or not fabricated, installed or completed. The CONTRACTOR shall bear all costs of correcting such rejected work, including costs incurred for additional services made necessary thereby.

### 3.8 WARRANTIES

#### 3.8.1 SPECIAL WARRANTY

If within one year after final acceptance of the work by the OWNER, as evidenced by the final certificate of acceptance or within such longer or shorter period of time as may be prescribed by law or by the terms of any other applicable special warranty on designated equipment or portions of work as required by the Contract Documents, any of the work is found to be defective or not in accordance with the Contract Documents, the CONTRACTOR shall correct it promptly after receipt of a written notice from the OWNER to do so. This obligation shall survive termination or completion of the Contract. The OWNER shall give such notice promptly after discovery of the condition.

The CONTRACTOR shall remove from the site all portions of the work which are defective or nonconforming and which have not been corrected unless removal is waived in writing by the OWNER.

#### 3.8.2 SUBCONTRACTORS' AND MANUFACTURERS' WARRANTIES

All subcontractors', manufacturers' and suppliers' warranties and guarantees, express or implied, respecting any part of the work and any materials used therein, shall be obtained and enforced by the CONTRACTOR for the benefit of the OWNER without the necessity of separate transfer or assignment thereof.

#### 3.8.3 CORRECTED WORK WARRANTY

Any work repaired or replaced, pursuant to this section, shall be subject to the provisions of this section to the same extent as work originally performed.

#### 3.8.4 RIGHTS AND REMEDIES

The rights and remedies of the OWNER provided in this section are in addition to, and do not limit, any rights or remedies afforded to the OWNER by law or any other provision of the Contract Documents, or in any way limit the OWNER'S right to recovery of damage due to default under the Contract. No action or inaction by the OWNER shall constitute a waiver of a right or duty afforded it under the Contract.

## IV. INSURANCE

### 4.1 CONTRACTOR'S INSURANCE

Before commencing work, the CONTRACTOR and each subcontractor shall be required, at its own expense, to furnish the Collin County Purchasing Agent with certified copies of all insurance certificate(s) required by Texas Law, and the coverages required herein, indicating the coverage is to remain in force throughout the term of this Contract. Without

limiting any of the other obligations or liabilities of the CONTRACTOR, during the term of the Contract the CONTRACTOR and each subcontractor at their own expense shall purchase and maintain the herein stipulated minimum insurance with companies duly approved to do business in the State of Texas and satisfactory to the OWNER. Certificates of each policy shall be delivered to the OWNER before any work is started, along with a written statement from the issuing company stating that said policy shall not be canceled, nonrenewed or materially changed without 60 days advance written notice being given to the OWNER.

In addition to any coverage required by Texas Law, the CONTRACTOR shall provide the following coverages at not less than the specified amounts:

- 4.2 Workers Compensation insurance required by Texas Law at statutory limits, including employer's liability coverage at \$1,000,000. In addition to these, the CONTRACTOR must comply with all the requirements of the Texas Department of Insurance, Division of Workers' Compensation; (Note: If you have questions concerning these requirements, you are instructed to contact the DWC.)

By signing this contract or providing or causing to be provided a certificate of coverage, the CONTRACTOR is representing to the OWNER that all employees of the CONTRACTOR and its subcontractors 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 or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.

The CONTRACTOR'S failure to comply with any of these provisions is a breach of Contract by the Contractor which entitles the OWNER 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 OWNER.

- 4.3 Broad form commercial general liability insurance, including independent contractor's liability, completed operations and contractual liability, written on an occurrence form, covering, but not limited to, the liability assumed under the indemnification provisions of this contract, fully insuring CONTRACTOR'S (or subcontractor's) liability for injury to or death of OWNER'S employees and third parties, extended to include personal injury liability coverage with damage to property, with minimum limits as set forth below:

General Aggregate \$2,000,000  
Completed Products — Components/Operations Aggregate \$2,000,000  
Personal and Advertising Injury \$ 1,000,000  
Each Occurrence \$ 2,000,000

4.3.1 The policy shall include coverage extended to apply to completed operations, asbestos hazards (if this project involves work with asbestos) and XCU (explosion, collapse and underground) hazards. The completed operations coverage must be maintained for a minimum of one year after final completion and acceptance of the work, with evidence of same filed with OWNER.

4.4 Comprehensive automobile and truck liability insurance, covering owned, hired and non-owned vehicles, with a combined bodily injury and property damage minimum limit of \$1,000,000 per occurrence; or separate limits of \$1,000,000 for bodily injury (per person), \$1,000,000 for bodily injury (per accident) and \$1,000,000 for property damage. Such insurance shall include coverage for loading and unloading hazards.

#### 4.5 OWNER'S PROTECTIVE LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain at all times during the prosecution of the work under this contract an OWNER'S protective liability insurance policy naming the OWNER as insured for property damage and bodily injury, which may arise in the prosecution of the Work or CONTRACTOR'S operations under this Contract. Coverage shall be on an "occurrence" basis, and the policy shall be issued by the same insurance company that carries the CONTRACTOR'S liability insurance with a combined bodily injury and property damage minimum limit of \$1,000,000 per occurrence and \$2,000,000 aggregate.

#### 4.6 "UMBRELLA" LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain umbrella liability insurance during the contract term, insuring CONTRACTOR for an amount of not less than \$1,000,000 per occurrence combined limit for bodily injury and property damage that follows from and applies in excess of the primary liability coverages required hereinabove. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted. OWNER shall be named as an additional insured.

#### 4.7 RAILROAD PROTECTIVE INSURANCE

When required in the Special Provisions, CONTRACTOR shall obtain, maintain and present evidence of railroad protective insurance (RPI). The policy shall be in the name of the railroad company having jurisdiction over the right-of-way involved. The minimum limit of coverage shall meet the specifications provided by the railroad company. The OWNER shall specify the amount of RPI necessary.

#### 4.8 POLICY ENDORSEMENTS AND SPECIAL CONDITIONS

Each insurance policy to be furnished by CONTRACTOR shall include the following conditions by endorsement to the policy:



- A. each policy shall name the OWNER as an additional insured as to all applicable coverage;
- B. each policy shall require that 60 days prior to the cancellation, nonrenewal or any material change in coverage, a notice thereof shall be given to OWNER by certified mail;
- C. the term "OWNER" shall include all past, present or future, authorities, boards, bureaus, commissions, divisions, departments and offices of the OWNER and individual members, elected official, officers, employees and agents thereof in their official capacities and/or while acting on behalf of the OWNER;
- D. the policy phrase "other insurance" shall not apply to the OWNER where the OWNER is an additional insured on the policy;
- E. all provisions of the contract concerning liability, duty and standard of care together with the indemnification provision, shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies;
- F. all policies shall contain a waiver of subrogation in favor of OWNER, and its, past, present and future, officials, employees, and volunteers; and,
- G. each certificate of insurance shall reference the Project and Contract number, contain all the endorsement required herein, and require a notice to the OWNER of cancellation.

Insurance furnished by the CONTRACTOR shall be in accordance with the following requirements:

- A. any policy submitted shall not be subject to limitations, conditions or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by the CONTRACTOR. The OWNER'S decision thereon shall be final;
- B. all policies are to be written through companies duly licensed to transact that class of insurance in the State of Texas with a financial ratings of A+VII or better as assigned by BEST Rating Company or equivalent; and
- C. All liability policies required herein shall be written with an "occurrence" basis coverage trigger.

CONTRACTOR agrees to the following:

- A. CONTRACTOR hereby waives subrogation rights for loss or damage to the extent same are covered by insurance. Insurers shall have no right of recovery or subrogation against the OWNER, it being the intention that the insurance policies shall protect all parties to the Contract and be primary coverage for all losses covered by the policies;
- B. Companies issuing the insurance policies and CONTRACTOR shall have no recourse against the OWNER for payment of any premiums or assessments for any deductibles, as all such premiums and deductibles are the sole responsibility and risk of the CONTRACTOR;
- C. Approval, disapproval or failure to act by the OWNER regarding any insurance supplied by the CONTRACTOR (or any subcontractors) shall not relieve the

CONTRACTOR of full responsibility or liability for damages and accidents as set forth in the Contract Documents. Neither shall the bankruptcy, insolvency or denial of liability by the insurance company exonerate the CONTRACTOR from liability; and

D. No special payments shall be made for any insurance that the CONTRACTOR and subcontractors are required to carry; all are included in the Contract Price and the Contract unit prices. Any of such insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

## **V. OWNERS RIGHTS AND RESPONSIBILITIES**

### **MONTHLY ESTIMATE, PARTIAL PAYMENTS AND FINAL PAYMENTS**

5.1 Progress and final payments shall be paid to the Contractor based upon the progress of the Project as indicated by the approved Applications for Payment, certificates of acceptance, or Certificates for Payment, that include an approved Schedule of Values that will be submitted by the CONTRACTOR to the OWNER prior to the commencement of the Work and in accordance with the following:

#### 5.2 MONTHLY ESTIMATES

The CONTRACTOR shall deliver to the OWNER an itemized Application for Payment that shall include the work completed, materials stored at the Project site but not incorporated into the work, materials ready to be installed and stored at another agreed location, and the percentage of Work completed, through the 20<sup>th</sup> day of each month, on an Application for Payment with a schedule of values previously submitted by the Contractor and approved by the Owner. Prior to release of funds in connection with any Application for Payment, the Owner may request, and the Contractor must provide, properly executed statements of full or partial releases of claims acceptable to Owner in form and content, for all persons or entities supplying labor or materials to the Project.

5.2.1 The Application for Payment is a representation by the CONTRACTOR to the OWNER that the construction has progressed to the point indicated, the quality of the Work covered by the application is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount requested.

#### 5.2.2 INSPECTION AND PARTIAL PAYMENTS

Whenever the CONTRACTOR shall submit an Application for Payment to the OWNER for work performed by the CONTRACTOR, the CONTRACTOR shall notify the Architect that the improvement is ready for inspection. The Architect shall then make such inspection, and will have the authority to reject work that does not conform to the Contract Documents. If the work is satisfactory and in accordance with the specifications and Contract Documents, the Architect shall issue a Certificate for Payment.

- 5.2.3 Within thirty (30) days of the Owner's receipt of a properly submitted and correct Application for Payment, and the issuance of a Certificate for Payment, the Owner shall make payment to the Contractor, in the amount approved by the Owner less 5% retainage. Such payment shall be adjusted for work that is incomplete or not in accordance with the Contract Documents or that is the subject of a separate contract, or subcontract or supplier claim or lien against the Contractor or the payment bonds for the project.
- 5.2.4 No partial or final payment or the entire use or occupancy of the Project by the OWNER shall be considered acceptance of work that does not strictly comply with the Contract Documents or release the CONTRACTOR of any of his responsibilities under the Contract.

5.2.5 PAYMENT FOR LABOR AND MATERIAL; NO LIENS

The CONTRACTOR for himself or any of his subcontractors shall pay all indebtedness which may become due to any person, firm or corporation having furnished labor, material or both in the performance of this Contract. It shall be the responsibility of each person, firm or corporation claiming to have furnished labor, materials or both, in connection with this Contract, to protect his or its interest in the manner prescribed by applicable laws of the State of Texas, provided, however, that as this Contract provides for a public works project, no lien of any kind shall ever exist or be placed against the Work or any portion thereof, or any public funds or retainage held by the OWNER; and any subcontractor shall look solely to the CONTRACTOR and the payment bond surety, and not the OWNER, for payment of any outstanding amounts due for labor, materials or any other indebtedness in connection with the Work. However, the OWNER may, at any time prior to making final payment, require the CONTRACTOR to furnish a Consent of Surety to any payment due the CONTRACTOR for completed work and may, at the discretion of the OWNER or the request of the Surety, make the check jointly payable to the CONTRACTOR and the Surety. The Owner shall have no obligation under this Agreement to pay or to be responsible in any way for payment to any, Architect, another design professional, contractor, subcontractor or supplier performing portions of the Work, pursuant to a contract with the Contractor.

5.2.6 PAYMENT WITHHELD

In addition to express provisions elsewhere contained in the contract, the OWNER may withhold from any payment otherwise due the CONTRACTOR such amount as determined necessary to protect the OWNER'S interest, or, if it so elects, may withhold or retain all or a portion of any progress payment or refund payment on account of:

A. unsatisfactory progress of the Work not caused by conditions beyond the CONTRACTOR'S control,

- B. defective work not corrected,
- C. CONTRACTOR'S failure to carry out instructions or orders of the OWNER or his representative,
- D. a reasonable doubt that the Contract can be completed for the balance then unpaid,
- E. work or execution thereof not in accordance with the Contract Documents,
- F. claim filed by or against the CONTRACTOR or reasonable evidence indicating probable filing of claims,
- G. failure of the CONTRACTOR to make payments to subcontractor or for material or labor,
- H. damage to another contractor,
- I. unsafe working conditions allowed to persist by the CONTRACTOR,
- J. failure of the CONTRACTOR to provide work schedules as required by the OWNER,
- K. use of subcontractors without the OWNER'S approval or,
- L. failure of the CONTRACTOR to keep current as-built record drawings at the job site or to turn same over in completed form to the OWNER.

When the above grounds are removed, payment shall be made for amounts withheld because of them, and OWNER shall never be liable for interest on any delayed or late payment.

#### 5.2.7 PAYMENT FOR EXTRA WORK

The extra work done by the CONTRACTOR as authorized and approved by the Architect shall be paid for in the manner hereinafter described, and the compensation thus provided shall be accepted by the CONTRACTOR as payment in full for all labor, materials, tools, equipment and incidentals and all superintendents' and timekeepers' services, all insurance, bond and all other overhead expense incurred in the performance of the extra work.

Payment for extra work shall be made by one of the following methods:

- A. Method "A" — by unit prices agreed on in writing by the OWNER and CONTRACTOR before said extra work is commenced, subject to all other conditions of the contract.
- B. Method "B" — by lump sum price agreed on in writing by the OWNER and the CONTRACTOR before said extra work is commenced, subject to all other conditions of the contract.

#### 5.2.8 SUBSTANTIAL COMPLETION

The Project will be considered substantially complete when the OWNER can utilize the Project for its intended purpose and the Work is in conformance with the Contract Documents.

### 5.3 APPLICATION FOR FINAL PAYMENT.

Upon full performance of all the Contract Work and the full performance of all the provisions of the Contract, the CONTRACTOR shall submit a final application for payment to the OWNER, the CONTRACTOR shall notify the Architect that the improvement is ready for inspection. All warranties and guaranties required of the CONTRACTOR by the Contract Documents shall be assembled and delivered by the CONTRACTOR to the OWNER as Part of the final Application for Payment. The Contractor will assign to the Owner all manufacturer's warranties relating to materials and labor used in the work and will perform the Work in such a manner as to preserve all such manufacturer's warranties. The CONTRACTOR will deliver a certificate evidencing that insurance and bonds required by the Contract Documents will remain in full force and effect pursuant to the requirements of the Contract. The final Certificate for Payment will not be issued until all such warranties and guaranties have been received and accepted by the Owner, and a Certificate of Acceptance is issued by the or Architect.

#### 5.3.1 FINAL INSPECTION AND ACCEPTANCE

Whenever the improvements provided for by the Contract shall have been completely performed on the part of the CONTRACTOR, the CONTRACTOR shall notify the OWNER, and Architect that the improvement is ready for final inspection. The Architect shall then make such final inspection, and if the work is satisfactory and in accordance with the specifications and Contract Documents, the CONTRACTOR shall be issued a certificate of acceptance.

#### 5.3.2 FINAL PAYMENT

Whenever the improvements provided for by the Contract shall have been completely performed on the part of the CONTRACTOR, as evidenced in the certificate of acceptance, and all required submissions provided to the OWNER, a final estimate showing the value of the work shall be prepared by the Architect as soon as the necessary measurements and computations can be made. All prior estimates upon which payments have been made are subject or necessary corrections or revisions in the final payment. The amount of this final estimate, less any sums that have been previously paid, or deducted under the provisions of the Contract, shall be paid the CONTRACTOR within 30 days after the final acceptance, provided that the CONTRACTOR has furnished to the OWNER a consent of surety and an affidavit or other satisfactory evidence that all indebtedness connected with the Work and all sums of money due for any labor, materials, apparatus, fixtures or machinery furnished for and used in the performance of the work have been paid or otherwise satisfied, or that the person or persons to whom the same may respectively be due have consented to such final payment.

The acceptance by the CONTRACTOR of the final payment as aforesaid shall operate as and shall be a release to the OWNER from all claims or liabilities under

the Contract, including all subcontractor claims, for anything done or furnished or relating to the Work under the Contract or for any act or neglect of said OWNER relating to or connected with the Contract.

All warranties and guarantees shall commence from the date of the certificate of acceptance. No interest shall be due the CONTRACTOR on any partial or final payment or on the retainage.

### **5.3 MODIFICATIONS TO CONTRACT WORK OR TIME OF PERFORMANCE**

#### **5.3.1 OWNER'S RIGHT TO TEMPORARILY SUSPEND WORK**

#### **5.3.2 REASONS FOR SUSPENSION**

The OWNER shall have the right by written order to temporarily suspend the work, in whole or in part, whenever, in the judgment of the OWNER, such temporary suspension is required:

- A. in the interest of the OWNER generally,
- B. due to government or judicial controls or orders which make performance of this contract temporarily impossible or illegal,
- C. to coordinate the work of separate contractors at the job site,
- D. to expedite the completion of a separate contract even though the completion of this particular Contract may be thereby delayed,
- E. because of weather conditions unsuitable for performance of the Work, or
- F. because the CONTRACTOR is proceeding contrary to contract provisions or has failed to correct conditions considered unsafe for workmen.

The written order of the OWNER to the CONTRACTOR shall state the reasons for suspending the work and the anticipated periods for such suspension. Upon receipt of the OWNER'S written order, the CONTRACTOR shall suspend the work covered by the order and shall take such means and precautions as may be necessary to properly protect the finished and partially finished work, the unused materials and uninstalled equipment, including the providing of suitable drainage about the work and erection of temporary structures where necessary. The CONTRACTOR shall not suspend the Work without written direction from the OWNER and shall proceed with the work promptly when notified by the OWNER to resume operations.

#### **5.3.3 NO ADDITIONAL COMPENSATION**

No additional compensation shall be paid to the CONTRACTOR for a temporary suspension of the Work by the OWNER or otherwise where same is caused by the fault of the CONTRACTOR. Where such temporary suspension is not due to the fault of the CONTRACTOR, he shall be entitled to:

A. an equitable extension of working time for the completion of the work, not to exceed the delay caused by such temporary suspension, as determined by the OWNER; and

B. the actual and necessary costs of properly protecting the finished and partially finished work, unused materials and uninstalled equipment during the period of the ordered suspension as determined by the OWNER as being beyond the Contract requirements, such costs, if any, to be determined pursuant to the terms of the Contract; and

C. where the CONTRACTOR elects to move equipment from the job site and then return it to the site when the work is ordered resumed, the actual and necessary costs of these moves, in an amount determined by the OWNER pursuant to the terms of the Contract.

#### 5.3.4 USE OF COMPLETED PORTIONS OF WORK

The OWNER may, after written notice to the CONTRACTOR, and without incurring any liability for increased compensation to the CONTRACTOR, take over and use any completed portion of the Work prior to the final completion and acceptance of the entire work included in the Contract, and notwithstanding that the time allowed for final completion has not expired. The OWNER and CONTRACTOR agree that occupancy of portions of the Work by the OWNER shall not in any way evidence the substantial completion of the entire work or signify the OWNER's acceptance of the Work.

The CONTRACTOR shall not object to, nor interfere in any way with, such occupancy or use after receipt of the OWNER'S written notice. Immediately prior to such occupancy and use, the OWNER shall inspect such portion of the Work to be taken over and shall furnish the CONTRACTOR a written statement of the work, if any, still to be done on such part. The CONTRACTOR shall promptly thereafter complete such unfinished work to permit occupancy and use on the date specified in the OWNER'S written order, unless the OWNER shall permit specific items of work to be finished after the occupancy and use by the OWNER.

In the event the CONTRACTOR is unreasonably delayed by the OWNER exercising its rights under this section, the CONTRACTOR may submit a request for an extension of time; CONTRACTOR'S sole remedy for an unreasonable delay shall be an extension of time and shall not be entitled to any additional compensation.

#### 5.4 COMMENCEMENT; TIME OF COMPLETION; DELAYS; EXTENSION OF TIME; LIQUIDATED DAMAGES

#### 5.4.1 COMMENCEMENT; TIME OF COMPLETION

Contractor shall commence work within ten (10) consecutive calendar days after receiving from County a notice to proceed. Contractor agrees and covenants that the number of consecutive calendar days allowed to complete all work following a notice to proceed shall be as follows:

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#### 5.4.2. LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE ON TIME

Time is of the essence in the progress and completion of this Contract. For each calendar day that any Work shall remain uncompleted after the time specified in the proposal and the Contract, or the increased time granted by the OWNER, or as equitably increased by additional work or materials ordered after the Contract is signed, the sum per day given in the following schedule, unless otherwise specified in the special provisions, shall be deducted from the monies due the CONTRACTOR:

Two Hundred Forty Dollars and Zero Cents (\$240.00)

The sum of money thus deducted for such delay, failure or noncompletion is not to be considered as a penalty, but shall be deemed, taken and treated as reasonable liquidated damages, per calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract for completing the Work. The said amounts are fixed and agreed upon by and between OWNER and CONTRACTOR because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER in such event would sustain; and said amounts are agreed to be the amount of damages which the OWNER would sustain and which shall be retained from the monies due, or that may become due, the CONTRACTOR under this Contract; and if said monies be insufficient to cover the amount owing, then the CONTRACTOR or his surety shall pay any additional amounts due.

#### 5.4.3 EXTENTIONS OF TIME

The CONTRACTOR shall be entitled to an extension of working time under this Contract only when claim for such extension is submitted to the OWNER in writing by the CONTRACTOR within seven days from and after the time when any alleged cause of delay shall occur, and then only when such time is approved by the OWNER. In adjusting the Contract working time for the completion of the Project, unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including, acts of God or the public enemy, acts of the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or delays of subcontractors due to such causes beyond their control shall be taken into consideration.



If the satisfactory execution and completion of the Contract should require work and materials in greater amounts or quantities than those set forth in the Contract, requiring more time for completion than the anticipated time, then the contract working time shall be equitably increased, but not more than in the same proportion as the cost of the additional work bears to the cost of the original work contracted for. No allowances shall be made for delays or suspension of the performance of the Work due to the fault of the CONTRACTOR.

No adjustment to working time shall be made if, concurrently with the equitable cause for delay, there existed a cause for delay due to the fault or negligence of the CONTRACTOR, his agents, employees or subcontractors; and no adjustment shall be made to the Contract Price and the CONTRACTOR shall not be entitled to claim or receive any additional compensation as a result of or arising out of any delay resulting in adjustment to the working time hereunder, including delays caused by the acts or negligence of the OWNER. Notwithstanding any other provision of the Contract Documents, all claims for extension of working time must be submitted in accordance with the provisions of this Contract, and no act of the OWNER shall be deemed a waiver or entitlement of such extension.

## 5.5 TERMINATION FOR CONVENIENCE OF THE OWNER

### 5.5.1 NOTICE OF TERMINATION

The performance of the Work under this Contract may be terminated by the OWNER in whole or from time to time in part, in accordance with this section, whenever the OWNER shall determine that such termination is in the best interest of the OWNER. Any such termination shall be effected by mailing a notice of termination to the CONTRACTOR specifying the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. Receipt of the notice shall be deemed conclusively presumed and established when the letter is placed in the United States Mail by the OWNER. Further, it shall be deemed conclusively presumed and established that such termination is made with just cause as therein stated; and no proof in any claim, demand or suit shall be required of the OWNER regarding such discretionary action.

### 5.5.2 CONTRACTOR ACTION

After receipt of a notice of termination, and except as otherwise directed by the OWNER or Architect, the CONTRACTOR shall:

- A. stop work under the Contract on the date and to the extent specified in the notice of termination;

- B. place no further orders or subcontracts for materials, services or facilities except as may be necessary for completion of such portion the Work under the Contract as is not terminated;
- C. terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination;
- D. transfer title to the OWNER and deliver in the manner, at the times, and to the extent, if any, directed by the OWNER or Architect:
  - 1. the fabricated or unfabricated parts, work in process, completed work, supplies and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the notice of termination; and
  - 2. the completed or partially completed plans, drawings, information and other property which, if the Contract had been completed, would have been required to be furnished to the OWNER.
- E. complete performance of such part of the work as shall not have been terminated by the notice of termination; and
- F. take such action as may be necessary, or as the Architect may direct, for the protection and preservation of the property related to its Contract which is in the possession of the CONTRACTOR and in which the OWNER has or may acquire an interest.

At a time not later than 30 days after the termination date specified in the notice of termination, the CONTRACTOR may submit to the OWNER a list, certified as to the quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Architect. Not later than 15 days thereafter, the OWNER shall accept title to such items and remove them or enter into a storage agreement covering the same, provided that the list submitted shall be subject to verification by the Architect upon removal of the items, or, if the items are stored, within 45 days from the date of submission of the list, and provided that any necessary adjustments to correct the list as submitted shall be made prior to final settlement.

### 5.5.3 TERMINATION CLAIM

Within 60 days after notice of termination, the CONTRACTOR shall submit his termination claim to the Architect in the form and with the certification prescribed by the OWNER. Unless one or more extensions in writing are granted by the OWNER upon request of the CONTRACTOR, made in writing within such 60-day period or authorized extension thereof, any and all such claims shall be conclusively deemed waived.

### 5.5.4 AMOUNTS

The CONTRACTOR and OWNER may agree upon the whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or

partial termination of work pursuant hereto, provided that such agreed amount or amounts shall never exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of work not terminated. The contract shall be amended accordingly, and the CONTRACTOR shall be paid the agreed amount. No amount shall be due for lost or anticipated profits. Nothing prescribing the amount to be paid to the CONTRACTOR in the event of failure of the CONTRACTOR and the OWNER to agree upon the whole amount to be paid to the CONTRACTOR by reason of the termination of work pursuant to this section, shall be deemed to limit, restrict or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the CONTRACTOR pursuant to this paragraph.

#### 5.5.5 FAILURE TO AGREE

In the event of the failure of the CONTRACTOR and the OWNER to agree, as provided herein, upon the whole amount to be paid to the CONTRACTOR by reason of the termination of work pursuant to this section, the OWNER shall determine, on the basis of information available to it, the amount, if any, due to the CONTRACTOR by reason of the termination and shall pay to the CONTRACTOR the amounts determined. No amount shall be due for lost or anticipated profits.

#### 5.5.6 DEDUCTIONS

In arriving at the amount due the CONTRACTOR under this section, there shall be deducted (a) all unliquidated advance or other payments on account theretofore made to the CONTRACTOR, applicable to the terminated portion of this contract; (b) any claim which the OWNER may have against the CONTRACTOR in connection with this Contract; and (c) the agreed price for or the proceeds of sale of any materials, supplies or other things kept by the CONTRACTOR or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the OWNER.

#### 5.5.7 ADJUSTMENT

If the termination hereunder be partial prior to the settlement of the terminated portion of this Contract, the CONTRACTOR may file with the Owner a request in writing for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the notice of termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices; nothing contained herein, however, shall limit the right of the OWNER and the CONTRACTOR to agree upon the amount or amounts to be paid to the CONTRACTOR for the completion of the continued portion of the Contract when said contract does not contain an established contract price for such continued portion.

#### 5.5.8 NO LIMITATION OF RIGHTS

Nothing contained in this section shall limit or alter the rights which the OWNER may have for termination of this Contract under any other provision of this Contract or any other right which OWNER may have for default or breach of contract by CONTRACTOR.

#### 5.6 CONTRACTOR DEFAULT: OWNER'S RIGHT TO SUSPEND WORK AND ANNUL CONTRACT

The Work or any portion of the Work under contract shall be suspended immediately on written order of the OWNER declaring the CONTRACTOR to be in default. A copy of such notice shall be served on the CONTRACTOR'S surety. The contract may be annulled by the OWNER for any good cause or causes, among others of which special reference is made to the following:

- A. failure of the CONTRACTOR to start the work within 10 days from date specified in the written work order issued by the OWNER to begin the work;
- B. evidence that the progress of the work being made by the CONTRACTOR is insufficient to complete the work within the specified working time;
- C. failure of the CONTRACTOR to provide sufficient and proper equipment, materials or construction forces for properly executing the Work;
- D. evidence that the CONTRACTOR has abandoned the Work or discontinuance of the performance of the Work or any part thereof and failure to resume performance within a reasonable time after notice to do so;
- E. evidence that the CONTRACTOR has become insolvent or bankrupt, or otherwise financially unable to carry on the Work;
- F. deliberate failure on the part of the CONTRACTOR to observe any requirements of the specifications or to comply with any orders given by the Architect as provided for in the specifications;
- G. failure of the CONTRACTOR to promptly make good any defects in materials or workmanship, or any defects of any nature, the correction of which has been directed in writing by the OWNER;
- H. evidence of collusion for the purpose of illegally procuring a contract or perpetrating fraud on the OWNER in the construction of work under contract;
- I. repeated violations of safe working procedures;
- J. the filing by the CONTRACTOR of litigation against the OWNER prior to final completion of the Work. When the Work is suspended for any of the causes itemized above, or for any other cause or causes, the CONTRACTOR shall discontinue the Work or such part thereof as the OWNER shall designate, whereupon the surety may either at its option assume the Contract or that portion thereof which the OWNER has ordered the CONTRACTOR to discontinue and perform the same or, with the written consent of the OWNER, sublet the same, provided, however, that the surety shall exercise its option within two weeks after the written notice to discontinue the work has been served upon the

CONTRACTOR and upon the surety or its authorized agents. The surety in such event shall assume the CONTRACTOR'S place in all respects and shall be paid by the OWNER for all work performed by it in accordance with the terms of the Contract, but in no event shall such payments exceed the contract amount, regardless of the cost to the surety to complete the Work.

In the event that the surety assumes the CONTRACTOR'S place, duties and responsibilities in the Contract, all monies remaining due the CONTRACTOR at the time of his default shall thereupon become due and payable to the surety as the work progresses, subject to all terms of the Contract. In case the surety does not, within the hereinabove specified time, exercise its obligation to assume the Contract or that portion thereof which the OWNER has ordered the CONTRACTOR to discontinue, then the OWNER shall have the power to complete by contract or otherwise, as it may determine, the Work herein described or such part thereof as it may deem necessary; and the CONTRACTOR hereto agrees that the OWNER shall have the right to take possession of or use any or all of the materials, plans, tools, equipment, supplies and property of every kind provided by the CONTRACTOR for the purpose of the Work and to procure other tools, equipment and materials for the completion of the same and to charge to the account of the CONTRACTOR the expense of said contract for labor, materials, tools, equipment and expenses incident thereto. The expense so charged shall be deducted by the OWNER out of such monies as may be due or may at any time thereafter become due the CONTRACTOR under and by virtue of the Contract or any part thereof.

The OWNER shall not be required to obtain the lowest bid for the work of completing the Contract, but the expenses to be deducted shall be the actual cost of such work. In case such expense is less than the sum which would have been payable under the contract if the same had been completed by the CONTRACTOR, then in such case the OWNER may pay the CONTRACTOR the difference in the cost, provided that the CONTRACTOR shall not be entitled to any claim for damages or for loss of anticipated profits.

In case such expense shall exceed the amount which would have been payable under the Contract if the same had been completed by the CONTRACTOR, the CONTRACTOR and his surety shall pay the amount of the excess to the OWNER on notice from the OWNER for excess due including any costs incurred by the OWNER, such as inspection, legal fees and liquidated damages. When any particular part of the Work is being carried out by the OWNER by contract or otherwise under the provisions of this section, the CONTRACTOR shall continue the remainder of the Work in conformity with the terms of the contract and in such manner as not to hinder or interfere with the performance of workmen employed as above provided by the OWNER or surety.

#### 5.7 SUSPENSION BY COURT ORDER AGAINST THE OWNER

The CONTRACTOR shall suspend such part or parts of the Work pursuant to a court order issued against the OWNER and shall not be entitled to additional compensation by virtue of such court order; neither shall the CONTRACTOR be liable to the OWNER in the event

the Work is suspended by such court order, unless such suspension is due to the fault or negligence of the CONTRACTOR. A delay of the CONTRACTOR due to a court order against the OWNER, or due to the OWNER'S failure to secure right-of-way at the time required or because of a conflict of a utility with the Work, shall not be cause for additional compensation for damages sustained by the CONTRACTOR, but may be a cause for extension of contract working time only. The CONTRACTOR'S sole remedy for any suspensions of the Work is an equitable extention of time to perform the Work.

#### 5.8 NO WAIVER OF RIGHTS OR ESTOPPEL

The OWNER, or any officer or agent thereof, shall not be precluded at any time, either before or after final completion and acceptance of the Work and final payment therefore from:

A. showing the true and correct amount, classifications, quality and character of the Work done and materials furnished by the CONTRACTOR or any other person under this Contract, or from showing at any time that any determination, return, decision, approval, order, letter, payment or certification is untrue and incorrect or improperly made in any particular, or that the Work or the materials or any parts thereof do not in fact conform to the contract requirements; and (b) demanding the recovery from the CONTRACTOR of any overpayments made to him, or such damages as the OWNER may sustain by reason of the CONTRACTOR'S failure to perform each and every part of this Contract in strict accordance with its terms; or both.

### **VI. AUTHORITY OF THE ARCHITECT**

6.1 All work shall be performed in a good and workmanlike manner and to the satisfaction of the Architect. The Architect shall decide all questions which arise as to the quality and acceptability of materials furnished, work performed, manner of performance, rate of progress of the work, sequence of the construction, interpretation of the plans and specifications, acceptable fulfillment of the Contract, compensation, mutual rights between contractors under these specifications and suspension of the Work. He shall determine the amount and quality of work performed and materials furnished, and his decisions and estimates shall be final. His estimate in such event shall be a condition precedent to the right of the CONTRACTOR to receive money due him under the Contract.

#### 6.2 OWNER'S REPRESENTATIVES

Where the Contract Documents indicate that determinations, directions or approvals shall be made by the OWNER or "Owner's representatives," this shall mean the OWNER acting directly, or through duly authorized persons acting within the limit of authority delegated to them. Any determination, direction or approval of such authorized representatives shall be subject to review by the OWNER. For purposes of administering the schedule or the payment provisions of this Contract the Architect may act as the Owner's representative for

purposes of approving payments, changes, scheduling, or acceptance of the Work, at the OWNER'S discretion.

### 6.3 INSPECTIONS OF WORK PROGRESS

The Architect shall visit the site at during construction of the Project as necessary as the Owner's Representative to verify that the Work is being performed in compliance with the Contract Documents and shall be given total access to the Project by the CONTRACTOR. Site visits or inspections by the Architect shall in no way relieve the CONTRACTOR of any of its responsibilities or duties pursuant to the Contract Documents. The Architect will neither have control over, nor be responsible for, the construction means and methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the Work or the Project. The CONTRACTOR shall be solely responsible for, the construction means and methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the Work or the Project.

### 6.4 CONSTRUCTION STAKES

Architect will provide the Contractor with primary horizontal and vertical control to consist of one construction baseline and two benchmarks.

The Contractor shall take all necessary precautions to preserve any and/or all markings and staking. Payment for costs of restaking shall be the responsibility of the Contractor.

### 6.5 APPROVAL OF SUBMITTALS

The Architect shall review and approve or take other appropriate action the CONTRACTOR's submittals such as Shop Drawings, Product Data and Samples, for the purpose of checking for conformance with the Contract Documents. The Architect's review of the submittals shall not relieve the CONTRACTOR of any of its obligations to perform the Work in strict compliance with the Contract Documents. The Architect's review shall not be considered approval of safety precautions, means and methods, techniques, sequences or procedures that are the responsibility of the CONTRACTOR.

## **VII. CLAIMS OR DISPUTES**

### 7.1 CLAIMS AGAINST OWNER AND ACTION THEREON.

No claim against the OWNER under the Contract or for breach of the Contract or additional compensation for extra or disputed work shall be made or asserted against the OWNER under the Contract or in any court action, unless the CONTRACTOR shall have strictly complied with all requirements relating to the giving of notice and information with respect to such claim as required by the Contract.

### 7.2 CLAIM AGAINST OFFICERS, EMPLOYEES OR AGENT OF THE OWNER.

No claim whatsoever shall be made by the CONTRACTOR against any, past, present or future, officer, employee or agent of the OWNER for or on account of, anything done or omitted to be done in connection with this Contract.

## **VIII. MISCELLANEOUS PROVISIONS**

### **8.1 FINANCIAL INTEREST IN ANY CONTRACT BY OWNER'S OFFICERS, EMPLOYEES OR AGENTS**

No officer, employee or agent of the OWNER shall have a financial interest, direct or indirect, in any contract with the OWNER or be financially interested, directly or indirectly, in the sale to the OWNER of any land, materials, supplies or services, except on behalf of the OWNER as an officer or employee. Any willful violation of this article shall constitute malfeasance in office, and any officer or employee guilty thereof shall thereby forfeit his office or position. Any violation of this article with the knowledge, expressed or implied, of the persons, partnership, company, firm, association or corporation contracting with the OWNER shall render the contract involved voidable by the OWNER.

### **8.2 SERVICE OF NOTICES**

The OWNER and the CONTRACTOR shall each designate addresses where all notices, directions or other communication may be delivered or to which they may be mailed.

Notices to the surety or sureties on contract bonds shall be directed or delivered to the home office, or to the agent or agents who executed the bonds on behalf of the surety or sureties, or to their designated agent for delivery of notices.

Actual delivery of any such notice, direction or communication to the aforesaid places or depositing it in a postpaid wrapper addressed thereto in any post office regularly maintained by the United States Postal Service shall be conclusively deemed to be sufficient service thereof upon the above persons as of the date of such delivery or deposit.

The designated addresses may be changed at any time by an instrument in writing executed by the party changing the addresses and delivered to the other party.

Nothing herein contained shall, however, be deemed to preclude or tender inoperative the service of any notice, direction or communication upon the above parties personally or, if the CONTRACTOR be a corporation, upon any officer or director thereof.

### **8.3 UNLAWFUL PROVISIONS DEEMED STRICKEN**

In the event a term, condition, or provision of this Agreement is determined to be void, unenforceable, or unlawful by a court of competent jurisdiction, then that term, condition, or provision shall be deleted and the remainder of the Agreement shall remain in full force and effect.



#### 8.4 ALL LEGAL PROVISIONS INCLUDED

It is the intent and agreement of the parties to this contract that all legal provisions of law required to be inserted herein shall be and are inserted herein. If through mistake or oversight, however, any such provision is not herein inserted, or is not inserted in proper form, then upon application of either party, the contract shall be amended so as to strictly comply with the law and without prejudice to the rights of either party hereunder.

#### 8.5 ASSIGNMENTS

The CONTRACTOR shall not assign, transfer, convey or otherwise dispose of this contract, or his right to execute it, or his right, title or interest in it or any part thereof without the previous written consent of the surety company and the written approval of the OWNER.

The CONTRACTOR shall not assign, either legally or equitably, by power of attorney or otherwise, any of the monies due or to become due under this Contract or its claim thereto without the prior written consent of the surety company and the written approval of the OWNER.

The approval of the OWNER of a particular assignment, transfer or conveyance shall not dispense with such approval to any further or other assignments.

The approval by the OWNER of any assignment, transfer or conveyance shall not operate to release the CONTRACTOR or surety hereunder from any of the Contract and bond obligations, and the CONTRACTOR shall be and remain fully responsible and liable for the defaults, negligent acts and omissions of his assignees, their agents and employees, as if they were his own.

#### 8.6 STATE AND LOCAL SALES AND USE TAXES

The OWNER qualifies for exemption from the state and local sales and use taxes, pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise and Use Tax Act. Therefore, the CONTRACTOR shall not pay such taxes which would otherwise be payable in connection with the performance of this Contract.

The CONTRACTOR shall issue an exemption certificate in lieu of the tax on the purchase, rental or lease of:

- A. all materials, supplies, equipment and other tangible personal property incorporated into the real property being improved; and
- B. all materials, supplies, equipment and other tangible personal property used or consumed by the CONTRACTOR in performing the Contract with the OWNER. Materials and supplies "used in the performance of a contract" include only those materials actually incorporated into the property being improved and those supplies

directly used to incorporate such materials into the property being improved. Overhead supplies and supplies used indirectly or only incidental to the performance of the Contract with the OWNER are not included in the exemption.

Under “reasons said purchaser is claiming this exemption” in the exemption certificate, the CONTRACTOR must name the OWNER and the project for which the equipment, material and supplies are being purchased, leased or rented.

#### 8.7 VENUE AND GOVERNING LAW

The parties agree that the laws of the State of Texas shall govern the interpretation, validity, performance and enforcement of this Construction Agreement, and that the exclusive venue for any legal proceeding involving this Construction Agreement shall be in Collin County, Texas.

#### 8.8 NO WAIVER OF LEGAL RIGHTS

Inspection by the Architect, or OWNER; any order, measurement, quantity or certificate by the Architect; any order by the OWNER for payment of money; any payment for or acceptance of any work; or any extension of time or any possession taken by the OWNER shall not operate as a waiver of any provisions of the contract or any power therein reserved to the OWNER of any rights or damages therein provided. Any waiver of any breach of contract shall not be held to be a waiver of any other or subsequent breach. The OWNER reserves the right to correct any error that may be discovered in any estimate that may have been paid and to adjust the same to meet the requirements of the Contract Documents. The OWNER reserves the right to recover by process of law sums as may be sufficient to correct any error or make good any deficiency in the Work resulting from such error, dishonesty or collusion by the CONTRACTOR or his agents, discovered in the Work after the final payment has been made.

Neither final acceptance of the Work, nor final payment shall relieve the CONTRACTOR of responsibility for faulty materials or workmanship, and the CONTRACTOR shall promptly remedy any defects due thereto and pay for any damage to other work resulting therefrom. Likewise, neither final acceptance nor final payment, nor partial or entire use or occupancy of the work by the OWNER shall constitute acceptance of work not done in accordance with the Contract Documents or relieve CONTRACTOR of liability with respect to any expressed or implied warranties or responsibility for faulty materials or workmanship, whether same be patently or latently defective.

#### 8.9 OBLIGATION TO PERFORM FUNCTIONS

Any failure or neglect on the part of OWNER, Architect or inspectors to enforce provisions herein dealing with supervision, control, inspection, testing or acceptance and approval of the work shall never operate to relieve CONTRACTOR from full compliance with the Contract Documents nor render OWNER liable to CONTRACTOR for money damages, extensions of time or increased compensation of any kind.

8.10 SUCCESSORS AND ASSIGNS

Subject to the limitations upon assignment and transfer herein contained, this contract shall be binding upon and inure to the benefit of the parties hereto, their respective successors and assigns.

8.11 HEADINGS

The title and headings contained in the Contract Documents and the subject organization are used only to facilitate reference, and in no way define or limit the scope of intent of any of the provisions of this Contract.

8.12 ENTIRE AGREEMENT; AMENDMENTS; BINDING EFFECT

This Construction Agreement, including the Contract Documents and all the documents incorporated therein represents the entire and integrated agreement between the OWNER, Collin County, and the CONTRACTOR, and supersedes all prior negotiations, representations, or agreements, either written or oral. This Construction Agreement may be amended only by written instrument signed by both, the OWNER, Collin County, and the CONTRACTOR.

8.13 INTERPRETATION

Although this Agreement is drafted by the OWNER, Collin County, should any part be in dispute, the parties agree that this Construction Agreement shall not be construed more favorable for either party. No rule of construction requiring that ambiguities in this Contract shall be construed more favorably for either party shall apply.

8.14 EXPENSES FOR ENFORCEMENT

In the event either Party hereto is required to employ an attorney to enforce the provisions of this Agreement or is required to commence legal proceedings to enforce the provisions hereof, the prevailing Party shall be entitled to recover from the other, reasonable attorney's fees and court costs incurred in connection with such enforcement, including collection.

IN WITNESS WHEREOF, the parties have executed this Construction Agreement upon the year and date indicated beneath their signatures hereto.

**CONTRACTOR:**

---

By: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
Secretary

**COLLIN COUNTY, TEXAS:**

By: \_\_\_\_\_  
Michalyn Rains, CPPO, CPPB, Purchasing Agent

Date: \_\_\_\_\_

\_\_\_\_\_  
Collin County Commissioners' Court Order No.

**ATTEST:**

\_\_\_\_\_  
Secretary

**APPROVED AS TO FORM:**

\_\_\_\_\_

**ACKNOWLEDGMENTS**

**STATE OF TEXAS** §

**COUNTY OF \_\_\_\_\_** §

**BEFORE ME**, \_\_\_\_\_ on this day personally appeared \_\_\_\_\_, of \_\_\_\_\_, a \_\_\_\_\_ corporation, known to me (or proved to me on the oath of) \_\_\_\_\_ or through \_\_\_\_\_ (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same as the act and deed of the corporation, for the purposes and consideration therein expressed and in the capacity therein stated.

**GIVEN UNDER MY HAND AND SEAL OF OFFICE**, this the \_\_\_ day of \_\_\_\_\_, 2018

\_\_\_\_\_  
Notary Public, State of Texas

\_\_\_\_\_  
Printed Name

My Commission expires on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**STATE OF TEXAS** §

**COUNTY OF COLLIN** §

**BEFORE ME**, \_\_\_\_\_ on this day personally appeared \_\_\_\_\_, Purchasing Agent of COLLIN COUNTY, TEXAS, a political subdivision of the State of Texas, known to me (or proved to me on the oath of) \_\_\_\_\_ or through \_\_\_\_\_ (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same as the act and deed of COLLIN COUNTY, TEXAS, for the purposes and consideration therein expressed and in the capacity therein stated.

**GIVEN** under my hand and seal of office this the \_\_\_\_\_ day of \_\_\_\_\_, 2018.

\_\_\_\_\_  
Notary Public, State of Texas

\_\_\_\_\_  
Printed Name

My Commission expires on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

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SECTION 005425 - W-9 FORM

Form **W-9**  
(Rev. December 2014)  
Department of the Treasury  
Internal Revenue Service

**Request for Taxpayer  
Identification Number and Certification**

**Give Form to the  
requester. Do not  
send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <b>Note.</b> For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

**Note.** If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

<b>Social security number</b>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%; height: 20px;"> </td> <td style="width:25%; height: 20px;"> </td> <td style="width:25%; height: 20px;"> </td> <td style="width:25%; height: 20px;"> </td> </tr> <tr> <td style="text-align:center;">-</td> <td style="text-align:center;">-</td> <td style="text-align:center;">-</td> <td style="text-align:center;">-</td> </tr> </table>					-	-	-	-												
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**Part II Certification**

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

**General Instructions**

Section references are to the Internal Revenue Code unless otherwise noted.  
**Future developments.** Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at [www.irs.gov/fw9](http://www.irs.gov/fw9).

**Purpose of Form**

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
  - Form 1099-C (canceled debt)
  - Form 1099-A (acquisition or abandonment of secured property)
- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.
- If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.*
- By signing the filled-out form, you:
- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
  - Certify that you are not subject to backup withholding, or
  - Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
  - Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

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**006111 PERFORMANCE BOND**

STATE OF TEXAS §  
COUNTY OF COLLIN §

**KNOW ALL MEN BY THESE PRESENTS:**

That \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_ County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety", a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto \_\_\_\_\_ (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) (not less than 100% of the approximate total amount of the Contract as evidenced in the proposal plus 10-percent of the stated penal sum as an additional sum of money representing additional court expenses, attorneys' fees, and liquidated damages arising out of or connected with the below identified Contract) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of IFB 2018-117, Construction, Collin County Adult Detention Center Generator After-Market Emissions Control

**CONDITION OF THIS OBLIGATION IS SUCH**, that if the said Principal fully and faithfully executes the work and performance of the Contract in accordance with the plans specifications, and Contract Documents, including any extensions thereof which may be granted with or without notice to Surety, during the original term thereof, and during the life of any guaranty required under the Contract, and according to the true intent and meaning of said Contract and the plans and specifications hereto annexed, if the Principal shall repair and/or replace all defects due to faulty materials or workmanship that appear within a period of one year from the date of final completion and final acceptance of the work by OWNER; and if the Principal shall fully indemnify and save harmless the OWNER from all costs and damages which OWNER may suffer by reason of failure to so perform herein and shall fully reimburse and repay OWNER all outlay and expense which the OWNER may incur in making good any default or deficiency, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said CONTRACTOR shall fail to do so, it is agreed that the OWNER may do said work and supply such materials and charge the same against said CONTRACTOR and Surety on this obligation. Provided further, that if any legal action be filed on this Bond, venue shall lie in Collin County, Texas.

**"PROVIDED, HOWEVER**, that this bond is executed pursuant to the provisions Texas Government Code, Chapter 2253, as amended, and Chapter 3503 of the Texas Insurance Code, as amended, and all liabilities on this bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the bond shall automatically be increased by the amount of any Change Order or supplemental agreement which increases the Contract price with or without notice to the Surety, but in no event shall a Change Order or Supplemental Agreement which reduces the Contract price decrease the penal sum of the Bond. And further that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

Surety agrees that the bond provides for the repairs and/or replacement of all defects due to faulty materials and workmanship that appear within a period of one (1) year from the date of completion and acceptance of the improvement by the OWNER.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_ 201\_\_\_\_.

**WITNESS**

\_\_\_\_\_

**PRINCIPAL**

\_\_\_\_\_  
Printed/Typed Name \_\_\_\_\_  
Title: \_\_\_\_\_  
Company: \_\_\_\_\_  
\_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

**WITNESS**

\_\_\_\_\_

**SURETY**

\_\_\_\_\_  
Printed/Typed Name \_\_\_\_\_  
Title: \_\_\_\_\_  
Company: \_\_\_\_\_  
\_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

The Resident Agent of the Surety for delivery of notice and service of process is:  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

**Note:** Date of Bond must NOT be prior to date of contract.  
Revised 11/2008

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**006113 PAYMENT BOND**

STATE OF TEXAS            §  
COUNTY OF COLLIN       §

**KNOW ALL MEN BY THESE PRESENTS:**

That \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_ County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety", a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto \_\_\_\_\_ (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) (not less than 100% of the approximate total amount of the Contract as evidenced in the proposal) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of IFB 2018-117, Construction, Collin County Adult Detention Center Generator After-Market Emissions Control

**NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH**, that the bond guarantees the full and proper protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract and for the use of each claimant, and that conversely should the Principal faithfully perform said Contract and in all respects duly and faithfully observe and perform all and singular the covenants, conditions, and agreements in and by said Contract, agreed to by the Principal, and according to the true intent and meaning of said Contract and the claims and specifications hereto annexed, and any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modification to Surety being hereby waived, then this obligation shall be void; otherwise, to remain in full force and effect. Provided further, that if any legal action be filed on this Bond, venue shall lie in Collin County, Texas.

**"PROVIDED, HOWEVER**, that this bond is executed pursuant to the provisions Texas Government Code, Chapter 2253, as amended, and Chapter 3503 of the Texas Insurance Code, as amended, and all liabilities on this bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the bond shall automatically be increased by the amount of any Change Order or supplemental agreement which increases the Contract price with or without notice to the Surety and that no change, extension of time, alteration or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same, shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_ 201\_\_\_\_.

**WITNESS**

\_\_\_\_\_

**PRINCIPAL**

\_\_\_\_\_

Printed/Typed Name \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

**SURETY**

\_\_\_\_\_

Printed/Typed Name \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

**WITNESS**

\_\_\_\_\_

The Resident Agent of the Surety for delivery of notice and service of process is:  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

**Note:**      Date of Bond must NOT be prior to date of contract.

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**006119 MAINTENANCE BOND**

STATE OF TEXAS            §  
COUNTY OF COLLIN       §

**KNOW ALL MEN BY THESE PRESENTS:**

That \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and fully authorized to transact business in the State of Texas, whose address is \_\_\_\_\_ of the City of \_\_\_\_\_ County of \_\_\_\_\_, and State of \_\_\_\_\_, (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety", a corporation organized under the laws of the State of \_\_\_\_\_ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto \_\_\_\_\_ (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, , in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has entered into a certain written contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of IFB 2018-117, Construction, Collin County Adult Detention Center Generator After-Market Emissions Control

**NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH**, that the bond guarantees the full and proper maintenance and repair of the work herein contracted to be done and performed for a period of \_\_\_\_\_ year(s) from the date of acceptance and Principal will do all necessary backfilling that may arise on account of sunken conditions in ditches, or otherwise, and do and perform all necessary work and repair any defective condition growing out of or arising from the improper laying or construction of same, or on account of any breaking of same caused by said CONTRACTOR in construction of same, or on account of any defect arising in any of said work laid or constructed by said CONTRACTOR or on account of improper excavation or backfilling, it being understood that the purpose of this section is to cover all defective conditions arising by reason of defective materials, work or labor performed by said CONTRACTOR, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said CONTRACTOR shall fail to do so, it is agree that the OWNER may do said work and supply such materials and charge the same against said CONTRACTOR and Surety on this obligation. Provided further, that if any legal action be filed on this Bond, venue shall lie in Collin County, Texas.

**"PROVIDED, HOWEVER**, that said Surety, for value received, stipulates and agrees the bond shall automatically be increased by the amount of any Change Order or supplemental agreement which increases the Contract price with or without notice to the Surety and that no change, extension of time, alteration or addition to the terms of the Contract, or to the work performed thereunder, or the plans specifications, or drawings accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_ 201\_\_\_\_ .

**WITNESS**

\_\_\_\_\_

**PRINCIPAL**

\_\_\_\_\_

Printed/Typed Name \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

\_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

**WITNESS**

\_\_\_\_\_

**SURETY**

\_\_\_\_\_

Printed/Typed Name \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

\_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

The Resident Agent of the Surety for delivery of notice and service of process is:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Note:**      Date of Bond must NOT be  
prior to date of contract.

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## SECTION 260050 - BASIC ELECTRICAL MATERIALS AND METHODS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section. All conditions imposed by these documents shall be applicable to all portions of the work under this Division. Certain specific paragraphs of said references may be referred to hereinafter in this Division. These references are intended to point out specific items to the Contractor, but in no way relieve him of the responsibility of reading and complying with all relevant parts of the entire Specification.
- B. The Contractor shall examine and coordinate with all Contract Drawings and Specifications, and all Addenda issued. Failure to comply shall not relieve him of responsibility. The omission of details of other portions of the work from this Division shall not be used as a basis for a request for additional compensation.
- C. The specific features and details for other portions of the work related to the construction in progress or to the existing building(s) shall be determined by examination at the site.

#### 1.2 SUMMARY

- A. The requirements contained in this Section apply to all work performed under Division 26 of these Specifications.
- B. The work covered by this Division of the Specifications comprises the furnishing of labor, material, equipment, transportation, tools and services, and performing operations required for, and reasonably incidental to, the installation of the work in accordance with the applicable Contract Documents, and subject to the terms and conditions of the Contract.
- C. Refer to other Divisions of the Specifications for related work.

#### 1.3 DEFINITION OF "CONTRACTOR"

- A. Where the word "Contractor" is used under any Section of this Division of the Specifications, it shall mean the Contractor engaged to execute the work included under that Section.

#### 1.4 SUBMITTALS

- A. Process shop drawings and submittal data to insure that the proposed materials, equipment and devices conform to the requirements of the Contract Documents, and that there are no omissions or duplications. Provide layouts, fabrication information and data for systems, materials, equipment and devices proposed for the project.
- B. Shop drawings shall be drawn on a scale not less than 1/4 inch equals 1 foot showing actual dimensions. Shop drawings shall include, but not be limited to:
  - 1. Generator and Loadbank Docking Station.

2. Silencer / Oxidation Catalyst
  3. Closed Crankcase Ventilation System
  4. Materials: Conduit, conductors, connectors, supports, etc.
- C. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.
- D. Submittals and Shop Drawings that require modifications to other systems and trades shall be the sole responsibility of the submitting contractor to coordinate and pay for the modifications required by other systems and trades.

#### 1.5 QUALITY ASSURANCE

- A. Materials, equipment and devices shall be new and of the quality specified, and shall be free from defects at the time of installation. Materials, equipment and devices damaged in shipment or otherwise damaged or found defective prior to acceptance by the Owner shall not be repaired at the job site, but shall be replaced with new materials, equipment or devices identical with those damaged, unless specifically approved otherwise by the Owner's Representative.
- B. Wherever a UL standard has been established for a particular type of material, equipment or device, each item of such material, equipment or device provided on this project shall meet the requirements of the UL standard in every way, and shall be UL listed and labeled.

#### 1.6 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work.
- C. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.

#### 1.7 RESPONSIBILITY OF THE CONTRACTOR

- A. The Contractor shall be responsible for all work of every description in connection with this project. The Contractor shall specifically and distinctly assume, and does so assume, all risk for damage or injury from whatever cause to property or person used or employed on or in connection with this work and of all damages or injury to any person or property wherever located, resulting from an action or operation under the Contract in connection with the work, and undertake the responsibility to defend the Owner against all claims on account of any such damage or injury.
- B. The Contractor will be held responsible for the satisfactory execution and completion of the work in accordance with the true intent of the Contract Documents. The Contractor shall provide without extra charge all incidental items required as part of the work, even though it may not be specifically indicated. If the Contractor has reason for objecting to the use of any material, equipment, device or method of construction as indicated, he shall make report of such objections



to the Owner's Representative, obtain proper approval and adjustment to the Contract, and shall proceed with the work.

#### 1.8 TERMINOLOGY

- A. Whenever the words "furnish," "provide," "furnish and install," "provide and install," and similar phrases occur, it is the intent that the materials, equipment and devices described be furnished, installed and connected under this Division, complete for operation, unless specifically noted to the contrary.
- B. It is also the intent, unless specifically noted to the contrary, that all materials, equipment and devices described and specified be similarly furnished, installed and connected under this contract, whether or not a phrase as described in the preceding paragraph has been actually included.

#### 1.9 ORDINANCES, PERMITS AND CODES

- A. It shall be the Contractor's duty to perform the work and provide the materials covered by these Specifications in conformance with all ordinances and regulations of all authorities having jurisdiction.
- B. The Contractor shall obtain and pay for all permit and connection fees as required for the complete installation of the specified systems, equipment, devices and materials.
- C. The Contractor shall obtain permits, plan checks, inspections and approvals applicable to the work as required by the regulatory authorities. Fees and costs of any nature whatsoever incidental to these permits, inspections and approvals shall be assumed and paid by the Contractor. The pro-rata costs, if any, for utilities serving this property will be paid for by the Owner and shall not be included as part of this Contract.
- D. The work shall be in accordance with, but shall not be limited to the most currently adopted, requirements of:
  - 1. National Fire Protection Association.
  - 2. National Electrical Code.
  - 3. National Safety Code.
  - 4. State of Texas Safety Codes.
  - 5. State of Texas Building Codes.
  - 6. State of Texas Energy Code.
  - 7. County Building Codes and Amendments.
  - 8. Texas Commission on Environmental Quality
- E. Codes and standards referred to are minimum standards. Where the requirements of the Drawings or Specifications exceed those of the codes and regulations, the Drawings and Specifications govern.

#### 1.10 MATERIALS, EQUIPMENT AND DEVICE DESCRIPTION

- A. Materials, equipment and devices shall be of the best quality customarily applied in quality commercial practice, and shall be the products of reputable manufacturers. Each major component shall bear a nameplate giving the name and address of the manufacturer, and the catalog number or designation of the component.

- B. Materials, equipment and devices furnished under this Division of the Specifications shall be essentially the standard product of the specified manufacturer, or where allowed, an alternate manufacturer. Where two or more units of the same kind or class of a specific item are required, these shall be the products of a single manufacturer; however, the component parts of the item need not be the products of one manufacturer.
- C. In describing the various materials, equipment and devices, in general each item will be described singularly, even though there may be a multiplicity of identical items. Also, where the description is only general in nature, exact sizes, duties, space arrangements, horsepower requirements and other data shall be determined by reference to the Contract Documents.
- D. Space allocations for materials, equipment and devices have been made on the basis of present and know future requirements and the dimensions of items of equipment or devices of a particular manufacturer whether indicated or not. The Contractor shall verify that all materials, equipment and devices proposed for use on this project are within the constraints of the allocated space.

#### 1.11 REFERENCE STANDARDS

- A. Materials, equipment, devices, and workmanship shall comply with applicable local, county, state and national codes, laws and ordinances, and industry standards.
- B. In case of differences between building codes, state laws, local ordinances, industry standards, and the Contract Documents, the most stringent shall govern. The Contractor shall promptly notify the Owner's Representative in writing of any such difference. Should the Contractor perform any work that does not comply with local codes, law and ordinances, industry standards or other governing regulations, the work shall be corrected of noncompliance deficiencies with the Contractor bearing all costs.
- C. In addition to the aforementioned ordinances, industry standards published by the following organizations shall apply.
  - 1. AABM - American Association of Battery Manufacturers.
  - 2. AIA - American Institute of Architects.
  - 3. ANSI - American National Standards Institute.
  - 4. ASTM - American Society for Testing and Materials.
  - 5. CBM - Certified Ballast Manufacturers Association.
  - 6. ETL - Electrical Testing Laboratories.
  - 7. FM - Factory Mutual.
  - 8. ICEA - Insulated Cable Engineers Associated.
  - 9. IEEE - Institute of Electrical and Electronic Engineers.
  - 10. IES - Illuminating Engineering Society.
  - 11. IRI - Industrial Risk Insurance.
  - 12. NBS - National Bureau of Standards.
  - 13. NEC - National Electrical Code.
  - 14. NECA - National Electrical Contractors Association.
  - 15. NEMA - National Electrical Manufacturers Association.
  - 16. NESC - National Electrical Safety Code.
  - 17. NETA - National Electrical Testing Association.
  - 18. NFPA - National Fire Protection Association.
  - 19. UL - Underwriters Laboratories.
- D. Where the Contract Documents exceed the above requirements, the Contract Documents shall govern. In no case shall work be installed contrary to or below the minimum legal standards.

## 1.12 DRAWINGS AND SPECIFICATIONS

- A. The interrelation of the Drawings (including the schedules) and the Specifications are as follows:
1. The Drawings establish quantities, locations, dimensions and details of materials, equipment and devices. The schedules on the Drawings indicate the capacities, characteristics and components.
  2. The Specifications provide written requirements for the quality, standard and nature of the materials, equipment, devices and construction systems.
- B. The Drawings and Specifications shall be considered as being compatible; therefore, the work called for by one and not by the other shall be furnished and installed as though called for by both. Resolution of conflicts between Drawings and Specifications shall be as follows:
1. If the Drawings and Specifications disagree in themselves, or with each other, the Contractor's pricing shall be based on furnishing and installing the most expensive combination of quality and quantity of work indicated. In the event of this type of disagreement, the resolution shall be determined by the Architect/Engineer.
  2. The Contractor shall be responsible for bringing any conflicts in the Drawings and the Specifications to the attention of the Architect/Engineer prior to any work being performed.
  3. In general, if there is conflict between the Drawings and Specifications, the Drawings shall govern the Specifications.
  4. Where the Specifications do not fully agree with schedules on the Drawings, the schedules shall govern. Actual numerical dimensions indicated on the Drawings govern scale measurements and large-scale details govern small-scale drawings.
  5. Materials, equipment and devices called for on the Drawings and not indicated herein, shall be completely provided and installed as though it were fully described herein.
  6. Materials, equipment and devices called for herein shall be completely provided and installed, whether or not it is fully detailed, scheduled or indicated on the Drawings.
- C. The Contractor shall examine the Drawings and Specifications of the other portions of the work for fixtures and finishes in connection with this work. The Contractor shall carefully examine the Drawings to determine the general construction conditions, and shall familiarize himself with all limitations caused by such conditions.
- D. When discrepancies exist between scale and dimension, or between the Drawings of the various portions of the work, they shall be called to the attention of the Architect/Engineer for further instruction, whose instructions shall be final and binding and work promptly resumed without any additional cost to the Owner.
- E. Review the construction details of the building(s) as illustrated on the Drawings of the various portions of the work and be guided thereby. Route conduits and set all boxes as required by the pace of the general construction.
- F. The Drawings diagrammatically show the sizes and locations of the various equipment and devices, and the sizes of the major interconnecting wires, without showing exact details as to elevations, offsets, control wiring and other installation requirements. Carefully layout the work at the site to conform to the architectural and structural conditions, to avoid obstructions and to permit proper grading of pipe associated with other portions of the work. Determine the exact location of equipment and devices and connections thereto by reference to the submittals and rough-in drawings, and by measurements at the site. Make minor relocations necessitated by the conditions at the site, or directed by the Architect/Engineer, without additional cost to the Owner.

- G. The Drawings and Specifications are intended to describe and illustrate systems which will not interfere with the structure of the building(s), fit into the available spaces, and insure complete and satisfactory operating installations. Prepare installation drawings for all critical areas illustrating the installation of the work in this Division as related to the work of all other Divisions and correct all interferences with the other portions of the work or with the building structures before the work proceeds.
- H. The Drawings do not indicate the existing electrical installations other than to identify modifications or extensions thereto. Visit the site and ascertain the conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work. Failure to comply with this shall not constitute grounds for any additional payment in connection with removing or modifying any part of the existing installation or installing any new or temporary work under this Division.

#### 1.13 SUBSTITUTIONS

- A. The Basis of Design is shown in the drawings and specifications. The manufacturer mentioned by trade name or manufacturer's name is the manufacturer that all other equipment will be judged against.
- B. Where multiple manufacturers are listed, none other than those manufacturers will be accepted.
- C. It shall be understood that space allocations have been made on the basis of present and known future requirements and the dimensions of items of equipment or devices of a particular manufacturer whether indicated or not. If any item of equipment or device is offered in substitution which differs substantially in dimension or configuration from that indicated on the Drawings or Specifications, provide as part of the submittal 1/4 equals 1 foot scaled drawing showing that the substitute can be installed in the space available without interfering with other portions of the work or with access for operations and maintenance in the completed project.
- D. Where substitute equipment or devices requiring different arrangement or connections from that indicated is accepted by the Architect/Engineer, install the equipment or devices to operate properly and in harmony with the intent of the Contract Documents, making all incidental changes in piping, ductwork or wiring resulting from the equipment or device selection without any additional cost to the Owner. The Contractor shall pay all additional costs incurred by other portions of the work in connection with the substituted equipment or device.
- E. The Architect/Engineer reserves the right to call for samples of any item of material, equipment or device offered in substitution, together with a sample of the specific item when, in their opinion, the quality of the item and/or the appearance is involved, and it is deemed that an evaluation of the item may be better made by visual inspection.
- F. When any request for a substitution of material, equipment or device is submitted and rejected, the item named in the Contract Documents shall be furnished. Repetitive submittal of substitutions for the same item will not be considered.

#### 1.14 INSTALLATION DRAWINGS

- A. Prepare installation drawings for coordinating the work of this Division with the work of other Divisions, to illustrate its concealment in finished spaces, to avoid obstructions, and to demonstrate the adaptability of any item of material, equipment or device in the space upon which the Contract Documents are based.

- B. Use these drawings in the field for the actual installation of this work. Provide three (3) copies, not for approval, to the Architect/Engineer for his information, review and record.

#### 1.15 WORKMANSHIP AND INSTALLATION

- A. In no case shall the Contractor provide a class of material, equipment, device or workmanship less than that required by the Contract Documents or applicable codes, regulations, ordinances or standards. All modifications which may be required by a local authority having legal jurisdiction over all or any part of the work shall be made by the Contractor without any additional charge. In all cases where such authority requires deviations from the requirements of the Drawings or Specifications, the Contractor shall report it to the Owner's Representative and shall secure his approval before the work is started.
- B. The work shall be performed by properly licensed technicians skilled in their respective trades. All materials, equipment and devices shall be installed in accordance with the recommendations of the manufacturer and in the best standard practice to bring about results of a first class condition.
- C. The NECA "Standards of Installation" as published by the National Electrical Contractors Association shall be considered a part of these Specifications, except as specifically modified by other provisions contained in these Specifications.

#### 1.16 RICE NESHAP COMPLIANCE FOR THE DEMAND RESPONSE PROGRAM

- A. All Collin County engines are currently registered with TCEQ in accordance with PBR 106.511 under PBR Registration No. 147428. The CP1500 and Cluster 5 engines are classified for "non-emergency operation" with respect to 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.
- B. With the installation of aftermarket controls on the Cluster 1, Cluster 3, Cluster 4, and Lower B diesel engines, the engines will be reclassified by the contractor's submittal of all required forms and evidence to comply, to TCEQ, from "emergency operation" to "non-emergency operation" with respect to 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.
- C. The contractor shall be sure the installation of aftermarket controls on these engines will not affect the applicability of PBR 106.511 since the operation of these engines will still qualify as "emergency" with respect to PBR 106.511.
- D. All paperwork, required forms and evidence for notification of the reclassification of these engines from "emergency operation" to "non-emergency operation" should be provided to EPA/TCEQ consistent with applicable requirements of 40 CFR §60.4214 and 40 CFR §63.6645.
- E. The contractor shall be required to instruct Collin County of the procedures required to maintain the classification for each engine.

#### 1.17 WARRANTY

- A. All materials, equipment, devices and workmanship shall be warranted for a period of one year from the date of acceptance by the Architect/Engineer for beneficial use by the Owner, except that where specific equipment is noted to have extended warranties. The warranty shall be in accordance with AIA Document A201. The Contractor shall be responsible for the registration of these warranties so that the Owner can make all proper claims should future need develop.

- B. The Contractor shall furnish to the Architect/Engineer for transmittal to the Owner, the name, address and telephone number of those persons responsible for service on systems and equipment covered by the warranty.

#### 1.18 OPERATION PRIOR TO ACCEPTANCE

- A. When any equipment is operable, and it is to the advantage of the Contractor to operate the equipment, the Contractor may do so provided that he properly supervises the operation, and retains full responsibility for the equipment operated. Regardless of whether or not the equipment has or has not been operated, the Contractor shall clean the equipment properly, make required adjustments and complete punch list items before final acceptance by the Owner.

#### 1.19 INSTRUCTION OF OWNER'S PERSONNEL

- A. Provide the services of competent engineers and/or technicians acceptable to the Architect/Engineer to instruct other representatives of the Owner in the complete and detailed operation of each item of equipment or device of all the various electrical systems. These instructions shall be provided for whatever periods may be necessary to accomplish the desired results. Upon completion of these instructions, the Contractor shall obtain a letter of release, acknowledged by the Owner or his authorized representative, stating the dates on which the various kinds of instruction were given, and the personnel to whom the instructions were given.
- B. The Contractor shall be fully responsible for proper maintenance of equipment and systems until the instructions have been given to the Owner's personnel and the letter of release acknowledged.
- C. In providing the instructions to the Owner's personnel, the written operating and maintenance manuals shall be followed in all instances, and the Owner's personnel shall be familiarized with such manuals. Operating and maintenance manuals used for instructions shall include wiring diagrams, manufacturer's operating and maintenance instructions, parts lists (with sources identified), and other data as appropriate for each system.

#### 1.20 SCHEDULE AND SEQUENCE OF WORK

- A. The Contractor shall meet and cooperate with the Owner and Architect/Engineer to schedule and sequence this work so as to insure meeting scheduled completion dates and avoid delaying other portions of the work. Work requiring special sequencing shall be at no additional cost to the Owner and shall have no impact on the schedule.

#### 1.21 INSPECTIONS AND CERTIFICATIONS

- A. Obtain timely inspections of the installation by the regulatory authorities. Remedy any deficiencies to the satisfaction of the inspecting official.
- B. Upon final completion of the work, obtain certificates of acceptance from the regulatory authorities. Deliver the certificates to the Architect/Engineer for transmission to the Owner.

#### 1.22 EQUIPMENT INSTALLATION

- A. Install equipment and devices in a manner to permit access to all surfaces or components, requiring such access, without the need to disassemble other unrelated parts of the work.
- B. Equipment specified to be factory assembled and tested prior to shipment shall not be disassembled at the job site and reassembled at its final location. Apparatus not so specified may be disassembled and reassembled in the proper location.
- C. Furnish all scaffolding, rigging and hoisting required for the installation of all the work.

#### 1.23 EQUIPMENT FOUNDATIONS

- A. Provide foundations for electrical equipment. This shall consist of concrete housekeeping pads constructed in accordance with the details on the Drawings, these Specifications, and manufacturer's recommendations.
- B. All pads shall be 4" high and extend a maximum 2" beyond that actual equipment size. Coordinate the proper size of the pad with the equipment furnished. Furnish all anchor bolts and other accessories required for casting the concrete pad. After the equipment is set on the pad, the equipment shall be fully grouted to the pad and all void spaces shall be filled with a non-shrinking grout.

#### 1.24 SLEEVES

- A. Each conduit, regardless of material, which passes through a concrete slab, masonry wall, or roof or portion of the building structure shall be free from the structure and shall pass through a sleeve.
- B. Sleeves passing through walls or floors on or below grade or in moist areas shall be constructed of galvanized rigid steel and shall be designed with a suitable flange in the center to form a waterproof passage. After the conduit has been installed in the sleeves, the void space around the conduit shall be caulked with jute twine and filled with an asphalt-base compound to insure a waterproof penetration.

#### 1.25 ESCUTCHEONS

- A. In each finished space, provide a chromium plated, sectional escutcheon on each conduit, or hanger rod penetrating a wall, floor or ceiling.
- B. Size escutcheons and collars to fit snugly around conduit and rods.
- C. Where required, provide escutcheons with set screws so that they fit snugly against the finished surface.

### **PART 2 - PRODUCTS**

#### 2.1 SUPPORTING DEVICES

- A. Acceptable Manufacturers:
  - 1. Unistrut Corp.
  - 2. B-Line Systems, Inc.

3. Midland Ross-Kindorf.

B. Materials:

1. Suspension hangers for individual runs shall be zinc plated formed steel type.
2. Malleable iron one hold pipe straps shall be used for vertical runs.
3. Beam clamps shall be used for bar joists and beams.
4. Anti-vibration hangers shall be combination type having a double deflection neoprene element in series with a steel coil spring; double deflection of 0.30"; steel coil spring shall be selected from a 1" static deflection series with a minimum additional travel to solid of 1/2"; spring diameters shall be large enough to permit 15 degree angular misalignment of the rod connecting the hanger to the ceiling support without rubbing the hanger box.
5. Corrosive Areas: PVC; at factory apply a minimum of 10-mil-thick PVC coating, bonded to metal, inside and outside.

C. Approved hangers and stiff leg supports shall be installed in quantity and size as required to carry the weight of raceway and contents and shall be arranged to prevent vibration transmission to the buildings and allow for raceway movement.

D. Hangers shall be supported by means of uncoated solid steel rods which are threaded to allow vertical adjustments. Lock nuts shall be provided in sufficient number and location to lock all rod adjustments permanently at the adjusted height. Two lock nuts shall be used unless the nut tightens against a threaded socket. Minimum rod diameters shall be as follows:

E.	Nominal Conduit Size	Rod Diameter
F.	1/2" through 2"	1/4"
G.	2-1/2" through 3"	3/8"
H.	4" and 5"	1/2"

I. Hanger spacing shall be as required for proper and adequate support raceway, but in no case shall be less than one hanger per 8'-0" of raceway length, except that conduit less than 1" diameter shall be supported at least every 6'-0".

J. Where numerous conduits are run parallel to one another, they may be supported from a trapeze type hanger arrangement with strut bottom.

K. Anti-vibration type hangers shall be provided for equipment as required to minimize vibration and/or as directed by the Architect/Engineer.

L. Support of hangers shall be by means of sufficient quantities of individual after set steel expansion shields, or beam clamps attached to structural steel.

M. Stiff-legs shall be furnished and installed in cases where support from overhead structure is not possible.

N. Furnish and install complete any additional structural support steel, brackets, fasteners, etc., as required to adequately support all raceway and equipment.

## 2.2 ELECTRICAL IDENTIFICATION

A. Provide electrical identification for the following:



1. Electrical equipment with nameplate identifying the item of equipment and the equipment serving the same.
2. Raceways, junction boxes and pull boxes.
3. Wiring devices.
4. Wiring.
5. Three-phase motor rotation.

B. Acceptable Manufacturers:

1. Brady.
2. Panduit.
3. Thomas & Betts.
4. Seton.

C. Nameplates shall be black engraved surface on white core for normal power circuits and red engraved surface on white core for emergency power circuits.

D. Provide for each equipment furnished under this Division identification as to its given name, voltage and origination of service.

E. Provide for each enclosure, disconnect switch and any other similar equipment furnished under this Division identification as to the specific load that it serves and the origination of service.

F. Nameplates shall be laminated, white core, plastic with beveled edges, minimum 1/16 inch thick. Lettering shall be machine-engraved, not less than 1/4" high, cut through the black or red surface to the white core.

G. Raceways shall be identified with voltage rating using pre-printed, self-adhesive labels with black lettering on orange background.

H. Pull boxes shall be provided with a nameplate stating voltage and system served.

I. Wire markers for identification of wiring shall be self-adhesive type having letters and numerals indicating serving equipment and feeder or branch circuit number.

J. Rotation tags shall be brass or aluminum securely attached to equipment.

K. Surfaces to receive labels or nameplates shall be carefully prepared in accordance with the manufacturer's instructions and recommendations.

L. Nameplates shall be properly attached to identify equipment furnished under this Division.

M. Raceway identification shall be provided at a minimum of every 50', at each end if less than 50', and a minimum of once per room or space through which it passes.

N. Wire markers shall be applied to each conductor or cable within equipment identifying the serving equipment and feeder or branch circuit from which the conductors originate.

## 2.3 SITE ELECTRICAL

A. The site electrical work shall include, but not be limited to, the furnishing and installation of necessary materials to make the connections of electrical equipment and for underground conduit.

- B. All site electrical work shall be in accordance with latest National Electrical Code (NEC), Article 300.
- C. The location of all underground electrical work shall be coordinated with all other trades.
- D. Underground installation of more than one conduit shall be in a "ductbank" arrangement. All conduits shall be laid so joints are staggered.
- E. Perform excavation, shoring, backfilling and concrete work in connection with electrical work in accordance with other Divisions of the Specifications.
- F. All underground conduit shall be sloped away from the building to negate water entering the building through the conduit system.
- G. Provide underground warning tape 6" to 12" below finished surface along entire length of underground conduit or ductbank. Provide a separate length of tape every 24" in width of ductbank. Interface installation of underground warning tape with backfilling.
- H. The locations, elevations and voltage of electrical lines and the location of the telephone lines and other utilities included within the area of this work are to be field verified.
- I. The Contractor shall examine the site and shall verify, to his own satisfaction, the location and elevation of all utilities and shall adequately inform himself as to their relation to the work.
- J. Work associated with existing utility lines to be abandoned or removed, located within the scope of this project, will be coordinated by the Contractor (with the Owner's oversight) with the respective utility.
- K. Existing utility lines not indicated but encountered during construction shall be protected, relocated or capped as directed by the Owner's Representative. All precautions shall be exercised to prevent damage to existing lines not shown, but should work become necessary, it must be authorized prior to execution except in an emergency situation.
- L. Before beginning excavations of any nature whatsoever, the Contractor shall make an attempt to locate all underground utilities of every nature occurring within the bounds of the area to be excavated. The Contractor shall then proceed with caution in his excavation work so that no utility shall be damaged with a resultant loss of service.
- M. Should damage result to any utility through the Contractor's negligence or failure to comply with the above directive, he shall be liable for such damage and for all expense incurred in the expeditious repair or replacement of such damaged utilities.
- N. Repair of damaged utilities shall be to a condition equal to or better than the adjacent undamaged portion of such utility and to the complete satisfaction of the Owner.

### **PART 3 - EXECUTION**

#### **3.1 EXCAVATION, TRENCHING AND BACKFILLING**

- A. All excavating, trenching and backfilling shall generally be performed in accordance with the procedures and using the materials as described in Division 2. Provide all excavation required in connection with the installation of the work under this Division. After the work has been installed, tested and approved, backfill all excavations with suitable material.

- B. Bottoms of trenches shall be cut to grade. Should rock be encountered, same shall be excavated to a depth of six (6) inches below bottom of conduit and space shall be filled and tamped as specified hereinafter. Should it be required to lay conduit on fill, fill shall first be compacted.
- C. All conduit shall be installed promptly after excavation has been done so as to keep excavations open as short a time as possible.
- D. Trenches shall be excavated to the required depths. Depth of cover shall be as required by the NEC or as indicated on Drawings. Keep banks of trenches as nearly vertical as possible, and provide adequate shoring where required.
- E. When excavation is below the shale or subgrade level, backfill with granular fill or approved backfill material from the site to a depth of 12 inches above top of conduit, but in no case less than 1'-0" below the subgrade surface. The remainder of backfill to the shale or subgrade surface shall be an impervious material and shall be compacted at not less than 95 percent of the maximum dry density as defined by ASTM D-698. At all times, the top of the subgrade shall be kept in such condition that it will drain readily and effectively. Backfill above the subsurface shall be granular fill or approved select backfill from site.
- F. Beyond building walls or above the shale or subgrade level, backfill with sand or granular fill to a depth of 12 inches above top of conduit and remainder of trench filled with approved select backfill material from the site.
- G. Bottoms of trenches shall be tamped hard and graded to secure the maximum fall. Where rock is excavated below the bottom of the conduit, and before laying the conduit, fill the space between the bottom of the conduit and the rock surface with sand, thoroughly tamped.
- H. Trenches dug in fill shall have the conduit supported down to load-bearing soil. After conduits have been inspected and approved by the Owner's Representative, trenches shall be filled with approved backfill material which shall be firmly compacted, flooded if necessary and thoroughly tamped. Do not backfill with any fill containing rocks, frozen earth or debris.
- I. Include the cutting of all sidewalks, streets and other pavements and repairing the openings in them to return the surface to approximately its original condition.

### 3.2 CUTTING AND PATCHING

- A. Cut all openings required to install the work or to repair any defective work. This cutting shall be performed under the Architect's/Engineer's direction and due diligence exercised to avoid cutting openings larger than required or in the wrong locations.
- B. No cutting or drilling of any sort will be permitted in the webs of prestressed, precast concrete structural elements. Use core drills or power driven saws to cut openings in the flanges of other such structural elements; the use of reciprocating drills will not be permitted. The cutting of structural members without first having received written permission from the Architect/Engineer is prohibited.
- C. Where openings are cut in fire-rated walls or floors, seal the annular space between the work installed and the fire-rated construction. Sealant, as applied, shall be fire rated to maintain the fire rating of the construction penetrated. Sealant shall be re-enterable (before fire) to alter penetrations. Apply in strict accordance with manufacturer's instructions.

### 3.3 SEALING OF PENETRATIONS

- A. All penetrations in horizontal or vertical fire-rated construction shall be sealed using approved fire-rated sealing materials equivalent to the following:
  - 1. Foam: Dow Corning 3-6548 RTV silicone foam, liquid component Part 4 (black) and liquid component Part B (off-white).
  - 2. Sealant: Dow Corning 96-081 RTV silicone adhesive sealant.
  - 3. Damming Materials: Mineral fiberboard, mineral fiber matting, mineral fiber putty, as selected by applicator.
- B. Preparation: Remove combustible materials and loose impediments from penetration opening and involved surfaces. Remove free liquid and oil from penetration surfaces.
- C. Installation: In accordance with manufacturer's instructions, install damming materials and sealant to cover and seal penetration openings; inject foam mixtures into openings.

### 3.4 PROTECTION OF APPARATUS

- A. At all times take every precaution to properly protect apparatus from damage due to dust, dirt, water, etc. or from damage due to physical forces. Include the erection of temporary shelters as required, to adequately protect any apparatus stored at the site, the cribbing of any apparatus directly above the construction, and the covering of apparatus in the incomplete building with tarpaulins or other protective covering. Failure on the part of the Contractor to comply with the above to the entire satisfaction of the Architect/Engineer will be sufficient cause for the rejection of the pieces of apparatus in question.
- B. Responsibility for the protection of apparatus extend also to existing apparatus involved in this Division of the work, whether such apparatus is designated to be used temporarily and later removed, or is to be reused as a part of the permanent installation. Erect temporary sheltering structures, provide temporary bracing and supports, or cover equipment as required or directed to afford proper protection for that equipment.
- C. The Contractor shall protect this work and the work of all other Contractors from damage by his work or workmen and shall make good any damage thus caused. He shall also be responsible for the proper protection of his equipment, machinery, materials and accessories delivered and installed on the job.

### 3.5 INSTALLATION AND CONNECTION OF OTHER DIVISION'S EQUIPMENT

- A. Verify the electrical requirements of all equipment furnished under other Divisions, separate contracts, or by the Owner. Install conduit, power wiring, control wiring, devices, etc. as require for complete operation of all equipment.

3.6 Provide temporary utility services for construction and testing of systems in accordance with the requirements of Division 1 and Division 2. Provide temporary power for the time the generator is off line.

### 3.7 COOPERATION AND CLEAN-UP

- A. It shall be the responsibility of the Contractor to cooperate fully to keep the job site in a clean and safe condition. Upon the completion of the job, the Contractor shall immediately remove all of his tools, equipment, surplus materials and debris.

- B. After the installation is complete, and before the equipment is energized, clean the interior and exterior of all equipment thoroughly. Clean equipment, removing all debris, rubbish and foreign materials. Each component shall be cleaned and all dust and other foreign material removed. Components shall be cleaned of oxidation. The inside and outside of all switchgear shall also be wiped clean with a lemon-oil rag after other cleaning is complete.
- C. Any portion of the work requiring touch-up finishing shall be so finished to equal the specified finish on the product.

### 3.8 RECORD DRAWINGS AND DOCUMENTATION FOR OWNER

- A. The Contractor shall obtain at his own expense a complete set of prints on which to keep an accurate record of the installation of all materials, equipment and devices covered by the Contract. The record drawings shall indicate the location of all equipment and devices, and the routing of all systems. All piping and conduit buried in concrete slabs, walls and below grade shall be located by dimension; both horizontally and by vertical elevation, unless a surface mounted device in each space indicates the exact location. Obtain one complete reproducible set of the original drawings on which to neatly, legibly and accurately transfer all project related notations and deliver these drawings to the Architect/Engineer at job completion before final payment and delivery to the Owner. The above data, with the exception of the record drawings, shall be delivered prior to final acceptance.
- B. The Contractor shall accumulate in duplicate during the job progress, the following data prepared in indexed 3-ring looseleaf, hard-back binders sized for 8-1/2 inch by 11 inch sheets. No binder shall exceed 3-1/2 inches thick. This data shall be turned over to the Architect/Engineer for review and subsequent delivery to the Owner prior to final acceptance.
  - 1. Warranties, guarantees and manufacturer's directions on material, equipment and devices covered by the Contract.
  - 2. Approved wiring diagrams and control diagrams.
  - 3. Copies of approved submittals and shop drawings.
  - 4. Operating instructions for major apparatus and recommended maintenance procedures.
  - 5. Copies of all other data and/or drawings required during construction.
  - 6. Repair parts list of major apparatus, including name, address and telephone number of local supplier or representative.
  - 7. Tag charts and diagrams hereinbefore specified.

### 3.9 FINAL OBSERVATION

- A. The purpose of the final observation is to determine whether the Contractor has completed the construction in accordance with the Contract Documents and that in the Owner Representative's opinion the installation is satisfactory for final acceptance by the Owner.
- B. It shall be the responsibility of the Contractor to assure that the installation is ready for final acceptance prior to calling upon the Architect/Engineer to make a final observation.

END OF SECTION 260050

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## SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Copper building wire rated 600 V or less.
  - 2. Connectors, splices, and terminations rated 600 V and less.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: Indicate type, use, location, and termination locations.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

### PART 2 - PRODUCTS

#### 2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - 1. Alpha Wire Company.
  - 2. Encore Wire Corporation.
  - 3. General Cable Technologies Corporation.
  - 4. Southwire Company.
- C. Standards:
  - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
  - 2. RoHS compliant.
  - 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 or ASTM B 496 for stranded conductors.
- E. Conductor Insulation:

1. Type THHN/THWN and Type THWN-2: Comply with UL 83.

## 2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  1. 3M Electrical Products.
  2. AFC Cable Systems; a part of Atkore International.
  3. Hubbell Power Systems, Inc.
  4. Ideal Industries, Inc.
  5. ILSCO.
  6. NSi Industries LLC.
  7. O-Z/Gedney; a brand of Emerson Industrial Automation.
  8. Thomas & Betts Corporation; A Member of the ABB Group.
- C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.
  1. Material: Copper or Aluminum.
  2. Type: One hole with standard barrel.
  3. Termination: Compression.

## PART 3 - EXECUTION

### 3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

### 3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.
- B. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- C. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- D. Exposed Branch Circuits, Including in Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- E. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.



### 3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

### 3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

### 3.5 IDENTIFICATION

- A. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

END OF SECTION 260519

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## SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Hangers and supports for electrical equipment and systems.
  - 2. Construction requirements for concrete bases.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
    - a. Hangers.
    - b. Steel slotted support systems.
    - c. Trapeze hangers.
    - d. Clamps.
    - e. Turnbuckles.
    - f. Sockets.
    - g. Eye nuts.
    - h. Saddles.
    - i. Brackets.
  - 2. Include rated capacities and furnished specialties and accessories.
- B. Delegated-Design Submittal: For hangers and supports for electrical systems.
  - 1. Include design calculations and details of trapeze hangers.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
  - 1. Structural members to which hangers and supports will be attached.
  - 2. Items penetrating finished ceiling, including the following:
    - a. Sprinklers.
    - b. Access panels.

- B. Welding certificates.

## 1.5 QUALITY ASSURANCE

- A. Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M.
  - 2. AWS D1.2/D1.2M.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design hanger and support system.

### 2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4 factory-fabricated components for field assembly.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Allied Tube & Conduit; a part of Atkore International.
    - b. B-line, an Eaton business.
    - c. ERICO International Corporation.
    - d. GS Metals Corp.
    - e. G-Strut.
    - f. Thomas & Betts Corporation; A Member of the ABB Group.
    - g. Unistrut; Part of Atkore International.
  - 2. Material: Galvanized steel.
  - 3. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
  - 4. Channel Dimensions: Selected for applicable load criteria.
- B. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.
- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) Hilti, Inc.
    - 2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
    - 3) MKT Fastening, LLC.
    - 4) Simpson Strong-Tie Co., Inc.
  
2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) B-line, an Eaton business.
    - 2) Empire Tool and Manufacturing Co., Inc.
    - 3) Hilti, Inc.
    - 4) ITW Ramset/Red Head; Illinois Tool Works, Inc.
    - 5) MKT Fastening, LLC.
  
3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
  
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
  
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
  
6. Toggle Bolts: Stainless-steel springhead type.
  
7. Hanger Rods: Threaded steel.

## 2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

## PART 3 - EXECUTION

### 3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems unless requirements in this Section are stricter.
  
- B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
  
- C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMTs, IMCs, and RMCs as scheduled in NECA 1, where its Table 1 lists maximum spacings

that are less than those stated in NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

- D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
  - 1. Secure raceways and cables to these supports with two-bolt conduit clamps.

### 3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMTs, IMCs, and RMCs may be supported by openings through structure members, according to NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
  - 1. To Wood: Fasten with lag screws or through bolts.
  - 2. To New Concrete: Bolt to concrete inserts.
  - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
  - 4. To Existing Concrete: Expansion anchor fasteners.
  - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
  - 6. To Steel: Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
  - 7. To Light Steel: Sheet metal screws.
  - 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

### 3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

### 3.4 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete.
- C. Anchor equipment to concrete base as follows:
  - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
  - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

### 3.5 PAINTING

- A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

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## SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Metal conduits and fittings.
2. Nonmetallic conduits and fittings.
3. Metal wireways and auxiliary gutters.
4. Boxes, enclosures, and cabinets.
5. Handholes and boxes for exterior underground cabling.

##### B. Related Requirements:

1. Section 078413 "Penetration Firestopping" for firestopping at conduit and box entrances.

#### 1.2 ACTION SUBMITTALS

##### A. Product Data: For each type of product.

##### B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

#### 1.3 INFORMATIONAL SUBMITTALS

##### A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:

1. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

### PART 2 - PRODUCTS

#### 2.1 METAL CONDUITS AND FITTINGS

##### A. Metal Conduit:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - a. AFC Cable Systems; a part of Atkore International.
  - b. Allied Tube & Conduit; a part of Atkore International.
  - c. O-Z/Gedney; a brand of Emerson Industrial Automation.
  - d. Patriot Aluminum Products, LLC.
  - e. Perma-Cote.
  - f. Plasti-Bond.

- g. Republic Conduit.
  - h. Thomas & Betts Corporation; A Member of the ABB Group.
  - i. Western Tube and Conduit Corporation.
  - j. Wheatland Tube Company.
2. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  3. GRC: Comply with ANSI C80.1 and UL 6.
  4. ARC: Comply with ANSI C80.5 and UL 6A.
  5. IMC: Comply with ANSI C80.6 and UL 1242.
  6. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
    - a. Comply with NEMA RN 1.
    - b. Coating Thickness: 0.040 inch (1 mm), minimum.
  7. EMT: Comply with ANSI C80.3 and UL 797.
  8. FMC: Comply with UL 1; zinc-coated steel or aluminum.
  9. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- B. Metal Fittings: Comply with NEMA FB 1 and UL 514B.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
    - a. AFC Cable Systems; a part of Atkore International.
    - b. Allied Tube & Conduit; a part of Atkore International.
    - c. Electri-Flex Company.
    - d. O-Z/Gedney; a brand of Emerson Industrial Automation.
    - e. Patriot Aluminum Products, LLC.
    - f. Perma-Cote.
    - g. Plasti-Bond.
    - h. Republic Conduit.
    - i. Thomas & Betts Corporation; A Member of the ABB Group.
    - j. Western Tube and Conduit Corporation.
    - k. Wheatland Tube Company.
  2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  3. Fittings, General: Listed and labeled for type of conduit, location, and use.
  4. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
  5. Fittings for EMT:
    - a. Material: Steel or die cast.
    - b. Type: Compression.
  6. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
  7. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.

- C. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

## 2.2 NONMETALLIC CONDUITS AND FITTINGS

### A. Nonmetallic Conduit:

- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - a. AFC Cable Systems; a part of Atkore International.
  - b. CANTEX INC.
  - c. CertainTeed Corporation.
  - d. Electri-Flex Company.
  - e. Lamson & Sessions.
  - f. RACO; Hubbell.
  - g. Thomas & Betts Corporation; A Member of the ABB Group.

### B. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- 1. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

### C. Nonmetallic Fittings:

- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - a. AFC Cable Systems; a part of Atkore International.
  - b. CANTEX INC.
  - c. CertainTeed Corporation.
  - d. Electri-Flex Company.
  - e. Lamson & Sessions.
  - f. Thomas & Betts Corporation; A Member of the ABB Group.
- 2. Fittings, General: Listed and labeled for type of conduit, location, and use.
- 3. Fittings for RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
- 4. Solvents and Adhesives: As recommended by conduit manufacturer.

## 2.3 BOXES, ENCLOSURES, AND CABINETS

### A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- 1. Adalet.
- 2. Crouse-Hinds, an Eaton business.
- 3. EGS/Appleton Electric.
- 4. Hoffman; a brand of Pentair Equipment Protection.
- 5. Hubbell Incorporated.

6. Hubbell Incorporated; Wiring Device-Kellems.
  7. Milbank Manufacturing Co.
  8. MonoSystems, Inc.
  9. Oldcastle Enclosure Solutions.
  10. O-Z/Gedney; a brand of Emerson Industrial Automation.
  11. RACO; Hubbell.
  12. Spring City Electrical Manufacturing Company.
  13. Thomas & Betts Corporation; A Member of the ABB Group.
  14. Wiremold / Legrand.
- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.
- D. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized, cast iron with gasketed cover.
- E. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 12 with continuous-hinge cover with flush latch unless otherwise indicated.
1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
  2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- F. Cabinets:
1. NEMA 250, Type 12 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
  2. Hinged door in front cover with flush latch and concealed hinge.
  3. Key latch to match panelboards.
  4. Metal barriers to separate wiring of different systems and voltage.
  5. Accessory feet where required for freestanding equipment.

## PART 3 - EXECUTION

### 3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
1. Exposed Conduit: GRC or IMC.
  2. Concealed Conduit, Aboveground: GRC or IMC.
  3. Underground Conduit: RNC, Type EPC-40-PVC.
  4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
  5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated.
1. Exposed, Not Subject to Physical Damage: EMT.
  2. Exposed, Not Subject to Severe Physical Damage: EMT.
  3. Exposed and Subject to Severe Physical Damage: GRC or IMC. Raceway locations include the following:

- a. Mechanical rooms.
  - 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
  - 5. Damp or Wet Locations: GRC or IMC.
  - 6. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
- 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
  - 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
  - 3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
  - 4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F. Install surface raceways only where indicated on Drawings.
- G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).

### 3.2 INSTALLATION

- A. Comply with requirements in Section 260050 "Hangers and Supports for Electrical Systems" for hangers and supports.
- B. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies.
- C. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.
- D. Do not fasten conduits onto the bottom side of a metal deck roof.
- E. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- F. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- G. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.
- H. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

- I. Install conduits parallel or perpendicular to building lines.
- J. Support conduit within 12 inches (300 mm) of enclosures to which attached.
- K. Raceways Embedded in Slabs:
  - 1. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot (3-m) intervals.
  - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
  - 3. Arrange raceways to keep a minimum of 2 inches (50 mm) of concrete cover in all directions.
  - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
- L. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- M. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- N. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- O. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35-mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- P. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- Q. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
- R. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
  - 1. Where conduits pass from warm to cold locations.
  - 2. Where an underground raceway enters a building or structure.
  - 3. Conduit extending from interior to exterior of building.
  - 4. Where otherwise required by NFPA 70.
- S. Expansion-Joint Fittings:
  - 1. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:

- a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
  - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
  - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change.
  - d. Attics: 135 deg F (75 deg C) temperature change.
2. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per degree F (0.06 mm per meter of length of straight run per degree C) of temperature change for PVC conduits.
  3. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
  4. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- T. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and 36 inches for transformers and motors.
1. Use LFMC in damp or wet locations not subject to severe physical damage.
- U. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- V. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

### 3.3 INSTALLATION OF UNDERGROUND CONDUIT

#### A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit.
2. Install backfill as specified in Section 260050.
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches (300 mm) of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 260050.
4. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
  - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete for a minimum of 12 inches (300 mm) on each side of the coupling.
  - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
5. Underground Warning Tape: Comply with requirements in Section 260050.

### 3.4 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
  - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
  - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533



## SECTION 263601 - OXIDATION CATALYST SYSTEM

### CLUSTER 1 AND 3

#### PART 1 - GENERAL

##### 1.0 SUMMARY

- A. A. The NESHAP Oxidation Catalyst shall be designed and manufactured in order to meet the least stringent requirement according to EPA RICE NESHAP Rule 40 CFR Part 63, Subpart ZZZZ rule, where applicable.
1. Compression Ignited Engines:  
a. 500 hp, 23 ppmvd @ 15% O<sub>2</sub> of CO or 70% reduction of CO
- B. B. Major sources are defined as any site emitting either 10 or more tons per year of any one Hazardous Air Pollutant (e.g, formaldehyde) or 25 tons or more per year of any combination of Hazardous Air Pollutant (e.g., formaldehyde, acrolein, etc.). Area sources are defined as any site that is not a major source.

##### 1.1 SUBMITTALS

- A. The system supplier/major manufacturer must provide the following product description and data.
1. Drawings, catalogs cuts, brochures, and other materials required to completely describe the system and equipment being furnished.
2. Oxidation Catalyst System design shall be based on the following base engine exhaust data:  
a. Engine Power in BHP: 750  
b. Exhaust Temperature at the location of the catalyst in °F: 650  
c. Exhaust Flow Rate on SCFH/BHP: 320  
d. Allowable Exhaust Back Pressure Limit in inches of water column ("WC): 5" (clean)  
e. Carbon Monoxide (CO) in grams/BHP-hr: 0.5  
f. Exhaust Oxygen Content in percent: 12
3. Guaranteed post-catalyst emissions at the stable design point for the Oxidation Catalyst System shall include:  
a. Carbon Monoxide (CO) in grams/BHP-hr: 0.15
4. O&M Manuals including installation guidelines for the converter housing and catalyst shall be provided in hard copy with the equipment and available electronically for review upon purchase.

##### 1.2 SUPPLIER/MANUFACTURER QUALIFICATIONS

- A. The Oxidation Catalyst System shall be successfully proven in similar NESHAP stationary applications. The supplier/major manufacturer shall provide a complete list of such installations.
- B. Supplier/major manufacturer to have successfully commissioned at least (1000) Oxidation Catalyst System units installed on stationary reciprocating internal combustion engines within the United States.

- C. Supplier/manufacture to have a minimum of 5 years aftermarket retrofit experience supplying Oxidation Catalyst equipment for stationary reciprocating internal combustion engines in the United States.
- D. Supplier/manufacture to show proof of supplying aftermarket emission control systems to multiple engine makes and models.
- E. E. All dimensions of both the catalyst housing and catalyst element shall be verified for accuracy by the supplier/manufacture.

### 1.3 DELIVERY, STORAGE AND HANDLING

- A. Equipment, material and spare parts will ship to the contractor.

### 1.4 MAINTENANCE

- A. The supplier/manufacture shall maintain an adequate stock, within the United States, of maintenance/replacement parts for the system, including catalyst elements.
- B. B. Supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.5 WARRANTY

- A. All equipment supplied under this Section shall be warranted to achieve the guaranteed post-catalyst emissions by the supplier/manufacture for the duration of 36 months or 1800 hours whichever comes first from the date the product is complete and available for shipments. The specifics of the warranty should be included within the quotation.
- B. B. The supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.6 COMMISSIONING AND FIELD SERVICE SUPPORT

- A. Supplier/manufacture shall have a United States based service department staffed with no less than (2) factory trained and certified emissions technicians. Service technician qualifications must be available for review and approval upon request.
- B. Service technicians must be qualified to train operating personnel on the general operating, maintenance and troubleshooting of the system.

## PART 2 - PRODUCTS

### 2.0 CATALYTIC REDUCTION SYSTEMS FOR ENGINE EXHAUST

- C. A. Basis of design product: oxidation catalyst reduction system supplier/manufacturers: MIRATECH Corporation. SP-RCS2-3628-TBD-EL1 or comparable product by one of the following:
  - 1. Safety Power Inc.
- D. B. The engine(s) shall be furnished with a catalytic reduction system to bring warranted exhaust emission reductions detailed in 1.0.A.1 of this specification.
- E. C. Site specific customized products should be made available that that minimize or eliminate the need for modifications in existing piping and support structures, if required.

### 2.1 OXIDATION CATALYST SYSTEM COMPONENTS

#### A. Oxidation Catalyst Reactor Housing

- 1. Shall contain an insertion track system, which allows catalyst elements to be slid into place from outside the housing. If required, flexibility to add catalysts for future further emission reductions should be made available.
- 2. Shall be a rigid structure of a minimum material thickness of 12 GA, which will not warp or deform significantly during normal operation.
- 3. Transition pieces shall be Non Code Standard F&D Dished Head in order to minimize welds and optimize structural integrity.
- 4. Shall be designed to allow for thermal expansion differences within the housing, while preventing exhaust gas from leaking past the catalyst.
- 5. The housing shall be complete with inlet and outlet flanged pipe sections designed for bolting to the exhaust gas ductwork. Connection to the engine exhaust system will be via standard ANSI 150 lb pattern, flat faced flanges.
- 6. Shall be equipped with a bolted on access door(s) to the catalyst elements. The door(s) shall incorporate a handle and can be easily removed without the assistance of lifting equipment and be on the top or the side of the housing. Door(s) shall be designed with non-asbestos gasket sealing to prevent exhaust gas from leaking to the atmosphere. Bolt in, clam shell, or other catalyst access designs that require disassembling exhaust piping for catalyst removal will be deemed unacceptable.
- 7. Shall be constructed of carbon steel, painted with high temperature black paint on the exterior only, or unpainted 304L stainless steel, based on the recommendation of the supplier/manufacturer. Fabrication steel is 14 gauge or thicker to provide structural support and rigidity.
- 8. Shall provide a minimum of (3) ½-inch NPT couplings for differential pressure and inlet temperature measurement upstream and downstream of the catalyst elements.
- 9. Flange bolt holes shall straddle the vertical centerline or slip flanges may be provided, if required.

10. Shall have an engraved metal nameplate providing serial number and supplier/manufacturer reference material.
11. Shall have the option to be insulated.
12. Supplier/manufacturer shall have the ability to provide all of the following requirements listed in this Section 2.1.A: standalone converter and combination converter/silencer. Supplier/manufacturer shall supply site specific customized housings, if required.
  - a. Inline Catalyst Only Housing
    - i. Shall minimize impact on backpressure
  - b. Catalyst/Silencer Housing
    - i. Supplier/manufacturer shall incorporate support structure including skirt, feet, and trunnion mounts, if required. Self-supported housings incorporating skirt, feet or trunnions shall be successfully proven by finite element analysis and in similar installed applications.
    - ii. Supplier/manufacturer shall design the catalyst access at ground level if piping permits it in the design. This requires that the inlet piping enters the housing adequately above ground level to allow for the incorporation of the design.
    - iii. Shall be designed as a standalone converter or as a combination converter/silencer. Silencer designs shall be available for critical grade, and higher sound reduction.
    - iv. If a silencer is currently installed, the supplied Catalyst/Silencer Housing shall be designed such that the backpressure is equivalent to or lower than the existing system backpressure and maintain equivalent or better sound reductions.

**B. Oxidation Catalyst Elements**

1. The catalyst element shall be composed of a substrate, washcoat, and catalytically active materials.
2. The substrate shall be a high-temperature rated alloy metal foil. The foil is packaged to create a honeycomb-like structure to provide numerous small channels for the exhaust to flow through the element. The channels shall provide a high surface area and multiple turbulent zones without causing excessive exhaust backpressure.
3. The supplier/manufacturer of the catalyst substrate shall have the ability to offer various cell densities (CPSI) in order to provide an optimized solution for performance and backpressure.
4. The catalyst foil shall be made of turbulence-optimized substrate with active anti-telescoping technology; therefore, eliminating the need for substrate support that will impeded flow across the catalyst and increase the system cost.
5. The washcoat shall be composed on a high surface area alumina-based material, with additives designed to resist sulfur poisoning and to limit the conversion of SO<sub>2</sub> to SO<sub>3</sub>.
6. The catalytically active materials shall be a combination of Platinum Group Metals (PGM), including platinum. The PDM shall be deposited on the washcoat by chemisorption.

7. The catalyst element shall be wrapped with a 304L stainless steel band.
8. A combination sealing plate/lifting handle shall be welded to the band. The plate shall be constructed of 304L stainless steel.
9. A single high temperature vermiculite impregnated fiberglass gasket shall be wrapped around the element to seal it within the housing. The top surface of the sealing plate shall be sealed against the door when it is installed.
10. Shall be designed for perimeter sealing of the catalyst within the housing in order to allow for ease of installation/removal of catalyst element(s) and robust performance throughout the life of the catalyst element(s). Face sealing catalyst designs shall be deemed unacceptable as the sealing mechanism degrades as a consequence of thermal cycles.
11. The minimum catalyst inlet temperature is 450° F, however, higher temperature will lead to higher reduction percentages. The catalyst substrate and metal foil shall not sinter or degrade when exposed to exhaust temperatures up to 1,250° F.
12. The catalyst(s) must be removable via bolt-on access doors. This will allow for the element(s) to be sent to the supplier/manufacturer for periodic washes and allows easier replacement of damaged/poisoned catalyst(s).

C. Closed Crankcase Ventilation System

1. Provide CCV System in accordance with Reciprocating Internal Combustion Engines National Emission Standards for Hazardous Air Pollutants (RICE-NESHAP) regulation
2. System shall remove particles of contamination and oil mist down to .3 microns at a 99.5% efficiency level.
3. CCV System shall be a bolt on complete kit for ease of installation and future maintenance. Racor CCV6000

D. CPMS and Data Logging System

1. Basis of Design: Miratech Mira-Monitor 2.2-OM-RTU485, or compatible product by one of the following:
  - i. Safety Power, Inc.
2. Provide a Continuous Parametric Monitoring System (CPMS) to meet RICE NESHAP requirements by providing complete catalyst monitoring for total control over regulation compliance.
3. Provide the technology equipment needed to monitor and record inlet temperature and differential pressure to comply with NESHAP CPMS requirements. System shall be configurable to extract logged data reports using system provided computer software for providing credible evidence of continuous compliance.
4. Log catalyst inlet temperature and differential pressure samples every minute and record 1-hour and 4-hour averages from the samples taken. Start recording data when the differential pressure is greater than 1" of water column. The system should not require an engine run or engine speed signal. The logger will stop recording data when the differential pressure drops below 1" of water column. Two red lamps on the front of the panel will indicate if there is high exhaust temperature or high differential pressure.

5. The user will be able to manually start or stop logging and step through the operating parameters. The user will be able to easily connect to the logger with a laptop or desk top computer and an ethernet cable, or remove the compact flash card and download the log file with a card reader.
6. System software shall be plug-and-play in nature for collection of data and shall require no manipulation of data in order to generate monthly reporting.
7. Shall include necessary ancillary components including a K-type thermocouple/transmitter and differential pressure gauge/transmitter.
8. Shall be completely contained within a NEMA 4X enclosure.

### **PART 3 - EXECUTION**

#### 3.1 Installation

- A. Remove existing silencer and insulation, dispose of removed materials.
  1. Install critical grade silencer and oxidation catalyst using existing mounting hardware. Provide new gaskets, nuts, bolts and washers.
  2. Modify existing pipe and exhaust system as needed.
  3. Install control monitoring system and sensors into catalyst. Provide control cabling and conduit, and 120V circuit.
  4. Install closed crankcase ventilation system per manufacturer's recommendations.
  5. After testing is completed, insulate new catalyst and silencer.

#### 3.2 Testing

- A. Test system per EPA and TCEQ requirements for certification.
  1. File forms with TCEQ for approval to operate as "Reclassified for the Demand Response Revenue Capture Program".

END OF SECTION 263601

## SECTION 263602 - OXIDATION CATALYST SYSTEM

### CLUSTER 4

#### PART 1 - GENERAL

##### 1.0 SUMMARY

- A. A. The NESHAP Oxidation Catalyst shall be designed and manufactured in order to meet the least stringent requirement according to EPA RICE NESHAP Rule 40 CFR Part 63, Subpart ZZZZ rule, where applicable.
1. Compression Ignited Engines:  
a. 750 hp, 23 ppmvd @ 15% O<sub>2</sub> of CO or 70% reduction of CO
- B. B. Major sources are defined as any site emitting either 10 or more tons per year of any one Hazardous Air Pollutant (e.g, formaldehyde) or 25 tons or more per year of any combination of Hazardous Air Pollutant (e.g., formaldehyde, acrolein, etc.). Area sources are defined as any site that is not a major source.

##### 1.1 SUBMITTALS

- A. The system supplier/manufacturer must provide the following product description and data.
1. Drawings, catalogs cuts, brochures, and other materials required to completely describe the system and equipment being furnished.
2. Oxidation Catalyst System design shall be based on the following base engine exhaust data:  
a. Engine Power in BHP: 600  
b. Exhaust Temperature at the location of the catalyst in °F: 850  
c. Exhaust Flow Rate on SCFH: 93,000  
d. Allowable Exhaust Back Pressure Limit in inches of water column ("WC):15" (clean)  
e. Carbon Monoxide (CO) in grams/BHP-hr: 1.1  
f. Exhaust Oxygen Content in percent: 10
3. Guaranteed post-catalyst emissions at the stable design point for the Oxidation Catalyst System shall include:  
a. Carbon Monoxide (CO) in grams/BHP-hr: 0.33
4. O&M Manuals including installation guidelines for the converter housing and catalyst shall be provided in hard copy with the equipment and available electronically for review upon purchase.

##### 1.2 SUPPLIER/MANUFACTURER QUALIFICATIONS

- A. The Oxidation Catalyst System shall be successfully proven in similar NESHAP stationary applications. The supplier/manufacturer shall provide a complete list of such installations.
- B. Supplier/manufacturer to have successfully commissioned at least (1000) Oxidation Catalyst System units installed on stationary reciprocating internal combustion engines within the United States.

- C. Supplier/manufacture to have a minimum of 5 years aftermarket retrofit experience supplying Oxidation Catalyst equipment for stationary reciprocating internal combustion engines in the United States.
- D. Supplier/manufacture to show proof of supplying aftermarket emission control systems to multiple engine makes and models.
- E. E. All dimensions of both the catalyst housing and catalyst element shall be verified for accuracy by the supplier/manufacture.

### 1.3 DELIVERY, STORAGE AND HANDLING

- A. Equipment, material and spare parts will ship to the contractor.

### 1.4 MAINTENANCE

- A. The supplier/manufacture shall maintain an adequate stock, within the United States, of maintenance/replacement parts for the system, including catalyst elements.
- B. B. Supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.5 WARRANTY

- A. All equipment supplied under this Section shall be warranted to achieve the guaranteed post-catalyst emissions by the supplier/manufacture for the duration of 36 months or 1800 hours whichever comes first from the date the product is complete and available for shipments. The specifics of the warranty should be included within the quotation.
- B. B. The supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.6 COMMISSIONING AND FIELD SERVICE SUPPORT

- A. Supplier/manufacture shall have a United States based service department staffed with no less than (2) factory trained and certified emissions technicians. Service technician qualifications must be available for review and approval upon request.
- B. Service technicians must be qualified to train operating personnel on the general operating, maintenance and troubleshooting of the system.



## PART 2 - PRODUCTS

### 2.0 CATALYTIC REDUCTION SYSTEMS FOR ENGINE EXHAUST

- C. A. Basis of design product: oxidation catalyst reduction system supplier/manufacturers: MIRATECH Corporation. SP-RCS2-2214-08-L2 or comparable product by one of the following:
  - 1. Safety Power Inc.
- D. B. The engine(s) shall be furnished with a catalytic reduction system to bring warranted exhaust emission reductions detailed in 1.0.A.1 of this specification.
- E. C. Site specific customized products should be made available that that minimize or eliminate the need for modifications in existing piping and support structures, if required.

### 2.1 OXIDATION CATALYST SYSTEM COMPONENTS

#### A. Oxidation Catalyst Reactor Housing

- 1. Shall contain an insertion track system, which allows catalyst elements to be slid into place from outside the housing. If required, flexibility to add catalysts for future further emission reductions should be made available.
- 2. Shall be a rigid structure of a minimum material thickness of 12 GA, which will not warp or deform significantly during normal operation.
- 3. Transition pieces shall be Non Code Standard F&D Dished Head in order to minimize welds and optimize structural integrity.
- 4. Shall be designed to allow for thermal expansion differences within the housing, while preventing exhaust gas from leaking past the catalyst.
- 5. The housing shall be complete with inlet and outlet flanged pipe sections designed for bolting to the exhaust gas ductwork. Connection to the engine exhaust system will be via standard ANSI 150 lb pattern, flat faced flanges.
- 6. Shall be equipped with a bolted on access door(s) to the catalyst elements. The door(s) shall incorporate a handle and can be easily removed without the assistance of lifting equipment and be on the top or the side of the housing. Door(s) shall be designed with non-asbestos gasket sealing to prevent exhaust gas from leaking to the atmosphere. Bolt in, clam shell, or other catalyst access designs that require disassembling exhaust piping for catalyst removal will be deemed unacceptable.
- 7. Shall be constructed of carbon steel, painted with high temperature black paint on the exterior only, or unpainted 304L stainless steel, based on the recommendation of the supplier/manufacturer. Fabrication steel is 14 gauge or thicker to provide structural support and rigidity.
- 8. Shall provide a minimum of (3) ½-inch NPT couplings for differential pressure and inlet temperature measurement upstream and downstream of the catalyst elements.
- 9. Flange bolt holes shall straddle the vertical centerline or slip flanges may be provided, if required.

10. Shall have an engraved metal nameplate providing serial number and supplier/manufacturer reference material.
11. Shall have the option to be insulated.
12. Supplier/manufacturer shall have the ability to provide all of the following requirements listed in this Section 2.1.A: standalone converter and combination converter/silencer. Supplier/manufacturer shall supply site specific customized housings, if required.
  - a. Inline Catalyst Only Housing
    - i. Shall minimize impact on backpressure
  - b. Catalyst/Silencer Housing
    - i. Supplier/manufacturer shall incorporate support structure including skirt, feet, and trunnion mounts, if required. Self-supported housings incorporating skirt, feet or trunnions shall be successfully proven by finite element analysis and in similar installed applications.
    - ii. Supplier/manufacturer shall design the catalyst access at ground level if piping permits it in the design. This requires that the inlet piping enters the housing adequately above ground level to allow for the incorporation of the design.
    - iii. Shall be designed as a standalone converter or as a combination converter/silencer. Silencer designs shall be available for critical grade, and higher sound reduction.
    - iv. If a silencer is currently installed, the supplied Catalyst/Silencer Housing shall be designed such that the backpressure is equivalent to or lower than the existing system backpressure and maintain equivalent or better sound reductions.

**B. Oxidation Catalyst Elements**

1. The catalyst element shall be composed of a substrate, washcoat, and catalytically active materials.
2. The substrate shall be a high-temperature rated alloy metal foil. The foil is packaged to create a honeycomb-like structure to provide numerous small channels for the exhaust to flow through the element. The channels shall provide a high surface area and multiple turbulent zones without causing excessive exhaust backpressure.
3. The supplier/manufacturer of the catalyst substrate shall have the ability to offer various cell densities (CPSI) in order to provide an optimized solution for performance and backpressure.
4. The catalyst foil shall be made of turbulence-optimized substrate with active anti-telescoping technology; therefore, eliminating the need for substrate support that will impeded flow across the catalyst and increase the system cost.
5. The washcoat shall be composed on a high surface area alumina-based material, with additives designed to resist sulfur poisoning and to limit the conversion of SO<sub>2</sub> to SO<sub>3</sub>.
6. The catalytically active materials shall be a combination of Platinum Group Metals (PGM), including platinum. The PDM shall be deposited on the washcoat by chemisorption.

7. The catalyst element shall be wrapped with a 304L stainless steel band.
8. A combination sealing plate/lifting handle shall be welded to the band. The plate shall be constructed of 304L stainless steel.
9. A single high temperature vermiculite impregnated fiberglass gasket shall be wrapped around the element to seal it within the housing. The top surface of the sealing plate shall be sealed against the door when it is installed.
10. Shall be designed for perimeter sealing of the catalyst within the housing in order to allow for ease of installation/removal of catalyst element(s) and robust performance throughout the life of the catalyst element(s). Face sealing catalyst designs shall be deemed unacceptable as the sealing mechanism degrades as a consequence of thermal cycles.
11. The minimum catalyst inlet temperature is 450° F, however, higher temperature will lead to higher reduction percentages. The catalyst substrate and metal foil shall not sinter or degrade when exposed to exhaust temperatures up to 1,250° F.
12. The catalyst(s) must be removable via bolt-on access doors. This will allow for the element(s) to be sent to the supplier/manufacturer for periodic washes and allows easier replacement of damaged/poisoned catalyst(s).

C. Closed Crankcase Ventilation System

1. Provide CCV System in accordance with Reciprocating Internal Combustion Engines National Emission Standards for Hazardous Air Pollutants (RICE-NESHAP) regulation
2. System shall remove particles of contamination and oil mist down to .3 microns at a 99.5% efficiency level.
3. CCV System shall be a bolt on complete kit for ease of installation and future maintenance. Racor CCV6000

D. CPMS and Data Logging System

1. Basis of Design: Miratech Mira-Monitor 2.2-OM-RTU485, or compatible product by one of the following:
  - i. Safety Power, Inc.
2. Provide a Continuous Parametric Monitoring System (CPMS) to meet RICE NESHAP requirements by providing complete catalyst monitoring for total control over regulation compliance.
3. Provide the technology equipment needed to monitor and record inlet temperature and differential pressure to comply with NESHAP CPMS requirements. System shall be configurable to extract logged data reports using system provided computer software for providing credible evidence of continuous compliance.
4. Log catalyst inlet temperature and differential pressure samples every minute and record 1-hour and 4-hour averages from the samples taken. Start recording data when the differential pressure is greater than 1" of water column. The system should not require an engine run or engine speed signal. The logger will stop recording data when the differential pressure drops below 1" of water column. Two red lamps on the front of the panel will indicate if there is high exhaust temperature or high differential pressure.

5. The user will be able to manually start or stop logging and step through the operating parameters. The user will be able to easily connect to the logger with a laptop or desk top computer and an ethernet cable, or remove the compact flash card and download the log file with a card reader.
6. System software shall be plug-and-play in nature for collection of data and shall require no manipulation of data in order to generate monthly reporting.
7. Shall include necessary ancillary components including a K-type thermocouple/transmitter and differential pressure gauge/transmitter.
8. Shall be completely contained within a NEMA 4X enclosure.

### **PART 3 - EXECUTION**

#### 3.1 Installation

- A. Remove existing silencer and insulation, dispose of removed materials.
  1. Install critical grade silencer and oxidation catalyst using existing mounting hardware. Provide new gaskets, nuts, bolts and washers.
  2. Modify existing pipe and exhaust system as needed.
  3. Install control monitoring system and sensors into catalyst. Provide control cabling and conduit, and 120V circuit.
  4. Install closed crankcase ventilation system per manufacturer's recommendations.
  5. After testing is completed, insulate new catalyst and silencer.

#### 3.2 Testing

- A. Test system per EPA and TCEQ requirements for certification.
  1. File forms with TCEQ for approval to operate as "Reclassified for the Demand Response Revenue Capture Program".

END OF SECTION 263601

## SECTION 263603 - OXIDATION CATALYST SYSTEM

### LOWER B

#### PART 1 - GENERAL

##### 1.0 SUMMARY

A. The NESHAP Oxidation Catalyst shall be designed and manufactured in order to meet the least stringent requirement according to EPA RICE NESHAP Rule 40 CFR Part 63, Subpart ZZZZ rule, where applicable.

1. Compression Ignited Engines:
  - a. 1500 hp, 23 ppmvd @ 15% O<sub>2</sub> of CO or 70% reduction of CO

B. Major sources are defined as any site emitting either 10 or more tons per year of any one Hazardous Air Pollutant (e.g., formaldehyde) or 25 tons or more per year of any combination of Hazardous Air Pollutant (e.g., formaldehyde, acrolein, etc.). Area sources are defined as any site that is not a major source.

##### 1.1 SUBMITTALS

A. The system supplier/manufacturer must provide the following product description and data.

1. Drawings, catalogs cuts, brochures, and other materials required to completely describe the system and equipment being furnished.
2. Oxidation Catalyst System design shall be based on the following base engine exhaust data:
  - a. Engine Power in BHP: 1300
  - b. Exhaust Temperature at the location of the catalyst in °F: 650
  - c. Exhaust Flow Rate on SCFH/BHP: 320
  - d. Allowable Exhaust Back Pressure Limit in inches of water column ("WC): 4" (clean)
  - e. Carbon Monoxide (CO) in grams/BHP-hr: 0.5
  - f. Exhaust Oxygen Content in percent: 12
3. Guaranteed post-catalyst emissions at the stable design point for the Oxidation Catalyst System shall include:
  - a. Carbon Monoxide (CO) in grams/BHP-hr: 0.15
4. O&M Manuals including installation guidelines for the converter housing and catalyst shall be provided in hard copy with the equipment and available electronically for review upon purchase.

##### 1.2 SUPPLIER/MANUFACTURER QUALIFICATIONS

A. The Oxidation Catalyst System shall be successfully proven in similar NESHAP stationary applications. The supplier/manufacturer shall provide a complete list of such installations.

B. Supplier/manufacturer to have successfully commissioned at least (1000) Oxidation Catalyst System units installed on stationary reciprocating internal combustion engines within the United States.

- C. Supplier/manufacture to have a minimum of 5 years aftermarket retrofit experience supplying Oxidation Catalyst equipment for stationary reciprocating internal combustion engines in the United States.
- D. Supplier/manufacture to show proof of supplying aftermarket emission control systems to multiple engine makes and models.
- E. All dimensions of both the catalyst housing and catalyst element shall be verified for accuracy by the supplier/manufacture.

### 1.3 DELIVERY, STORAGE AND HANDLING

- A. Equipment, material and spare parts will ship to the contractor.

### 1.4 MAINTENANCE

- A. The supplier/manufacture shall maintain an adequate stock, within the United States, of maintenance/replacement parts for the system, including catalyst elements.
- B. Supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.5 WARRANTY

- A. All equipment supplied under this Section shall be warranted to achieve the guaranteed post-catalyst emissions by the supplier/manufacture for the duration of 36 months or 1800 hours whichever comes first from the date the product is complete and available for shipments. The specifics of the warranty should be included within the quotation.
- B. The supplier/manufacture shall provide a written guarantee of performance tied directly to the engine supplier/manufacture's written guarantee and shall be evaluated on stated levels of pollutants.

### 1.6 COMMISSIONING AND FIELD SERVICE SUPPORT

- A. Supplier/manufacture shall have a United States based service department staffed with no less than (2) factory trained and certified emissions technicians. Service technician qualifications must be available for review and approval upon request.
- B. Service technicians must be qualified to train operating personnel on the general operating, maintenance and troubleshooting of the system.

## PART 2 - PRODUCTS

### 2.0 CATALYTIC REDUCTION SYSTEMS FOR ENGINE EXHAUST

- A. Basis of design product: oxidation catalyst reduction system supplier/manufacturers: MIRATECH Corporation. SP-RCS2-4838-TBD-EL1 or comparable product by one of the following:
  - 1. Safety Power Inc.
- B. The engine(s) shall be furnished with a catalytic reduction system to bring warranted exhaust emission reductions detailed in 1.0.A.1 of this specification.
- C. Site specific customized products should be made available that that minimize or eliminate the need for modifications in existing piping and support structures, if required.

### 2.1 OXIDATION CATALYST SYSTEM COMPONENTS

- A. Oxidation Catalyst Reactor Housing
  - 1. Shall contain an insertion track system, which allows catalyst elements to be slid into place from outside the housing. If required, flexibility to add catalysts for future further emission reductions should be made available.
  - 2. Shall be a rigid structure of a minimum material thickness of 12 GA, which will not warp or deform significantly during normal operation.
  - 3. Transition pieces shall be Non Code Standard F&D Dished Head in order to minimize welds and optimize structural integrity.
  - 4. Shall be designed to allow for thermal expansion differences within the housing, while preventing exhaust gas from leaking past the catalyst.
  - 5. The housing shall be complete with inlet and outlet flanged pipe sections designed for bolting to the exhaust gas ductwork. Connection to the engine exhaust system will be via standard ANSI 150 lb pattern, flat faced flanges.
  - 6. Shall be equipped with a bolted on access door(s) to the catalyst elements. The door(s) shall incorporate a handle and can be easily removed without the assistance of lifting equipment and be on the top or the side of the housing. Door(s) shall be designed with non-asbestos gasket sealing to prevent exhaust gas from leaking to the atmosphere. Bolt in, clam shell, or other catalyst access designs that require disassembling exhaust piping for catalyst removal will be deemed unacceptable.
  - 7. Shall be constructed of carbon steel, painted with high temperature black paint on the exterior only, or unpainted 304L stainless steel, based on the recommendation of the supplier/manufacturer. Fabrication steel is 14 gauge or thicker to provide structural support and rigidity.
  - 8. Shall provide a minimum of (3) ½-inch NPT couplings for differential pressure and inlet temperature measurement upstream and downstream of the catalyst elements.
  - 9. Flange bolt holes shall straddle the vertical centerline or slip flanges may be provided, if required.

10. Shall have an engraved metal nameplate providing serial number and supplier/manufacturer reference material.
11. Shall have the option to be insulated.
12. Supplier/manufacturer shall have the ability to provide all of the following requirements listed in this Section 2.1.A: standalone converter and combination converter/silencer. Supplier/manufacturer shall supply site specific customized housings, if required.
  - a. Inline Catalyst Only Housing
    - i. Shall minimize impact on backpressure
  - b. Catalyst/Silencer Housing
    - i. Supplier/manufacturer shall incorporate support structure including skirt, feet, and trunnion mounts, if required. Self-supported housings incorporating skirt, feet or trunnions shall be successfully proven by finite element analysis and in similar installed applications.
    - ii. Supplier/manufacturer shall design the catalyst access at ground level if piping permits it in the design. This requires that the inlet piping enters the housing adequately above ground level to allow for the incorporation of the design.
    - iii. Shall be designed as a standalone converter or as a combination converter/silencer. Silencer designs shall be available for critical grade, and higher sound reduction.
    - iv. If a silencer is currently installed, the supplied Catalyst/Silencer Housing shall be designed such that the backpressure is equivalent to or lower than the existing system backpressure and maintain equivalent or better sound reductions.

**B. Oxidation Catalyst Elements**

1. The catalyst element shall be composed of a substrate, washcoat, and catalytically active materials.
2. The substrate shall be a high-temperature rated alloy metal foil. The foil is packaged to create a honeycomb-like structure to provide numerous small channels for the exhaust to flow through the element. The channels shall provide a high surface area and multiple turbulent zones without causing excessive exhaust backpressure.
3. The supplier/manufacturer of the catalyst substrate shall have the ability to offer various cell densities (CPSI) in order to provide an optimized solution for performance and backpressure.
4. The catalyst foil shall be made of turbulence-optimized substrate with active anti-telescoping technology; therefore, eliminating the need for substrate support that will impeded flow across the catalyst and increase the system cost.
5. The washcoat shall be composed on a high surface area alumina-based material, with additives designed to resist sulfur poisoning and to limit the conversion of SO<sub>2</sub> to SO<sub>3</sub>.
6. The catalytically active materials shall be a combination of Platinum Group Metals (PGM), including platinum. The PDM shall be deposited on the washcoat by chemisorption.



7. The catalyst element shall be wrapped with a 304L stainless steel band.
8. A combination sealing plate/lifting handle shall be welded to the band. The plate shall be constructed of 304L stainless steel.
9. A single high temperature vermiculite impregnated fiberglass gasket shall be wrapped around the element to seal it within the housing. The top surface of the sealing plate shall be sealed against the door when it is installed.
10. Shall be designed for perimeter sealing of the catalyst within the housing in order to allow for ease of installation/removal of catalyst element(s) and robust performance throughout the life of the catalyst element(s). Face sealing catalyst designs shall be deemed unacceptable as the sealing mechanism degrades as a consequence of thermal cycles.
11. The minimum catalyst inlet temperature is 450° F, however, higher temperature will lead to higher reduction percentages. The catalyst substrate and metal foil shall not sinter or degrade when exposed to exhaust temperatures up to 1,250° F.
12. The catalyst(s) must be removable via bolt-on access doors. This will allow for the element(s) to be sent to the supplier/manufacturer for periodic washes and allows easier replacement of damaged/poisoned catalyst(s).

C. Closed Crankcase Ventilation System

1. Provide CCV System in accordance with Reciprocating Internal Combustion Engines National Emission Standards for Hazardous Air Pollutants (RICE-NESHAP) regulation
2. System shall remove particles of contamination and oil mist down to .3 microns at a 99.5% efficiency level.
3. CCV System shall be a bolt on complete kit for ease of installation and future maintenance. Racor CCV8000

D. CPMS and Data Logging System

1. Basis of Design: Miratech Mira-Monitor 2.2-OM-RTU485, or compatible product by one of the following:
  - i. Safety Power, Inc.
2. Provide a Continuous Parametric Monitoring System (CPMS) to meet RICE NESHAP requirements by providing complete catalyst monitoring for total control over regulation compliance.
3. Provide the technology equipment needed to monitor and record inlet temperature and differential pressure to comply with NESHAP CPMS requirements. System shall be configurable to extract logged data reports using system provided computer software for providing credible evidence of continuous compliance.
4. Log catalyst inlet temperature and differential pressure samples every minute and record 1-hour and 4-hour averages from the samples taken. Start recording data when the differential pressure is greater than 1" of water column. The system should not require an engine run or engine speed signal. The logger will stop recording data when the differential pressure drops below 1" of water column. Two red lamps on the front of the panel will indicate if there is high exhaust temperature or high differential pressure.

5. The user will be able to manually start or stop logging and step through the operating parameters. The user will be able to easily connect to the logger with a laptop or desk top computer and an ethernet cable, or remove the compact flash card and download the log file with a card reader.
6. System software shall be plug-and-play in nature for collection of data and shall require no manipulation of data in order to generate monthly reporting.
7. Shall include necessary ancillary components including a K-type thermocouple/transmitter and differential pressure gauge/transmitter.
8. Shall be completely contained within a NEMA 4X enclosure.

### **PART 3 - EXECUTION**

#### 3.1 Installation

- A. Remove existing silencer and insulation, dispose of removed materials.
  1. Install critical grade silencer and oxidation catalyst using existing mounting hardware. Provide new gaskets, nuts, bolts and washers.
  2. Modify existing pipe and exhaust system as needed.
  3. Install control monitoring system and sensors into catalyst. Provide control cabling and conduit, and 120V circuit.
  4. Install closed crankcase ventilation system per manufacturer's recommendations.
  5. After testing is completed, insulate new catalyst and silencer.

#### 3.2 Testing

- A. Test system per EPA and TCEQ requirements for certification.
  1. File forms with TCEQ for approval to operate as "Reclassified for the Demand Response Revenue Capture Program".

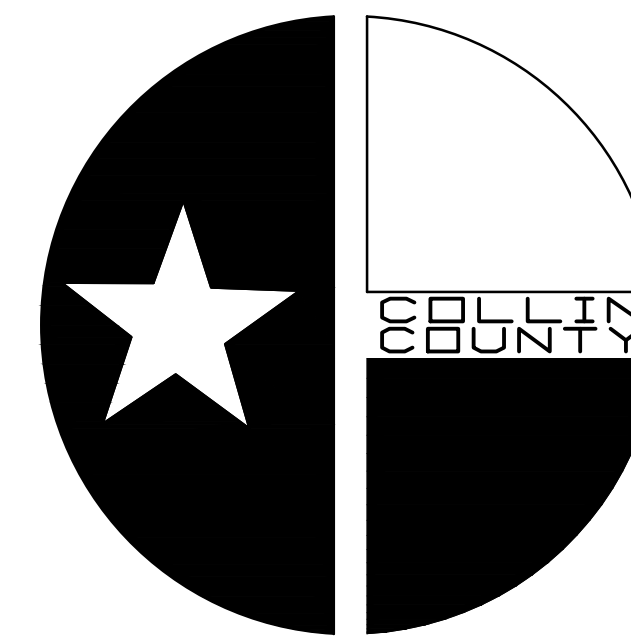
END OF SECTION 263601

# GENERATOR AFTER-MARKET EMISSIONS CONTROL COLLIN COUNTY ADULT DETENTION CENTER

4300 COMMUNITY AVE,  
MCKINNEY, TX 75070

## SHEET INDEX

SHEET E1.00 - COVER SHEET  
SHEET E1.01 - SITE PLAN  
SHEET E2.01 - DEMOLITION PLAN  
SHEET E3.01 - RENOVATION PLAN  
SHEET E3.02 - RENOVATION PLAN  
SHEET E5.01 - DETAILS  
SHEET E5.02 - DETAILS



02/02/2018

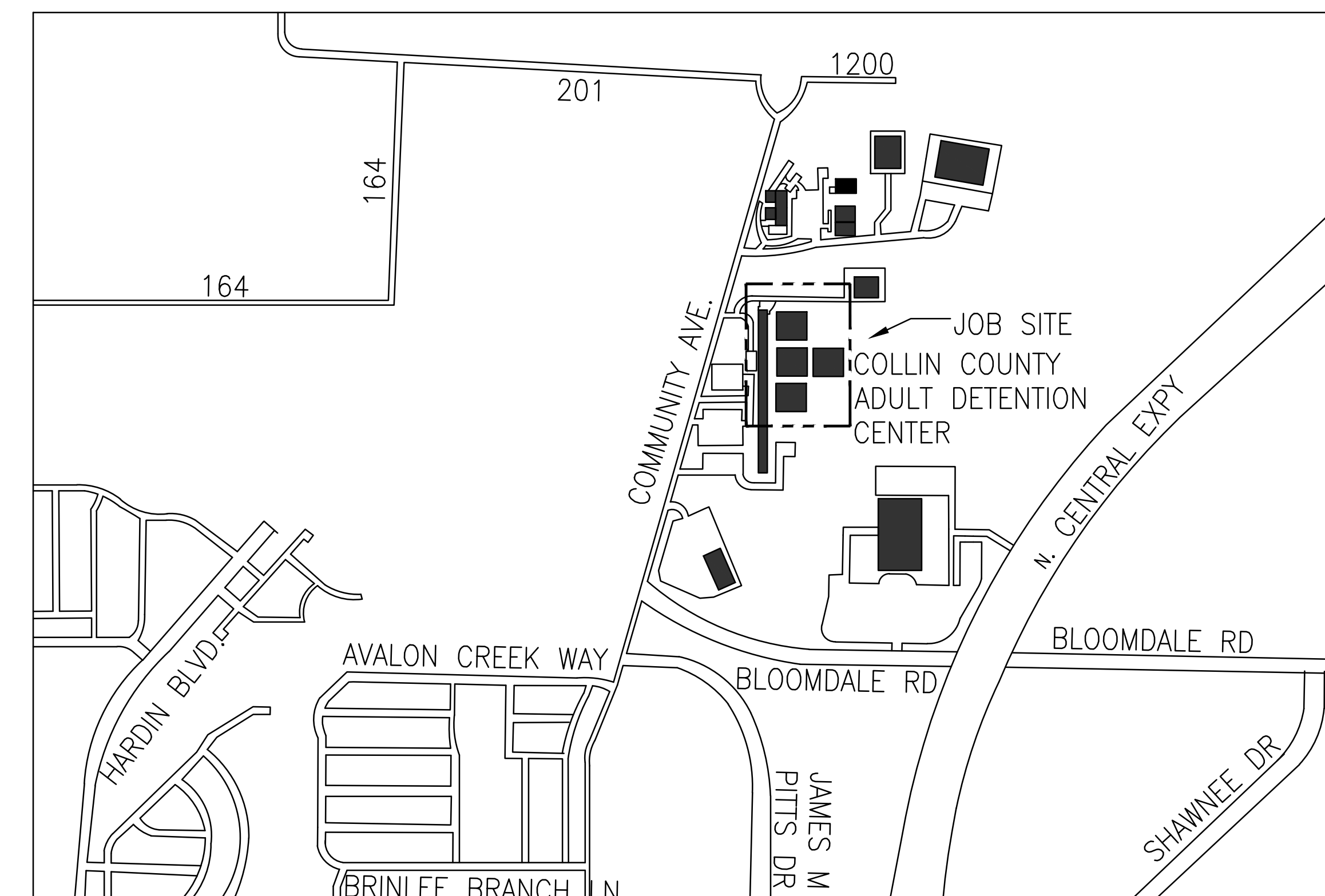
**HALFF**  
1201 N. BOWSER ROAD  
RICHARDSON, TEXAS 75081-2275  
TEL (214) 346-6200  
FAX (214) 739-0095  
TBPE FIRM #F-312  
AVO 33142.001

### OWNER REP:

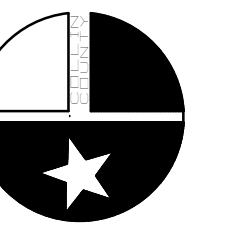
BRAD HARRIS  
BJHARRIS@CO.COLLIN.TX.US

### ENGINEER:

PHILLIP APPLEBAUM, PE  
PAPPLEBAUM@HALFF.COM  
214-346-6350

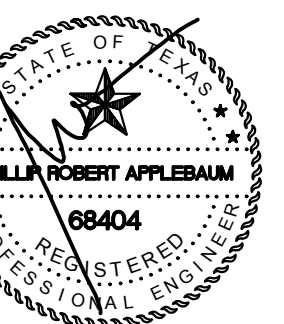


GENERATOR AFTER-MARKET EMISSIONS CONTROL  
COLLIN COUNTY ADULT DETENTION CENTER  
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TEL (214) 346-6200  
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TBPE FIRM #F-312

Revision  
No. Date Description



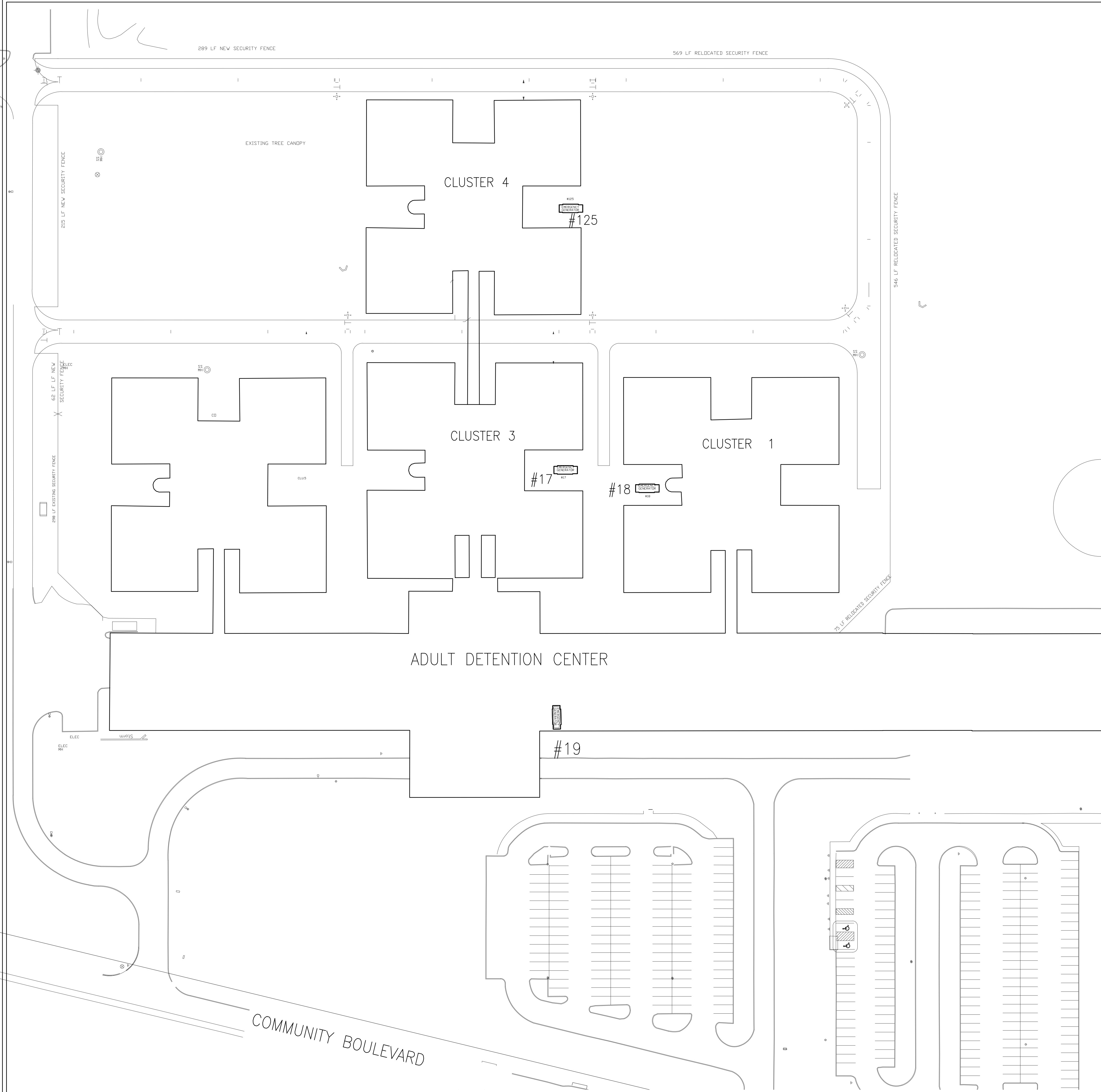
02-02-2018

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Project No.: 33142  
Issued: 02/02/2018  
Drawn By: BLM  
Checked By: PA  
Scale: AS NOTED

Sheet Title  
ELECTRICAL  
COVER SHEET

E1.00  
Sheet Number



**01 SITE PLAN**  
 SCALE: 1" = 50'-0"  
 SCALE IN FEET

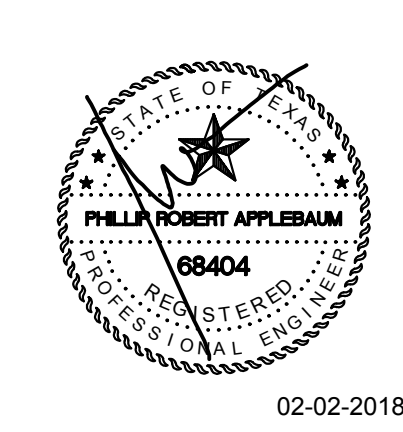
**GENERAL NOTES:**

1. THE CONTRACTOR IS REQUIRED TO BRING FOUR (4) EXISTING ENGINE GENERATOR SETS INTO COMPLIANCE WITH CURRENT RICE NESHAP REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A TURN KEY SOLUTION AS DESCRIBED IN THE PLANS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING FOR EACH GENERATOR SET:  
 A. CRITICAL GRADE SILENCER  
 B. DIESEL OXIDATION CATALYST  
 C. CLOSED CRANKCASE VENTILATION SYSTEM  
 D. CONTROL MONITORING SYSTEM  
 E. DUAL PURPOSE DOCKING STATION
3. THE CONTRACTOR SHALL PROVIDE CERTIFIED TESTING OF THE SYSTEMS ONCE INSTALLED AND UTILIZE THE RESULTS FOR THE NEW PERMITS REQUIRED BY TCEQ.
4. EACH GENERATOR SET SHALL BE PROVIDED WITH A NEW DUAL PURPOSE DOCKING STATION PER PLANS AND SPECS.
5. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED MOBILE TEMPORARY GENERATOR SET(S), CONNECTED TO THE DOCKING STATION(S) FOR STAND-BY OPERATIONS DURING THE TIME PERIOD THE PERMANENT GENERATOR(S) ARE OFF-LINE (WHILE THE INSTALLATION OF THE AFTERMARKET EMISSIONS CONTROL DEVICES ARE BEING INSTALLED). THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING THE TEMPORARY GENERATOR(S) TO AND FROM THE SITE, CONNECTING AND DISCONNECTING THE UNIT(S) TO THE DOCKING STATIONS, RELOCATING THE UNIT(S), AND MAINTAINING FUEL IN THE GENERATOR(S) TO SUPPORT 8 HOURS OF OPERATION.
6. THE TEMPORARY GENERATOR SET(S) SHALL REMAIN INSTALLED TO THE DOCKING STATIONS UNTIL THE UPGRADES TO THE PERMANENT GENERATOR(S) ARE COMPLETE.
7. WHEN THE EXISTING PERMANENT GENERATOR(S) ARE TAKEN OUT OF SERVICE, OPEN ALL BREAKERS AND TURN GEN CONTROL TO THE OFF POSITION.
8. THE CONTRACTOR SHALL REMOVE THE EXISTING SILENCER INSULATION AND DISPOSE OF THE UNUSED MATERIALS OFFSITE AT THE CONTRACTOR EXPENSE.
9. THE CONTRACTOR SHALL REMOVE THE EXISTING EXHAUST SILENCER AND DISPOSE OF THE UNUSED MATERIALS OFFSITE AT THE CONTRACTOR EXPENSE.
10. THE CONTRACTOR SHALL INSTALL A NEW CRITICAL GRADE SILENCER AND OXIDATION CATALYST USING EXISTING MOUNTING HARDWARE. NEW GASKETS AND EXHAUST NUTS, BOLTS, AND WASHERS SHALL BE PROVIDED AS PART OF THIS SCOPE OF WORK.
11. THE CONTRACTOR SHALL FIELD ASSESS THE NECESSARY EXHAUST PIPING MODIFICATIONS TO THE EXISTING EXHAUST PIPING SYSTEM AND PROVIDE ALL NECESSARY PIPING AND SUPPORTS TO COMPLETE THE INSTALLATION OF THE AFTER-MARKET EMISSIONS EQUIPMENT.
12. THE CONTRACTOR SHALL PROVIDE AND INSTALL A CONTROL MONITORING SYSTEM. THE SYSTEM SPECIFIED INCLUDES ALL SENSORS TO BE MOUNTED IN THE NEW CATALYST AS WELL AS THE MONITORING EQUIPMENT .
13. THE MONITORING EQUIPMENT REQUIRES A 120V AC POWER CIRCUIT. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE POWERED CONNECTIONS PER PLANS.
14. THE CONTRACTOR SHALL PROVIDE ALL CONDUIT, SUPPORTS, EQUIPMENT AND CABLING PER PLANS AND SPECIFICATIONS TO ACHIEVE A FULLY OPERATIONAL SYSTEM COMPLIANT WITH THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) FOR RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE) AS OUTLINED IN THE CODE OF FEDERAL REGULATIONS UNDER 40 CFR 63 SUBPART ZZZZ. THE NEW SOURCE PERFORMANCE STANDARDS (NSPS) FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES IS OUTLINED IN THE CODE OF FEDERAL REGULATIONS UNDER 40 CFR PART 60 SUBPART IIII; AND TCEQ TITLE 30 PART 1 CHAPTER 116 SUBCHAPTER B DIVISION 1 RULE §116.116 ENVIRONMENTAL QUALITY TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTROL OF AIR POLLUTION BY PERMITS FOR NEW CONSTRUCTION OR MODIFICATION SOURCE REVIEW PERMITS PERMIT APPLICATION.
15. THE CONTRACTOR SHALL PROVIDE THE SPECIFIED CONDUCTORS FROM THE SENSORS BACK TO CONTROL MONITORING SYSTEM.
16. THE CONTRACTOR SHALL INSTALL THE CLOSED CRANKCASE VENTILATION SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
17. THE CONTRACTOR SHALL TEST THE AFTER-MARKET EMISSIONS CONTROL SYSTEM PER EPA AND TCEQ REQUIREMENTS FOR CERTIFICATION REQUIRED BY TCEQ.
18. AFTER TESTING IS COMPLETED, THE CONTRACTOR SHALL INSULATE NEW SILENCER AND CATALYST SYSTEM.

**GENERATOR AFTER-MARKET EMISSIONS CONTROL**  
 COLLIN COUNTY ADULT DETENTION CENTER  
 4300 COMMUNITY AVE. MCKINNEY, TEXAS



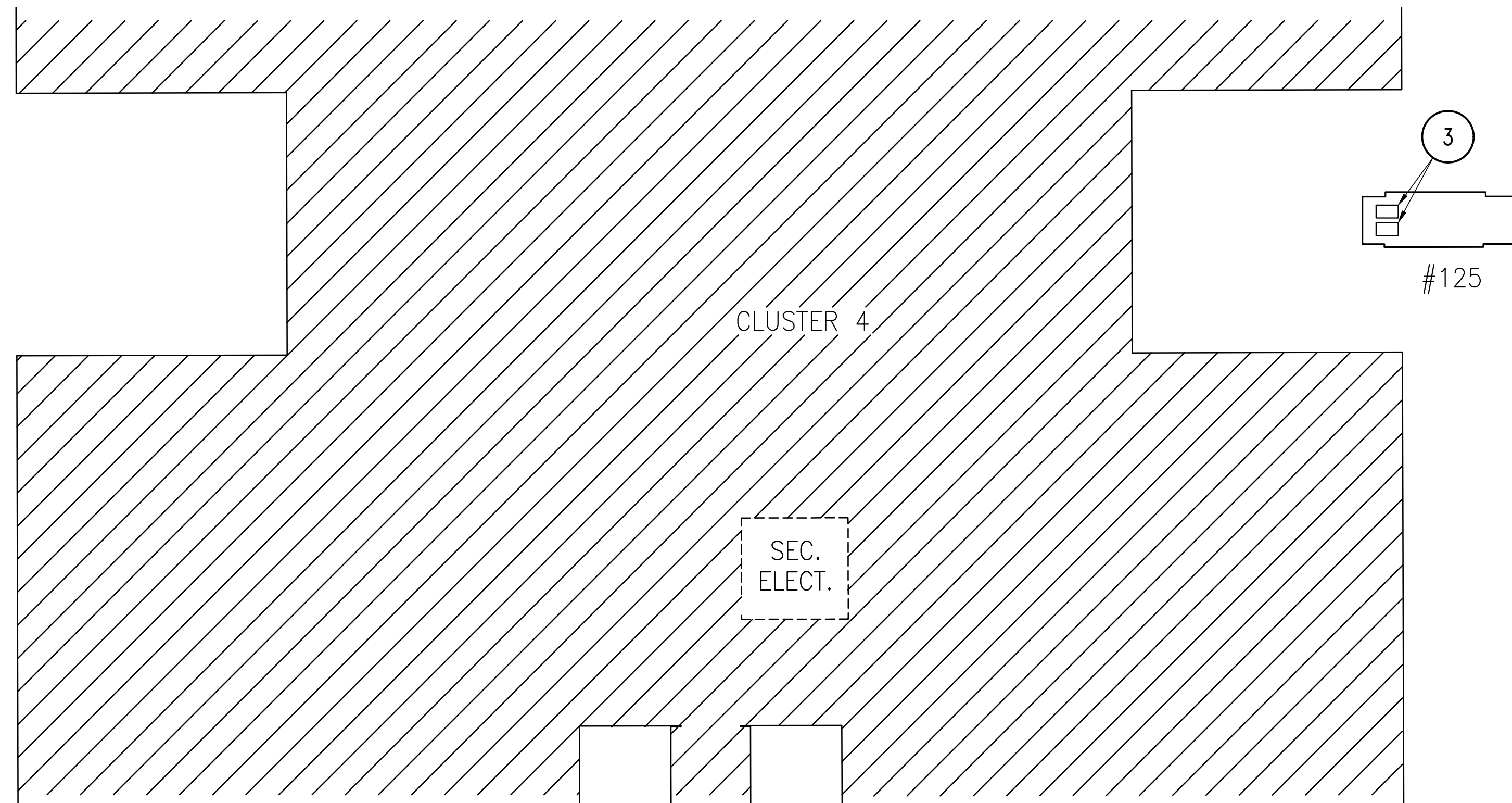
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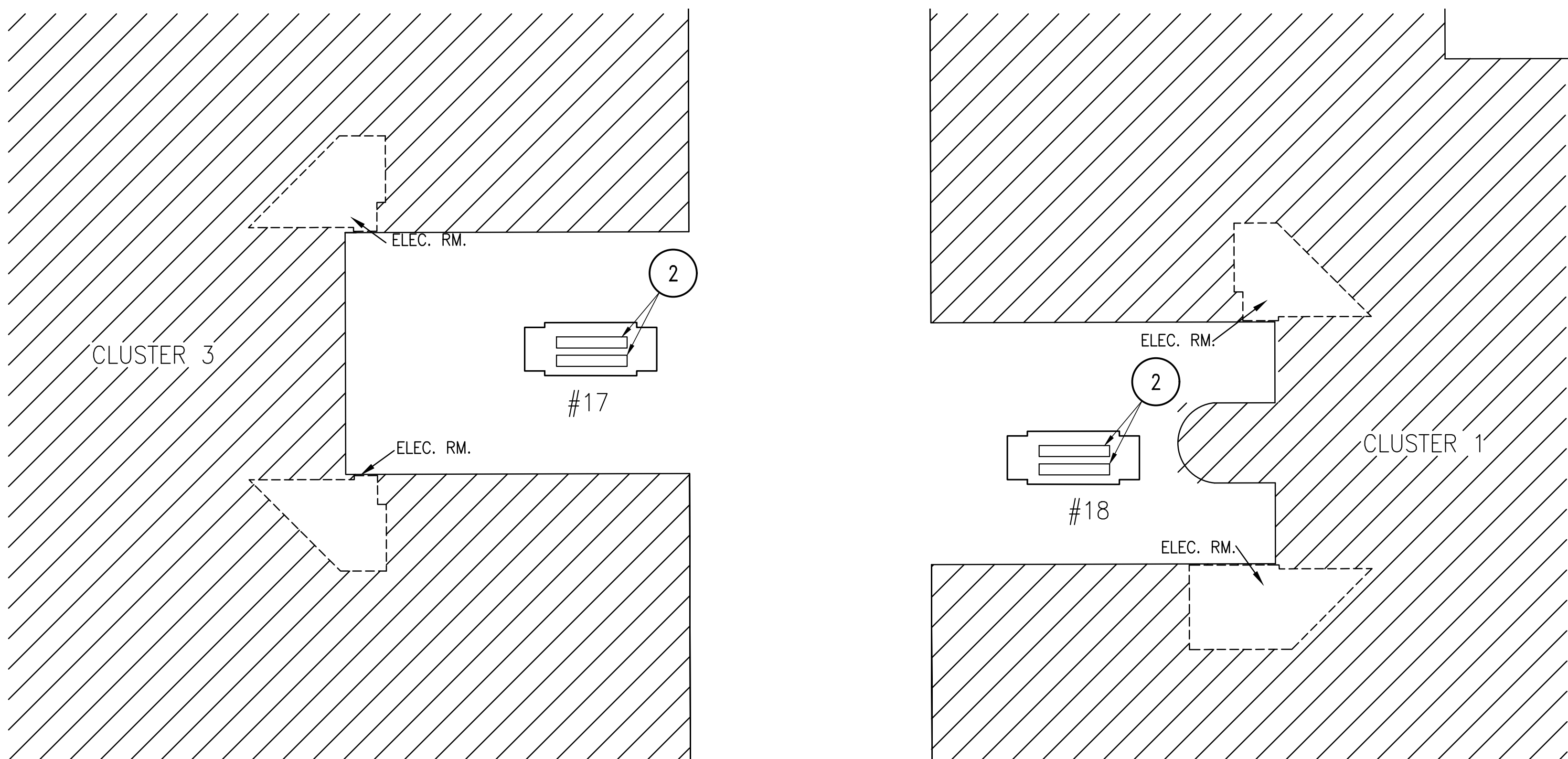
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Project No:	33142
Issued:	02/02/2018
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Checked By:	PA
Scale:	AS NOTED
Sheet Title	ELECTRICAL SITE PLAN
Sheet Number	E1.01

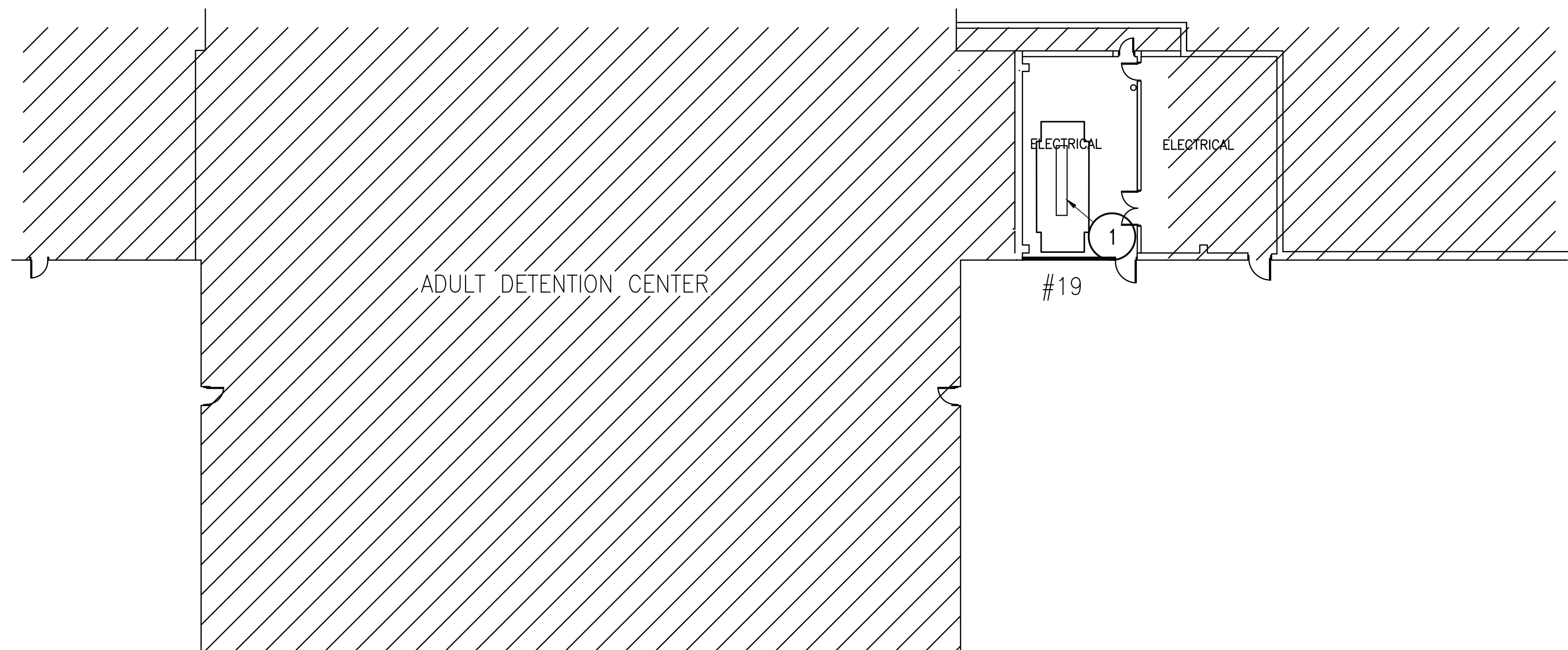
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**01 ELECTRICAL GENERATOR EMISSIONS CONTROL PLAN - CLUSTER 4**  
 SCALE: 1/16" = 1'-0"  
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 SCALE IN FEET



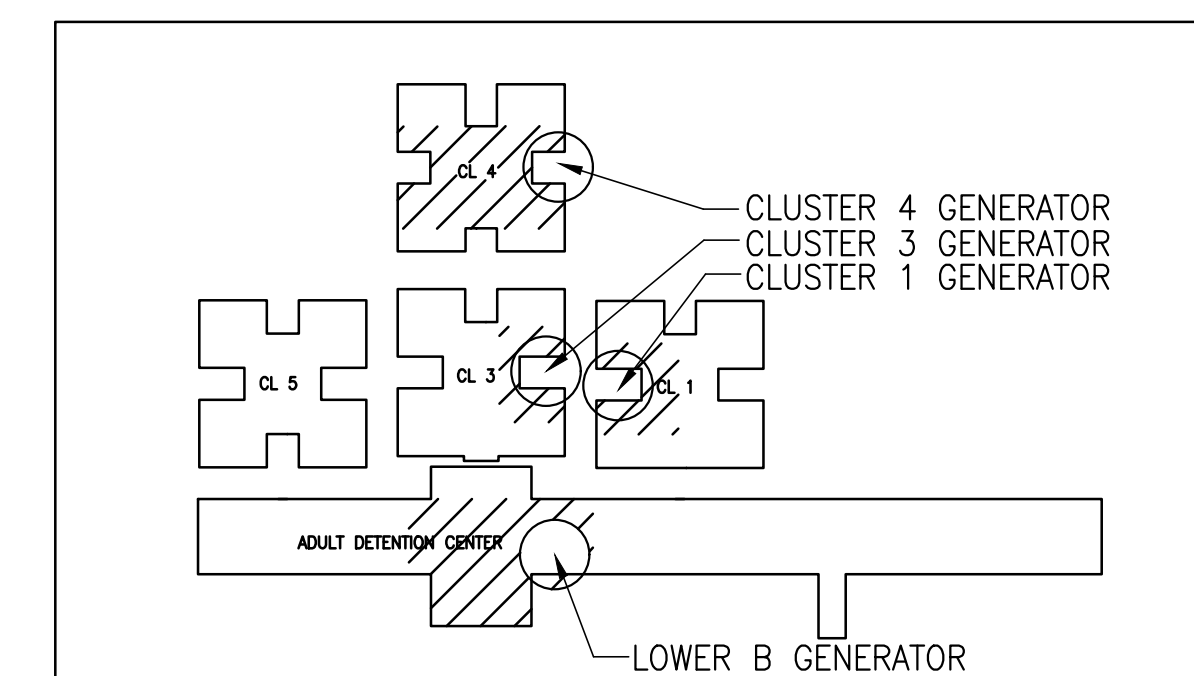
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 SCALE IN FEET



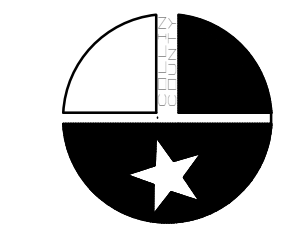
**03 ELECTRICAL GENERATOR EMISSIONS CONTROL PLAN - LOWER B**  
 SCALE: 1/16" = 1'-0"  
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 SCALE IN FEET

**KEY NOTES**

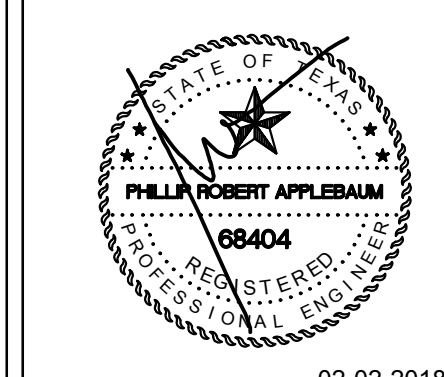
1. REMOVE AND DISPOSE OF EXISTING SILENCER. REMOVE EXISTING INSULATION TO ALLOW FOR REAPPLICATION ONCE NEW SILENCER/CATALYST IS INSTALLED. INCLUDE ALL REQUIRED RIGGING FOR REMOVAL OF EXISTING SILENCERS AND INSTALLATION OF THE NEW PROPOSED SILENCER/CATALYST UNIT.
2. REMOVE AND DISPOSE OF TWO EXISTING SILENCERS MOUNTED ON TOP OF GENERATOR ENCLOSURE. INCLUDE ALL REQUIRED RIGGING FOR REMOVAL OF THE EXISTING SILENCERS AND INSTALLATION OF THE NEW PROPOSED SILENCER/CATALYST UNIT. MAINTAIN THE EXISTING WEATHER PROTECTED CONNECTION WHERE THE EXISTING EXHAUST PIPING EXISTS THE EXISTING GENERATOR ENCLOSURE. THE EXISTING EXHAUST PIPING SHALL BE CUT TO ALLOW FOR THE EXTENSION OF THE NEW PIPING SYSTEM TO A NEW WYE CONNECTION, COMBINING THE EXISTING EXHAUST PIPES INTO A COMMON SINGLE EXHAUST CONNECTION TO THE NEW PROPOSED SILENCER/CATALYST UNIT.
3. REMOVE AND DISPOSE OF TWO EXISTING SILENCERS LOCATED INSIDE THE GENERATOR'S DISCHARGE SCOOP. INCLUDE ALL REQUIRED RIGGING FOR THE REMOVAL OF THE EXISTING SILENCERS AND THE INSTALLATION OF A NEW PROPOSED SILENCER/CATALYST UNIT. MAINTAIN THE EXISTING WEATHER PROTECTED CONNECTION WHERE THE EXISTING EXHAUST PIPING EXISTS THE EXISTING GENERATOR ENCLOSURE. THE EXISTING EXHAUST PIPING SHALL BE CUT TO ALLOW FOR THE EXTENSION OF NEW PIPING TO A NEW WYE CONNECTION, COMBINING THE EXISTING EXHAUST PIPES INTO A COMMON SINGLE EXHAUST CONNECTION TO THE NEW PROPOSED SILENCER/CATALYST UNIT.



KEY PLAN

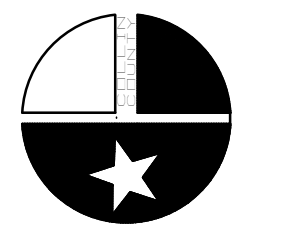


Revision No.	Date	Description



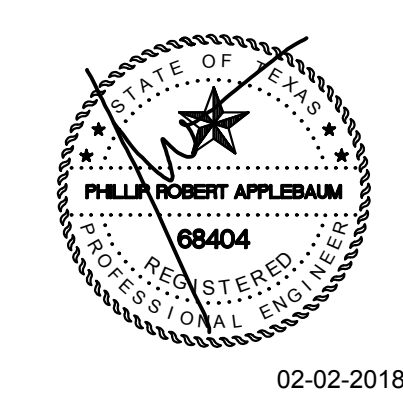
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Checked By:	PA
Scale:	AS NOTED
Sheet Title	DEMOLITION PLAN
Sheet Number	E2.01



**HALFF**  
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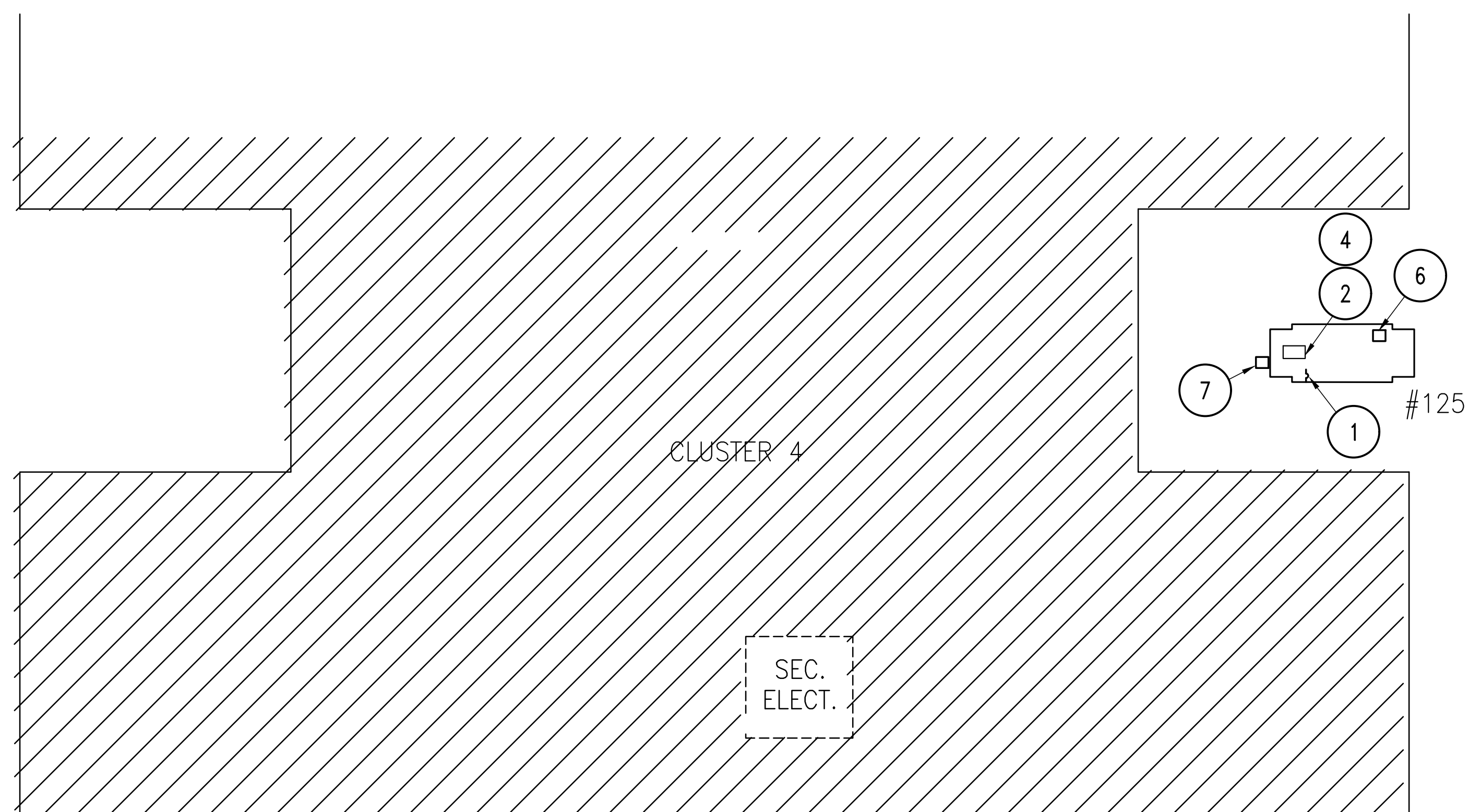
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Issued:	02/02/2018
Drawn By:	BLM
Checked By:	PA
Scale:	AS NOTED
Sheet Title:	RENOVATION PLAN
Sheet Number:	E3.01

**KEY NOTES (DETAIL 01)**

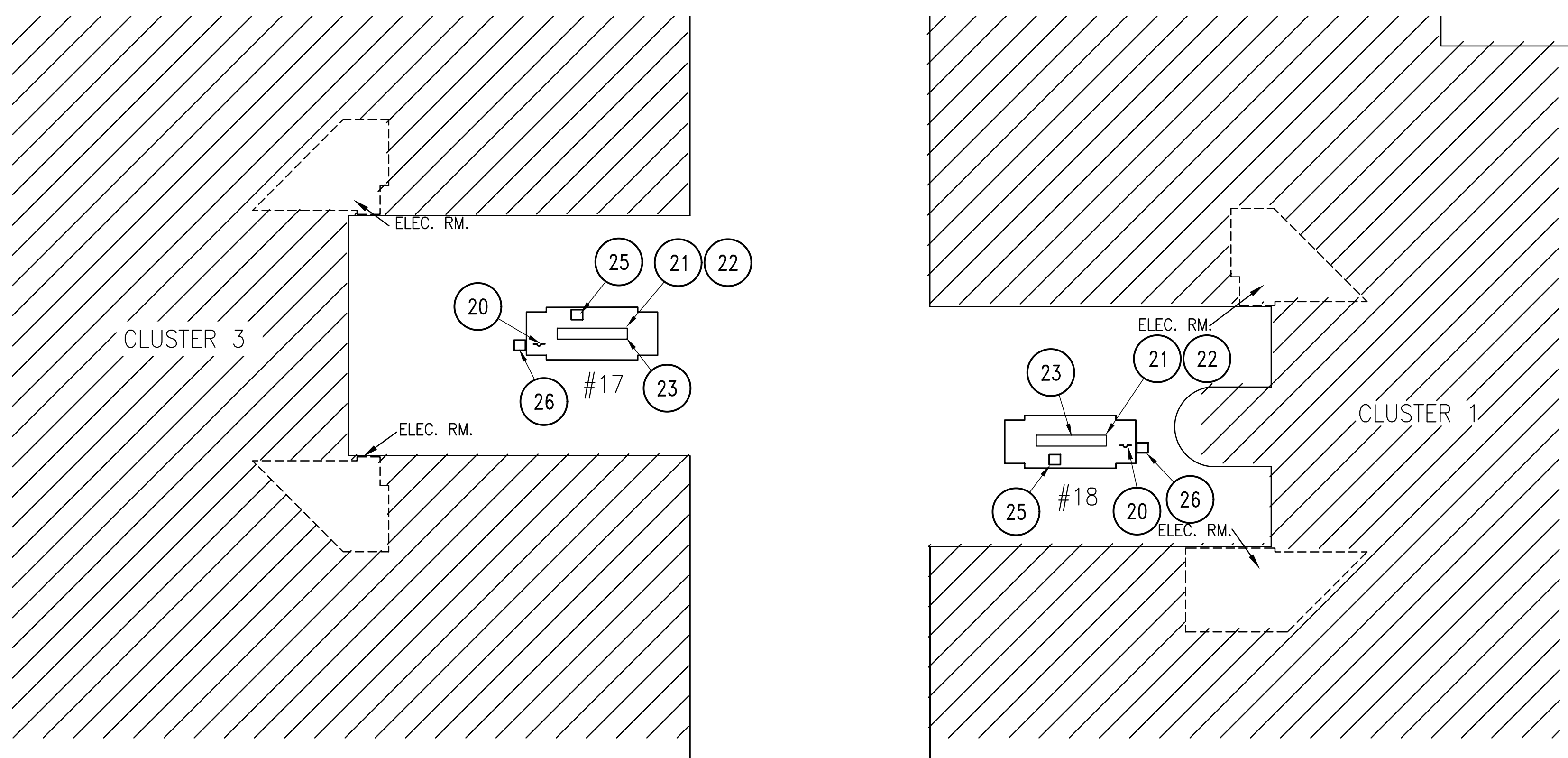
- EXISTING GENERAC GENERATOR, 400KW WITH 700A/3P OUTPUT CIRCUIT BREAKER.
- EXTEND EXHAUST PIPING FROM EXISTING TO A WYE CONNECTION, COMBINING THE DUAL EXHAUST INTO A SINGLE EXHAUST FITTING TO CONNECT A SINGLE NEW PROPOSED SILENCER/CATALYST UNIT. PROVIDE ALL REQUIRED HARDWARE, FITTINGS, GASKETS, AND PIPE AS REQUIRED TO MAKE THE APPROPRIATE MODIFICATION FOR A PROPER FIT.
- INSTALL CLOSED CRANKCASE VENTILATION SYSTEM ON ENGINE. PROVIDE ALL MOUNTING HARDWARE AND TUBING REQUIRED FOR A COMPLETE INSTALLATION.
- REUSE THE EXISTING SILENCER SUPPORTS TO MOUNT AND SECURE THE NEW SILENCER/CATALYST INSIDE THE DISCHARGE SCOOP.
- PERFORM EMISSION TEST AT THE COMPLETION OF THE INSTALLATION TO CERTIFY THE UNIT MEETS THE RICE NESHAP COMPLIANCE. TESTING REQUIREMENTS. COMPLETE ALL DOCUMENTATION, SUBMIT TO GOVERNING AGENCY AND ACQUIRE CERTIFICATION / RECLASSIFICATION AS REQUIRED FROM TCEQ TO ALLOW USE IN THE ERCOT DEMAND RESPONSE PROGRAM.
- INSTALLATION OF THE CPMS – DATA LOGGING SYSTEM CAN BE LOCATED INSIDE THE GENERATOR HOUSING. ELECTRICAL CONNECTIONS CAN BE SUPPORTED BY THE EXISTING 120V CIRCUIT WITHIN THE HOUSING.
- PROVIDE AND INSTALL A DOCKING STATION PER PLANS AND SPECIFICATIONS UTILIZING MANUFACTURER’S INSTRUCTIONS. THE CONTRACTOR SHALL EXTEND AND CONNECT A TWO WIRE START CABLE FROM THE GENSET CONTROL TO THE DOCKING STATION AND PROVIDE A 24VDC ICE-CUBE INTERLOCK RELAY, OMRON MJN1CF-DC24, IN THE GENSET CONTROL TO OPERATE THE LOAD DUMP CIRCUIT IN DOCKING STATION. THE CONTRACTOR WILL NEED TO DRILL HOLES IN THE SUPPORTING STRUCTURE OF THE GENSET TO EXTEND FEEDERS TO AND FROM THE DOCKING STATION. REFER TO SHEET E5.01 & E5.02 FOR ADDITIONAL INFORMATION.

**KEY NOTES (DETAIL 02)**

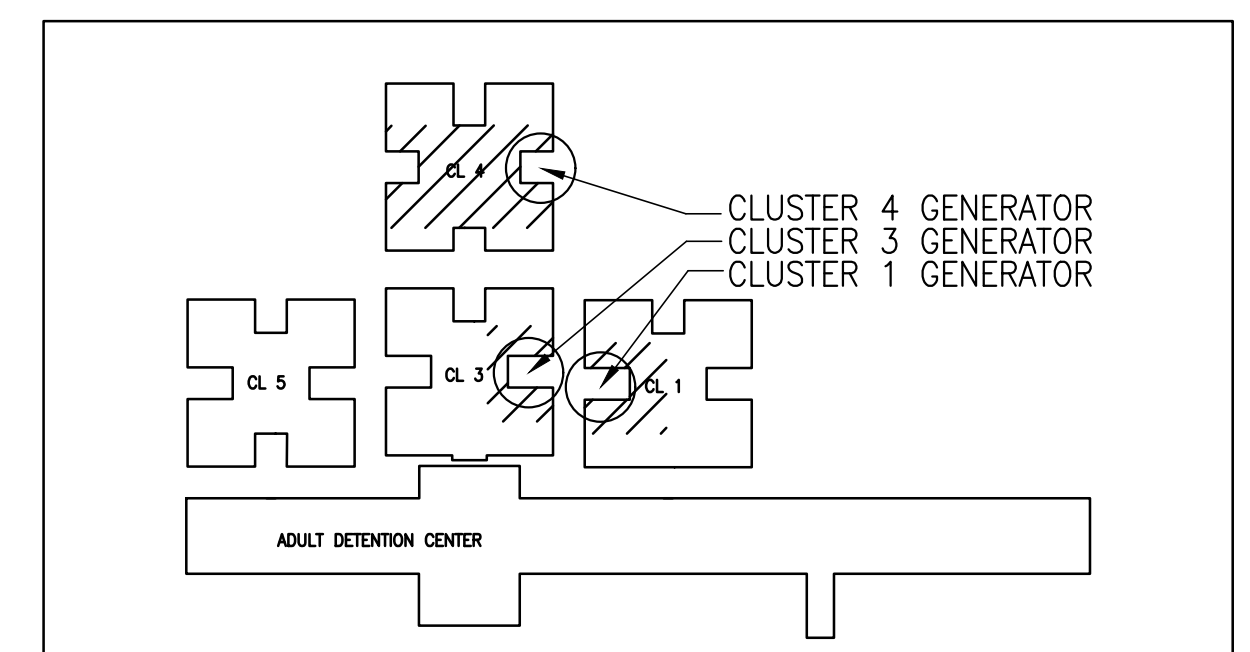
- EXISTING MAGNA MAX GENERATOR, 500KW WITH 800A/3P OUTPUT CIRCUIT BREAKER.
- EXTEND EXHAUST PIPING FROM EXISTING TO A WYE CONNECTION, COMBINING THE DUAL EXHAUST INTO A SINGLE EXHAUST FITTING TO CONNECT A SINGLE NEW PROPOSED SILENCER/CATALYST ON TOP OF GENSET. PROVIDE ALL REQUIRED HARDWARE, FITTINGS, GASKETS, AND PIPE AS REQUIRED TO MAKE THE APPROPRIATE MODIFICATION FOR A PROPER FIT.
- INSTALL CLOSED CRANKCASE VENTILATION SYSTEM ON ENGINE. PROVIDE ALL MOUNTING HARDWARE AND TUBING REQUIRED FOR A COMPLETE INSTALLATION.
- REUSE THE EXISTING SILENCER SUPPORTS TO MOUNT AND SECURE THE NEW SILENCER/CATALYST ON TOP OF THE EXISTING GENSET ENCLOSURE. FIELD VERIFY IF ADDITIONAL SUPPORTS ARE REQUIRED.
- PERFORM EMISSION TEST AT THE COMPLETION OF THE INSTALLATION TO CERTIFY THE UNIT MEETS THE RICE NESHAP COMPLIANCE. TESTING REQUIREMENTS. COMPLETE ALL DOCUMENTATION, SUBMIT TO GOVERNING AGENCY AND ACQUIRE CERTIFICATION / RECLASSIFICATION AS REQUIRED FROM TCEQ TO ALLOW USE IN THE ERCOT DEMAND RESPONSE PROGRAM.
- INSTALLATION OF THE CPMS – DATA LOGGING SYSTEM CAN BE LOCATED INSIDE THE GENERATOR HOUSING. ELECTRICAL CONNECTIONS CAN BE SUPPORTED BY THE EXISTING 120V CIRCUIT WITHIN THE HOUSING.
- PROVIDE AND INSTALL A DOCKING STATION PER PLANS AND SPECIFICATIONS UTILIZING MANUFACTURER’S INSTRUCTIONS. THE CONTRACTOR SHALL EXTEND AND CONNECT A TWO WIRE START CABLE FROM THE GENSET CONTROL TO THE DOCKING STATION AND PROVIDE A 24VDC ICE-CUBE INTERLOCK RELAY, OMRON MJN1CF-DC24, IN THE GENSET CONTROL TO OPERATE THE LOAD DUMP CIRCUIT IN DOCKING STATION. THE CONTRACTOR WILL NEED TO DRILL HOLES IN THE SUPPORTING STRUCTURE OF THE GENSET TO EXTEND FEEDERS TO AND FROM THE DOCKING STATION. REFER TO SHEET E5.01 & E5.02 FOR ADDITIONAL INFORMATION.



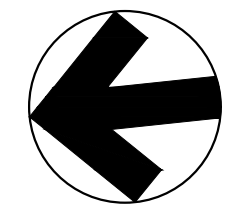
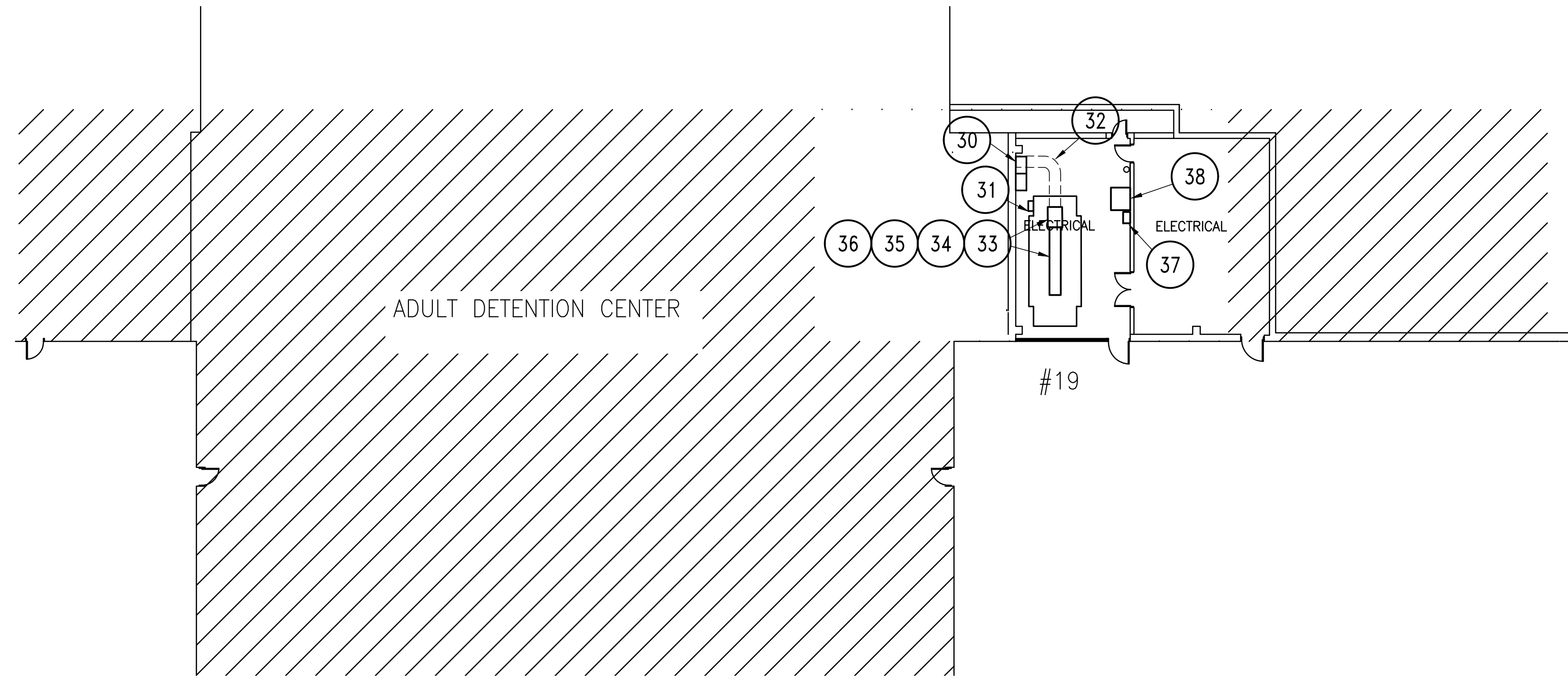
**01 ELECTRICAL GENERATOR EMISSIONS CONTROL PLAN - CLUSTER 4**  
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 SCALE IN FEET



**02 ELECTRICAL GENERATOR EMISSIONS CONTROL PLAN - CLUSTERS 1 AND 3**  
 SCALE: 1/16" = 1'-0"  
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 SCALE IN FEET



KEY PLAN



01

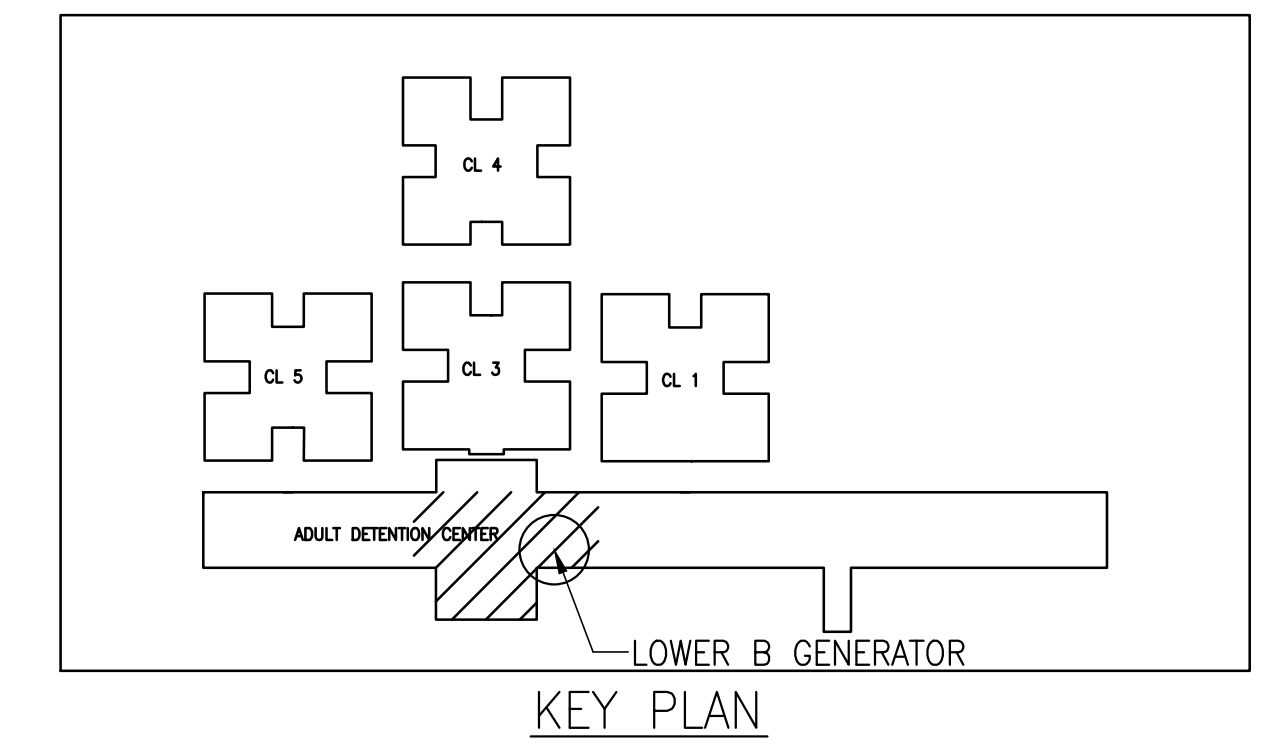
**ELECTRICAL GENERATOR EMISSIONS CONTROL PLAN - LOWER B**

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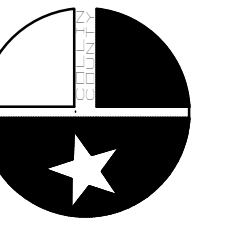


**KEY NOTES (DETAIL 01)**

30. EXISTING GENERATOR SWITCHGEAR. PROVIDE NEW 2000 AMP CIRCUIT BREAKER AND EXTEND A 2000 AMP FEEDER TO THE NEW DOCKING STATION.
31. EXISTING DETROIT DIESEL GENERATOR, 1200KW WITH 2000A/3P OUTPUT CIRCUIT BREAKER.
32. EXISTING INSULATED EXHAUST PIPING TO REMAIN.
33. FURNISH AND INSTALL A NEW SILENCER/CATALYST. EXTEND EXHAUST PIPING FROM EXISTING FLANGED CONNECTIONS. PROVIDE ALL REQUIRED HARDWARE, FITTINGS, GASKETS, AND PIPE AS REQUIRED TO MAKE THE APPROPRIATE MODIFICATION FOR A PROPER FIT. INSULATE NEW EXHAUST PIPING AND SILENCER/CATALYST TO MATCH EXISTING INCLUDING A ALUMINUM OUTER JACKET.
34. INSTALL CLOSED CRANKCASE VENTILATION SYSTEM ON ENGINE. PROVIDE ALL MOUNTING HARDWARE AND TUBING REQUIRED FOR A COMPLETE INSTALLATION.
35. REUSE THE EXISTING SILENCER SUPPORTS TO MOUNT AND SECURE THE NEW SILENCER/CATALYST SUSPENDED FROM THE STRUCTURE.
36. PERFORM EMISSION TEST AT THE COMPLETION OF THE INSTALLATION TO CERTIFY THE UNIT MEETS THE RICE NESHAP COMPLIANCE. TESTING REQUIREMENTS. COMPLETE ALL DOCUMENTATION, SUBMIT TO GOVERNING AGENCY AND ACQUIRE CERTIFICATION / RECLASSIFICATION AS REQUIRED FROM TCEQ TO ALLOW USE IN THE ERCOT DEMAND RESPONSE PROGRAM. INSULATE SILENCER/CATALYST AND EXHAUST PIPING AFTER EMISSION TESTING IS COMPLETED.
37. INSTALL THE CPMS – DATA LOGGING SYSTEM ON WALL AS SHOWN. EXTEND 120V CIRCUIT FROM GENERATOR DISTRIBUTION PANEL.
38. PROVIDE AND INSTALL A DOCKING STATION PER PLANS AND SPECIFICATIONS UTILIZING MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL EXTEND AND CONNECT A TWO WIRE START CABLE FROM THE GENSET CONTROL TO THE DOCKING STATION AND PROVIDE A 24VDC ICE-CUBE INTERLOCK RELAY, OMRON MJN1CF-DC24, IN THE GENSET CONTROL TO OPERATE THE LOAD DUMP CIRCUIT IN DOCKING STATION. REFER TO DETAIL SHEET E5.01 & E5.02 FOR ADDITIONAL INFORMATION.

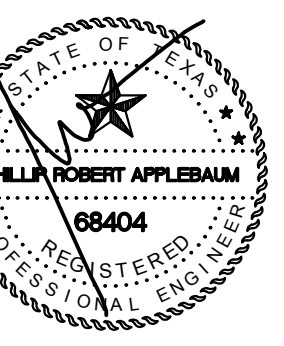


**GENERATOR AFTER-MARKET EMISSIONS CONTROL**  
 COLLIN COUNTY ADULT DETENTION CENTER  
 4300 COMMUNITY AVE. MCKINNEY, TEXAS



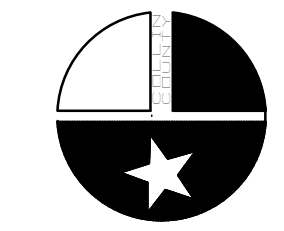
**HALFF**  
 REGISTERED PROFESSIONAL ENGINEER  
 TEXAS LICENSE #0000000000  
 TEL: 972.948.6000  
 FAX: 972.948.6000  
 TBPE FRM #312

Revision No.	Date	Description

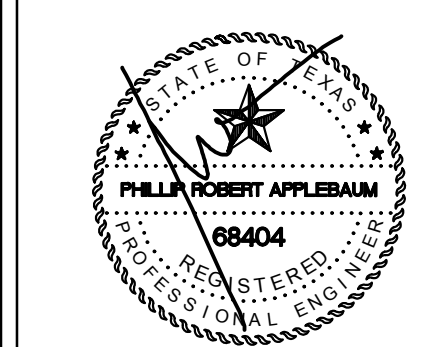


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Project No.:	33142
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Sheet Number	E3.02



Revision No.	Date	Description

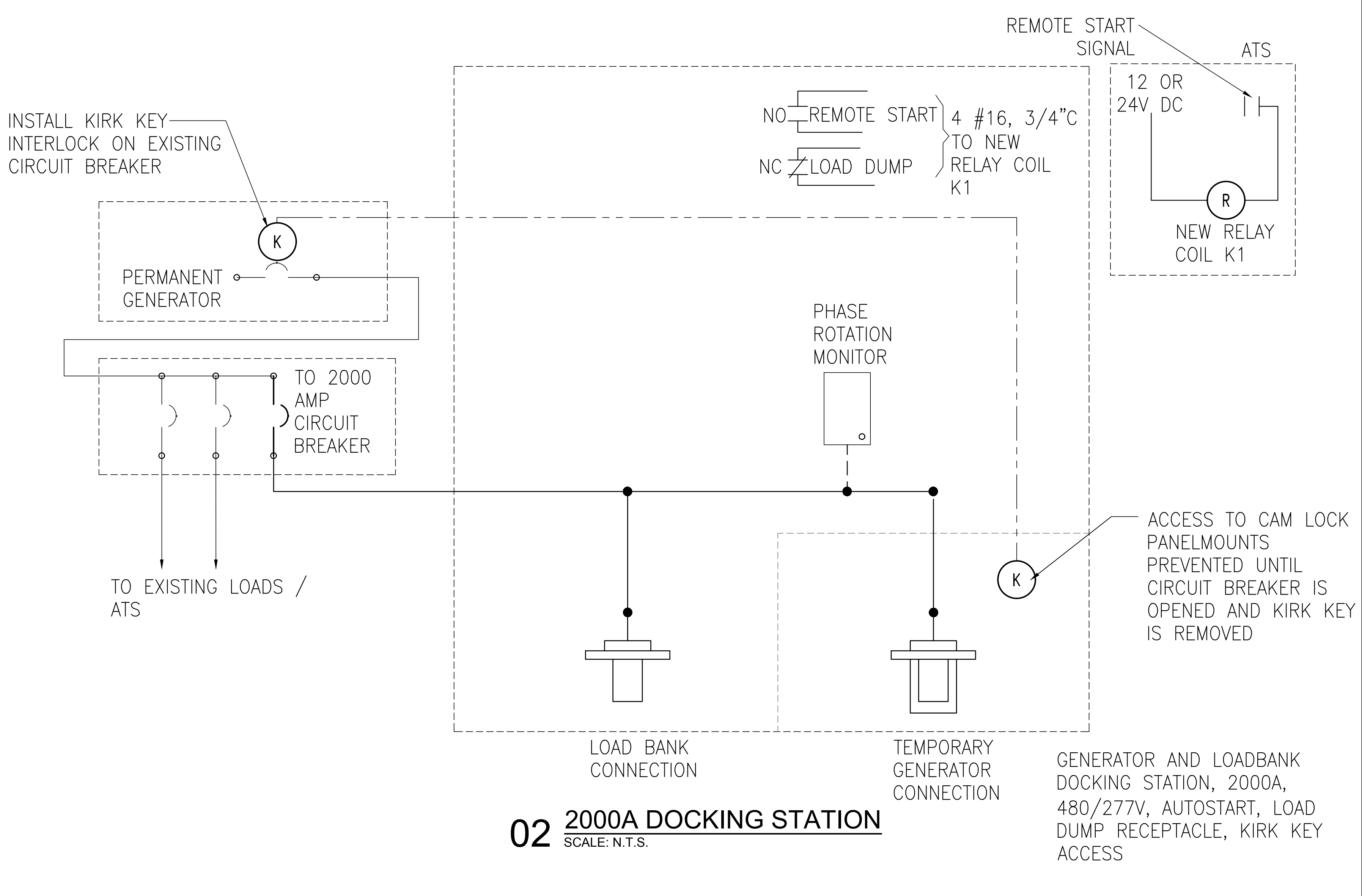
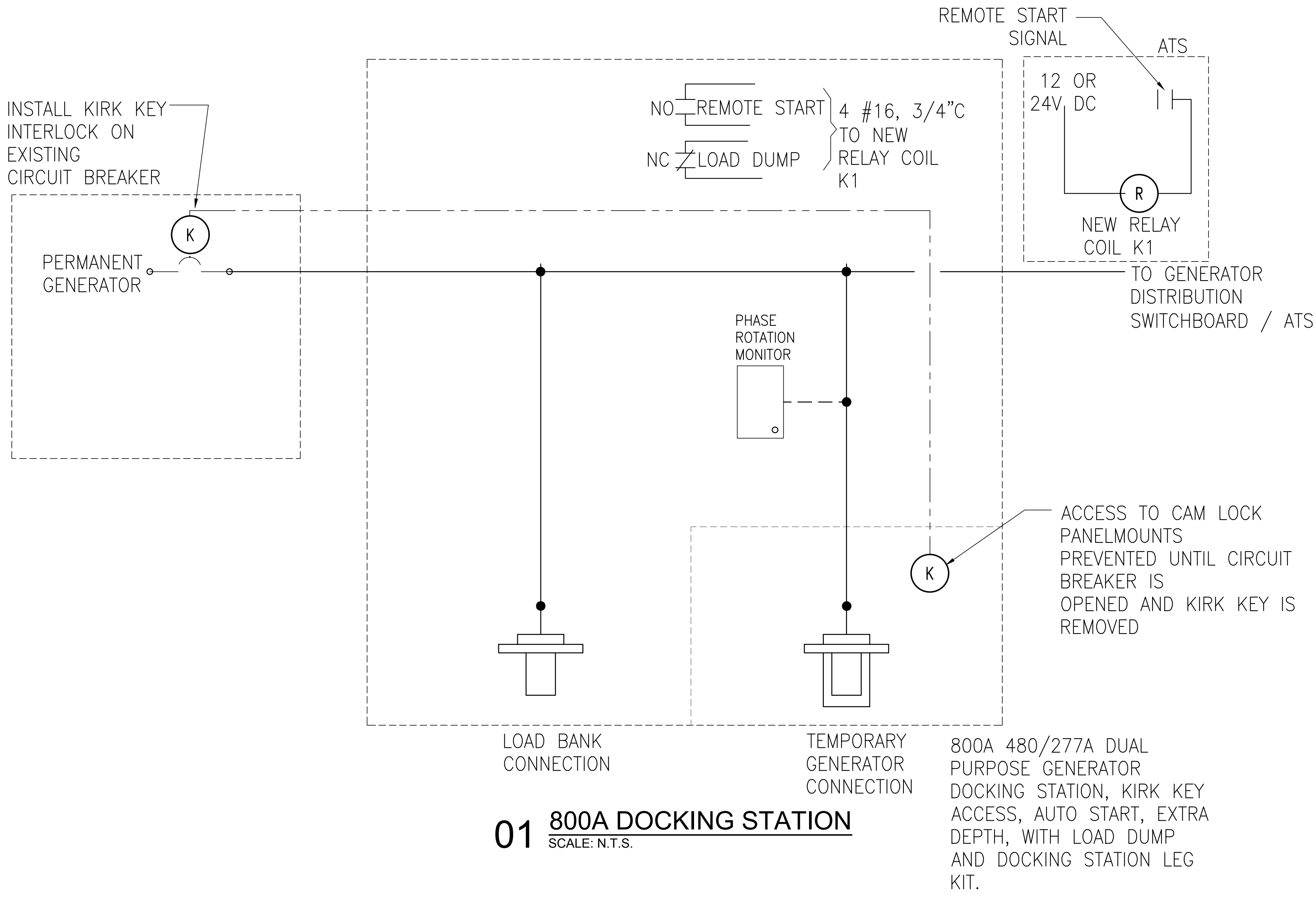


02-02-2018

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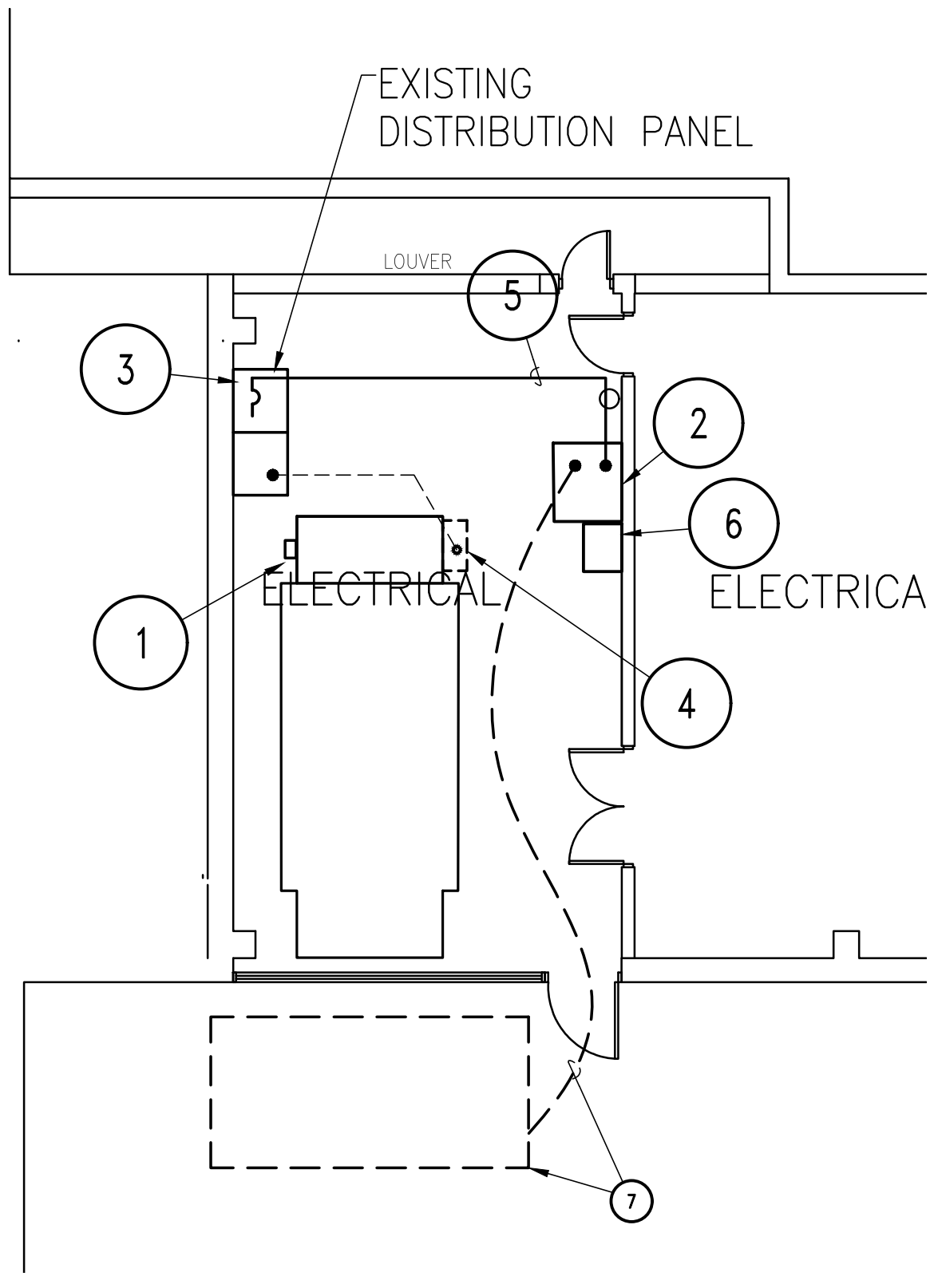
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Sheet Title:	ELECTRICAL DETAILS

**E5.01**  
 Sheet Number

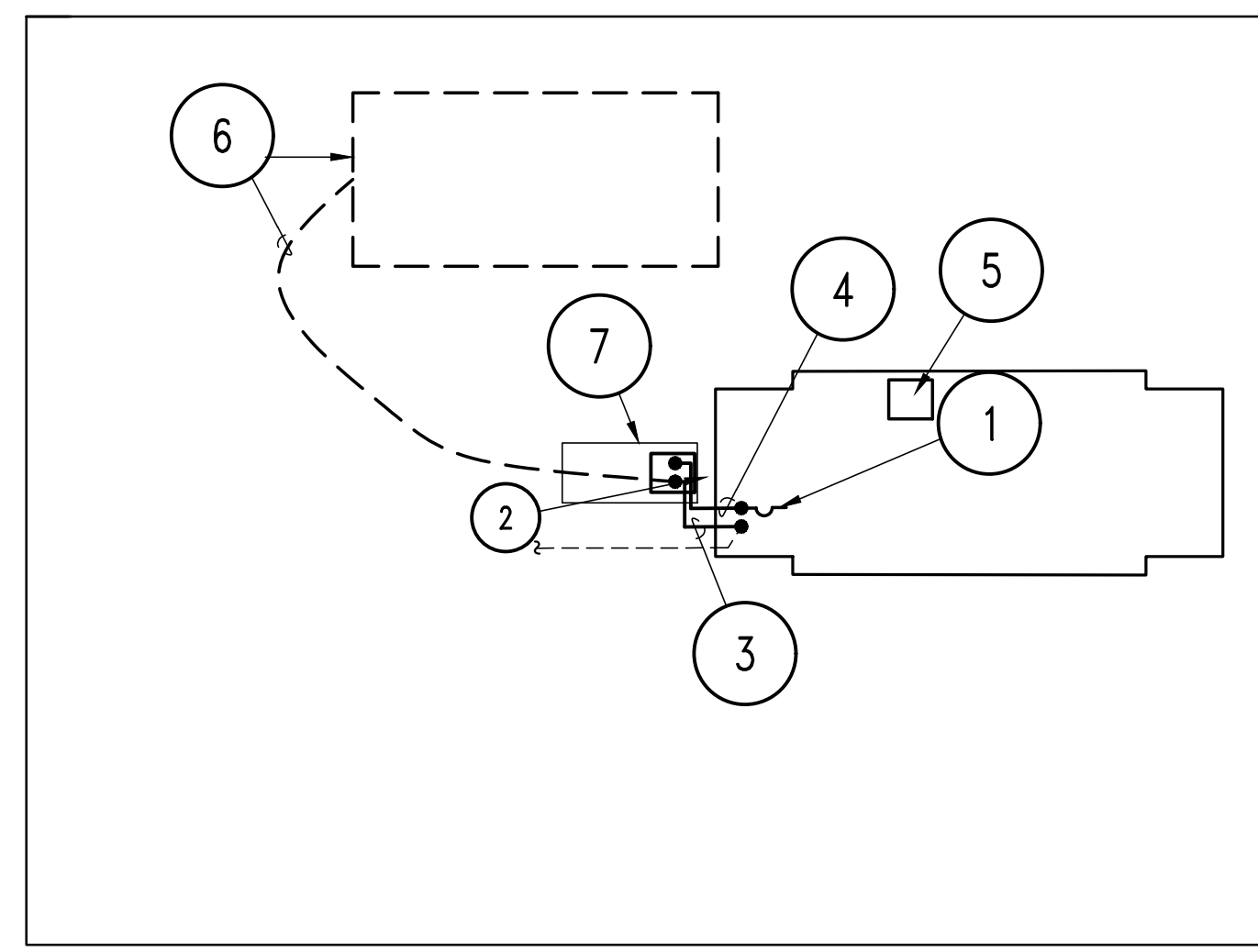


**KEY NOTES (DETAIL 03)**

- EXISTING 2000A-3P WESTINGHOUSE GENERATOR OUTPUT CIRCUIT BREAKER TO REMAIN.
- NEW 2000 AMP GENERATOR DOCKING STATION.
- PROVIDE A NEW WESTINGHOUSE 2000 AMP CIRCUIT BREAKER IN AVAILABLE SPACE IN DISTRIBUTION SECTION OF THE EXISTING SWITCHGEAR. PROVIDE KIRK KEY INTERLOCK PER DOCKING STATION DETAIL.
- EXISTING GENERATOR OUTPUT JUNCTION BOX MOUNTED ON THE END OF THE GENERATOR BUSSING / ELECTRICAL BOX TO REMAIN. EXISTING CONDUCTORS SHALL REMAIN EXTENDING TO THE EXISTING SWITCHGEAR.
- EXTEND A NEW OVERHEAD FEEDER FROM THE NEW 2000 AMP CIRCUIT BREAKER TO THE DOCKING STATION.
- INSTALL NEW EMISSIONS MONITORING AND DATA LOGGING SYSTEM ON THE SIDE OF THE NEW JUNCTION / PULL BOX. EXTEND AN EXISTING 120V CIRCUIT ON THE GENERATOR TO THE MONITOR AND LOGGING STATION.
- PROVIDE A ROLL UP TEMPORARY GENERATOR OF EQUAL SIZE AND CONNECT TO THE NEW GENERATOR DOCKING STATION TO PROVIDE TEMPORARY EMERGENCY POWER DURING TRANSITION. PROVIDE ALL NECESSARY CONTROL WIRING FOR THE AUTOMATIC OPERATION OF THE TEMPORARY GENERATOR.



**04 CLUSTER 3 DOCKING STATION CLUSTER 1 & 4 DOCKING STATION (SIMILAR)**  
 SCALE: N.T.S.



**KEY NOTES (DETAIL 04)**

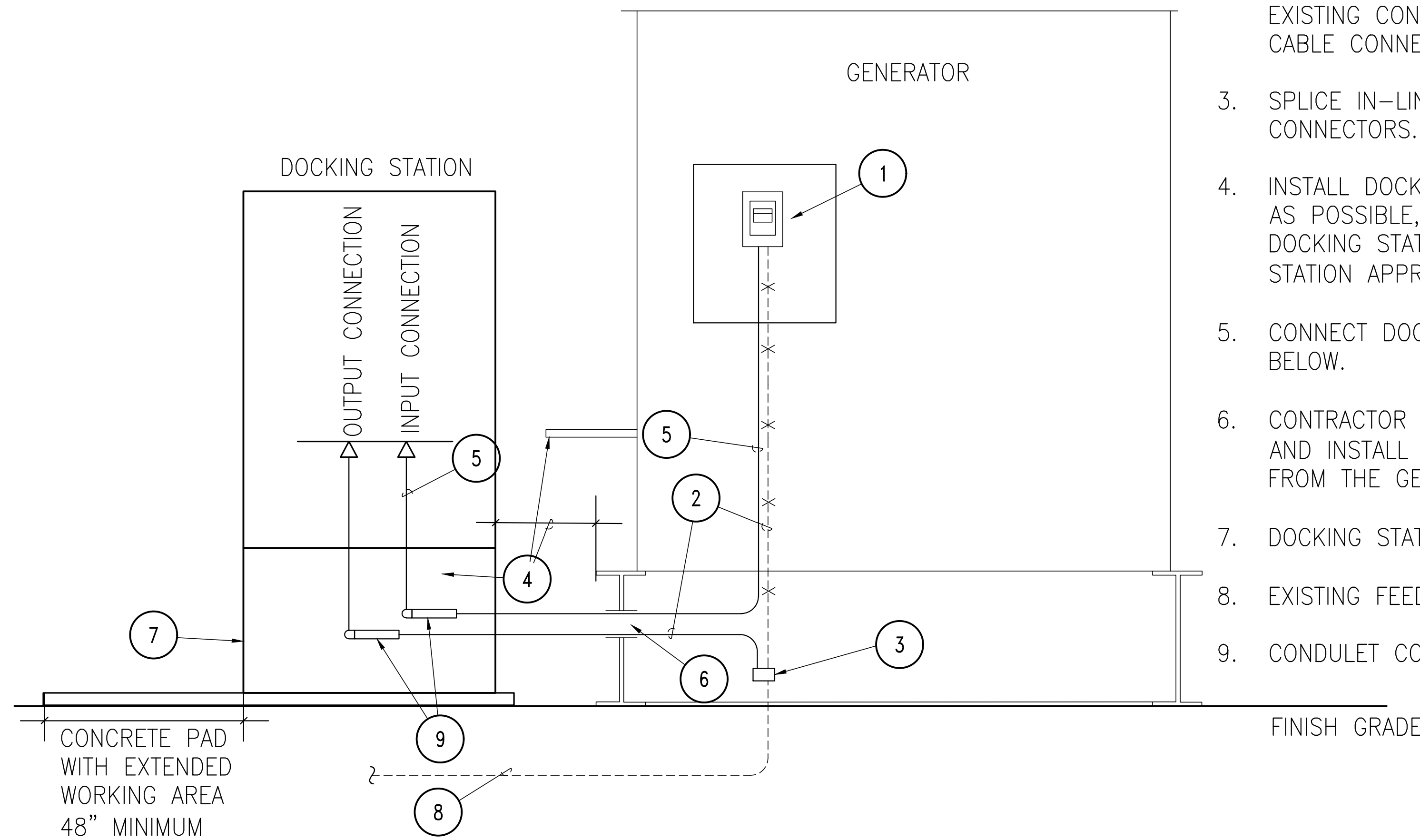
- EXISTING 800A-3P GENERATOR OUTPUT CIRCUIT BREAKER TO REMAIN.
- NEW 800 AMP GENERATOR DOCKING STATION WITH LEG KIT TO SUPPORT THE DOCKING STATION.
- CONNECT THE EXISTING GENERATOR OUTPUT (DISTRIBUTION) FEEDER TO THE OUTPUT CONNECTION POINT OF THE NEW DOCKING STATION. ROUTE THE FEEDER THROUGH THE SIDE OF THE LEG KIT LOCATED UNDER THE DOCKING STATION. THIS CONNECTION WILL PROVIDE FEEDER CONNECTION TO THE EXISTING DISTRIBUTION SWITCHBOARD. PROVIDE ADDITIONAL CONDUCTORS TO LENGTHEN THE EXISTING FEEDER AS REQUIRED. SPLICE IN-LINE CONDUCTORS WITH DOUBLE SIDED, INSULATED, MULTI-TAP CABLE CONNECTORS.
- ROUTE A NEW FEEDER FROM THE GENERATOR OUTPUT CIRCUIT BREAKER TO THE NEW DOCKING STATION INPUT CONNECTION. ROUTE THE NEW FEEDER THROUGH THE LEG KIT LOCATED UNDER THE DOCKING STATION.
- INSTALL NEW EMISSIONS MONITORING AND DATA LOGGING SYSTEM ON THE INSIDE WALL OF THE GENERATOR ENCLOSURE. EXTEND AN EXISTING 120V CIRCUIT CONNECTED TO THE GENERATOR TO THE MONITOR AND LOGGING STATION.
- THE CONTRACTOR SHALL PROVIDE AN 800 KW MOBILE TEMPORARY GENERATOR SET, CONNECTED TO THE DOCKING STATION(S) FOR STAND-BY OPERATIONS DURING THE TIME PERIOD THE PERMANENT GENERATOR(S) ARE OFF-LINE (WHILE THE INSTALLATION OF THE AFTERMARKET EMISSIONS CONTROL DEVICES ARE BEING INSTALLED). THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING THE TEMPORARY GENERATOR(S) TO AND FROM THE SITE, CONNECTING AND DISCONNECTING THE UNIT TO THE DOCKING STATIONS, RELOCATING THE UNIT(S) TO THE DIFFERENT DOCKING STATIONS AS REQUIRED, AND MAINTAINING FUEL IN THE GENERATOR(S) TO SUPPORT A MINIMUM OF 8 HOURS OF OPERATION AT ALL TIMES.
- PROVIDE A CONCRETE PAD UNDER THE NEW DOCKING STATION AND LEG KIT. THE CONCRETE PAD SHALL EXTEND PAST THE DOCKING STATION A MINIMUM OF 48" DIRECTLY IN FRONT OF THE DOCKING STATION AND AT LEAST 12" ON EACH SIDE.



# KEY NOTES (DETAIL 07)

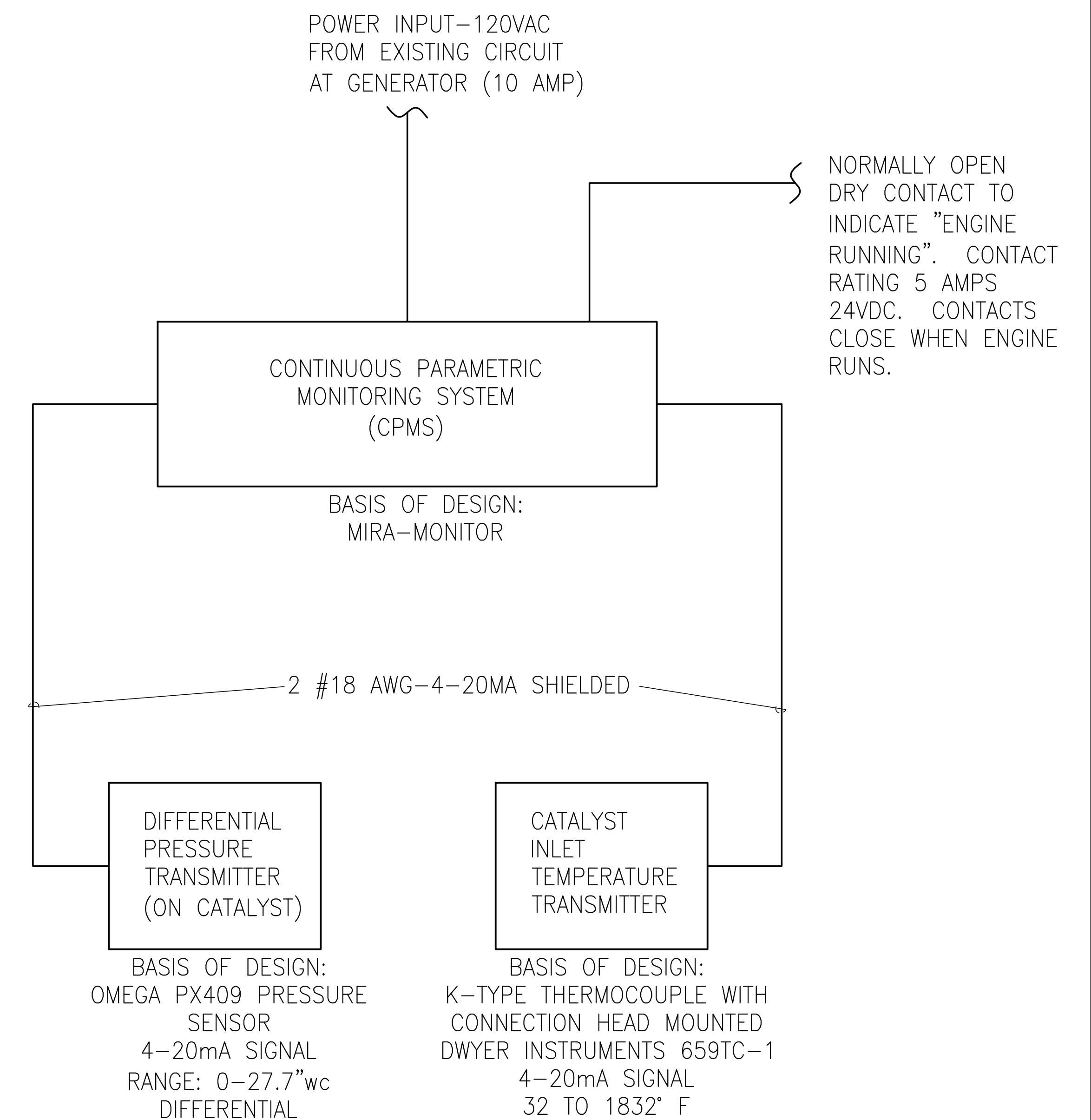
- EXISTING GENERATOR OUTPUT CIRCUIT BREAKER
- EXISTING FEEDER TO BE DISCONNECTED AND DIVERTED TO THE DOCKING STATION. EXTEND FEEDER THROUGH LIQUID TIGHT FLEXIBLE CONDUIT TO THE DOCKING STATION AND PROVIDE CONDULET CONNECTION TO THE SIDE OF THE DOCKING STATION FOR THE CONNECTION TO LUGS, EXTEND ADDITIONAL CONDUCTORS TO EXISTING CONDUCTORS BY CONNECTING TO DOUBLE SIDED, INSULATED, MULTI-TAP CABLE CONNECTORS FOR IN-LINE SPLICES.
- SPLICE IN-LINE CONDUCTORS WITH DOUBLE SIDED, INSULATED, MULTI-TAP CABLE CONNECTORS.
- INSTALL DOCKING STATION AS CLOSE TO GENERATOR STRUCTURAL SUPPORT BEAM AS POSSIBLE, BUT CLEAR FROM GENERATOR CATWALK STRUCTURE. MOUNT DOCKING STATION ON TOP OF NEW DOCKING STATION LEG KIT RAISING DOCKING STATION APPROXIMATELY 30" AFG.
- CONNECT DOCKING STATION TO GENERATOR BREAKER. SEE FEEDER SIZE CHART BELOW.
- CONTRACTOR SHALL MAKE A PENETRATION(S) IN THE GENERATOR SUPPORT BEAM AND INSTALL CONDUIT SLEEVES OR FLEXIBLE WATER TIGHT CONDUIT EXTENDING FROM THE GENERATOR TO THE DOCKING STATION AS NEEDED.
- DOCKING STATION LEG KIT RAISING DOCKING STATION APPROXIMATELY 30" AFG.
- EXISTING FEEDER TO REMAIN.
- CONDULET CONNECTION TO THE SIDE OF THE DOCKING STATION.

GENERATOR LOCATION	FEEDER SIZE
CLUSTER 1	2 SETS OF 4" C EACH WITH 4 #600KCMIL, #3/0G
CLUSTER 3	
CLUSTER 4	



**01 EXTERIOR DOCKING STATION WIRING (TYPICAL) DETAIL**  
SCALE: N.T.S.

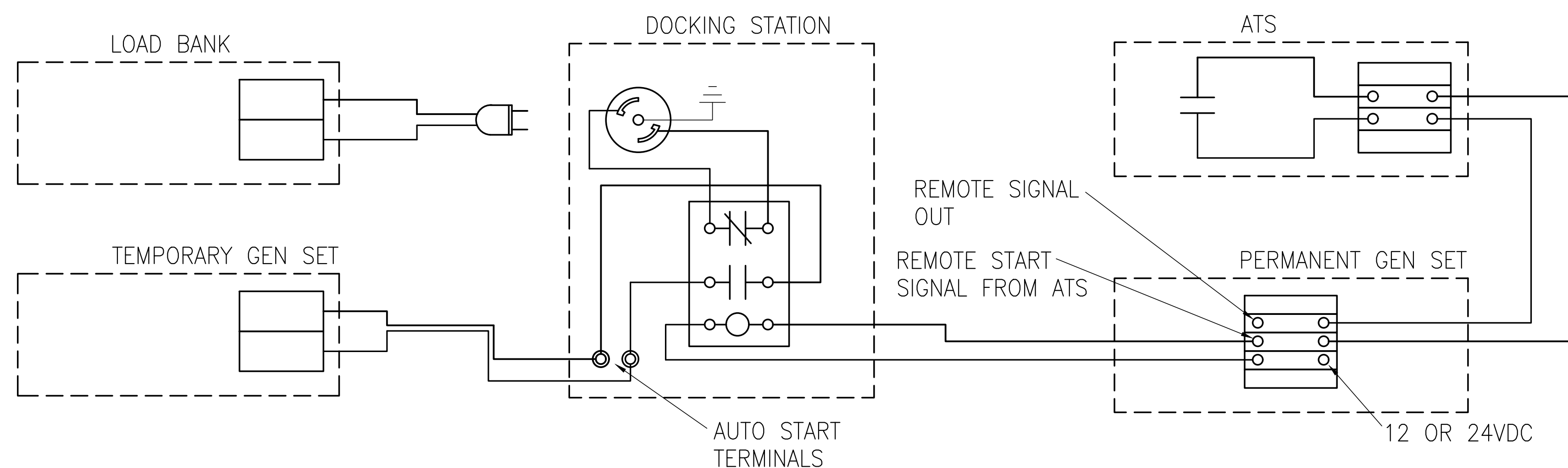
**\*\* INTERIOR LOWER B DOCKING STATION WIRING DETAIL SIMILAR**



MIRATECH CORPORATION SUPPLIED		
ITEM #	PART	DESCRIPTION
1	DATA LOGGER IL-10	INTELLILOGGER SYSTEM
2	CF SOCKET	COMPACT FLASH CARD SOCKET
3	CIRCUIT BREAKER	2 POLE (120VAC) CIRCUIT BREAKER, 2A.
4	TERMINAL BLOCK	TERMINAL BLOCK 24V AND 0V. ELECTRICAL CONNECTIONS.
5	POWER SUPPLY	24VDC POWER SUPPLY
6	USB AND ETHERNET PORTS	USB AND ETHERNET PORTS
7	RED INDICATOR LAMPS	HIGH DIFFERENTIAL PRESSURE AND HIGH CATALYST TEMPERATURE
8	OMEGA PX409 PRESSURE TRANSMITTER	DIFFERENTIAL PRESSURE TRANSMITTER.
9	USB AND ETHERNET CABLES	CABLES FOR INTERFACING WITH THE IL-10
10	HYPERWARE-II SOFTWARE	SOFTWARE PACKAGE FOR DATA EXTRACTION
11	CF (COMPACT FLASH) CARD	CARD USED FOR STORING LOGGED DATA AND DATA EXTRACTION
12	TYPE K THERMOCOUPLE WITH 659TC TEMPERATURE TRANSMITTER	THERMOCOUPLE, TYPE K, 12" WITH ADAPTOR TO SCREW INTO 1/2" FNPT PORT ON CATALYTIC CONVERTER AND TEMPERATURE TRANSMITTER.

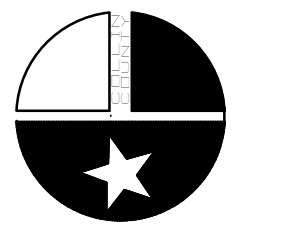
CUSTOMER SCOPE OF SUPPLY	
PART	DESCRIPTION
TEMPERATURE AND DP TRANSMITTER WIRE	WIRING BETWEEN TEMP AND DP TRANSMITTERS AND MIRA-MONITOR. WIRING SHOULD BE 18 GAUGE (MINIMUM), SHIELDED, TWISTED PAIR.
1/4" OD TUBING	TUBING FROM CATALYST DIFFERENTIAL PRESSURE PORTS TO HIGH AND LOW PRESSURE CONNECTIONS ON DP TRANSMITTER.
1/2" MNPT X 1/4" TUBE ADAPTORS (2)	ADAPTOR FOR 1/2" FEMALE NPT PORTS ON CATALYTIC CONVERTER TO 1/4" TUBE FITTINGS FOR DIFFERENTIAL PRESSURE TRANSMITTER.
120VAC	ELECTRIC POWER TO TERMINAL BLOCK
PERSONAL COMPUTER (PC)	COMPUTER TO INTERFACE WITH MIRA-MONITOR MINIMUM SPECS: PC W/ ETHERNET AND USB PORT WINDOWS XP OR BETTER ADOBE ADOBE READER MICROSOFT EXCEL 2007 OR BETTER

**03 MONITOR SYSTEM DIAGRAM**  
SCALE: N.T.S.



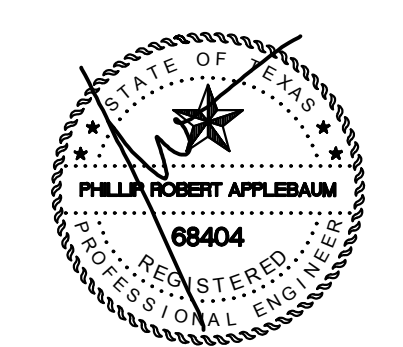
**02 DOCKING STATION LOAD DUMP DIAGRAM**  
SCALE: N.T.S.

**GENERATOR AFTER-MARKET EMISSIONS CONTROL**  
 COLLIN COUNTY ADULT DETENTION CENTER  
 4300 COMMUNITY AVE. MCKINNEY, TEXAS



**HALFF**  
 ASSOCIATES, INC.  
 17081 LIZBET  
 RICHARDSON, TEXAS 75081-7275  
 FAX (214) 750-0099  
 TYPIC FIRM # 312

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