

# COLLIN COUNTY



## Collin County Adult Detention Facility Fire Alarm Initiating Device Replacement Project No. 231570

January 30, 2024



MD Engineering, LLP Texas

Registered Engineering Firm F-7489





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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 14, 2024

### MARK ENVELOPE:

IFB 2024-066

Project: Construction, Adult Detention  
Smoke-Heat Detector Replacement

*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 produce or be incorporated in such construction. Contract will be a general contract for the construction of the Adult Detention Smoke-Heat Detector Replacement. The project is to complete the installation of a modification to the existing EST-3 addressable automatic fire detection and emergency voice/alarm communication system in the Sheriff's Office and throughout the Collin County Detention Center located at 4300 Community Avenue in McKinney Texas to monitor and control the existingsprinkler system. System is located in CC50 911 Dispatch Center. The construction is also to upgrade the existing IRC-3 existing initiating appliances within the Project to EST-3 initiating appliances as noted on the Contract Drawings and described within the project specifications. Reference Specification 283100 and 283101. 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 \$ 1,300,000.00.

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 addenda 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.

No oral, telegraphic, telephonic or facsimile bids will be considered. Bid may be submitted in electronic format via Collin County eBid at <https://collincountytx.ionwave.net>

**MANDATORY PRE-BID MEETING:** A Mandatory Pre-Bid Conference will be held at Collin County Justice Center, 4300 Community Ave., McKinney, TX 75071 (meet in Detention Center Lobby) on Monday, February 26, 2024 at 9:30 A.M. and Wednesday, February 28, 2024 at 1:30 P.M. at Collin County Justice Center, 4300 Community Ave., McKinney, TX 75071 (meet in Detention Center Lobby) in order for bidders to ask questions regarding the proposed work. All Bidders desiring to bid the work must attend ONE of the two conferences, but does not have to attend both (same sites will be viewed at both conferences). It is the bidder's responsibility to review the site and documents to gain a full understanding of the requirements of the bid.

**BID SECURITY:** All Bidders must submit, prior to the bid opening time, a Certified Check, 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, certified check 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. **Failure to submit a copy of bid security prior to bid opening shall be cause for rejection of bid.**

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 or failure to submit original Bid Bond shall be cause for rejection of bid.**

**BONDS:** Contractor must furnish a performance bond, payment bond and one (1) year maintenance 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.

## 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. MD Engineering, L.P., L.L.P. will be hereafter referred to in the Project Manual as “Engineer” and all correspondence shall be addressed to: Michael Smith, P.E., MD Engineering, 1255 W. 15th St., Ste. 300, Plano, TX 75075.
- 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 Engineer assume any responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.
- B. County or the Engineer, 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 Engineer and submitted in accordance with the Instruction to Bidders. The Engineer 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 Engineer for approval at least ten (10) consecutive calendar days prior to the date for receipt of bids. Submit substitution request forms to [rding@co.collin.tx.us](mailto:rding@co.collin.tx.us).
- C. If the Engineer 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 Engineer and Owner the reliability and responsibility of the proposed Subcontractors. Prior to the award of the Contract, the Engineer will notify the Bidder in writing if either the County or the Engineer, after due investigation, has reasonable and substantial objection to any person or organization on such lists. If Owner or Engineer 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 Engineer 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 Engineer.
- 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 Engineer. 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 001116-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://collincountytexas.ionwave.net>.
- C. All Bids, submittals or proposals submitted electronically via Collin County eBid at <https://collincountytexas.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.
- B. Final Payment: Upon final completion and acceptance of the work, Owner shall pay the remainder of the contract price as recommended by Engineer, 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.
- C. 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            |
| Methaquaone, 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 Engineer, 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 Engineer determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Engineer 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 \$175.00 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 Engineer 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 Engineers 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. Engineer 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: TX20230239 10/13/2023

Superseded General Decision Number: TX20220239

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: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

|  |  |
|--|--|
| If the contract is entered<br>  into on or after January 30,<br>  2022, or the contract is<br>  renewed or extended (e.g., an<br>  option is exercised) on or<br>  after January 30, 2022:<br> <br> <br> <br> <br> | . Executive Order 14026<br>  generally applies to the<br>  contract.<br>  . The contractor must pay<br>  all covered workers at<br>  least \$16.20 per hour (or<br>  the applicable wage rate<br>  listed on this wage<br>  determination, if it is<br>  higher) for all hours<br>  spent performing on the<br>  contract in 2023.<br> |
| If the contract was awarded on<br>  or between January 1, 2015 and<br>  January 29, 2022, and the<br>  contract is not renewed or<br>  extended on or after January<br>  30, 2022:<br> <br> <br> <br>              | . Executive Order 13658<br>  generally applies to the<br>  contract.<br>  . The contractor must pay all<br>  covered workers at least<br>  \$12.15 per hour (or the<br>  applicable wage rate listed<br>  on this wage determination,<br>  if it is higher) for all<br>  hours spent performing on<br>  that contract in 2023.<br>     |

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

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

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 01/06/2023       |
| 1                   | 01/13/2023       |
| 2                   | 04/14/2023       |
| 3                   | 10/13/2023       |

\* ASBE0021-011 06/01/2023

|   | Rates    | Fringes |
|---|----------|---------|
| ASBESTOS WORKER/HEAT & FROST<br>INSULATOR (Duct, Pipe and<br>Mechanical System Insulation)..... | \$ 31.32 | 7.52    |

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\* BOIL0074-003 07/01/2023

|                  | Rates    | Fringes |
|------------------|----------|---------|
| BOILERMAKER..... | \$ 37.00 | 24.64   |

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CARP1421-002 02/01/2023

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| MILLWRIGHT..... | \$ 30.12 | 41.45   |

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ELEV0021-006 01/01/2023

|                        | Rates    | Fringes    |
|------------------------|----------|------------|
| ELEVATOR MECHANIC..... | \$ 47.60 | 37.335+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 06/01/2020

|  | Rates    | Fringes |
|--|----------|---------|
| POWER EQUIPMENT OPERATOR   |          |         |
| (1) Tower Crane.....   | \$ 32.85 | 13.10   |
| (2) Cranes with Pile<br>Driving or Caisson<br>Attachment and Hydraulic<br>Crane 60 tons and above..... | \$ 28.75 | 10.60   |
| (3) Hydraulic cranes 59<br>Tons and under.....   | \$ 32.35 | 13.10   |

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\* IRON0263-005 06/01/2023

|   | Rates    | Fringes |
|---|----------|---------|
| IRONWORKER (ORNAMENTAL AND<br>STRUCTURAL) ..... | \$ 27.89 | 7.93    |

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PLUM0100-005 11/01/2022

|  | Rates    | Fringes |
|--|----------|---------|
| HVAC MECHANIC (HVAC Unit<br>Installation Only).....  | \$ 35.73 | 13.07   |
| PIPEFITTER (Excludes HVAC<br>Pipe Installation)..... | \$ 35.73 | 13.07   |

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\* SUTX2014-015 07/21/2014

|  | Rates       | Fringes |
|--|-------------|---------|
| BRICKLAYER.....  | \$ 21.06    | 0.00    |
| CARPENTER, Excludes Drywall<br>Hanging, Form Work, and Metal<br>Stud Installation..... | \$ 15.78 ** | 0.00    |
| CAULKER.....   | \$ 15.16 ** | 0.00    |
| CEMENT MASON/CONCRETE FINISHER....   | \$ 13.04 ** | 0.00    |
| DRYWALL HANGER AND METAL STUD<br>INSTALLER.....  | \$ 13.00 ** | 0.00    |
| ELECTRICIAN (Alarm<br>Installation Only).....  | \$ 20.93    | 3.86    |

|   |             |      |
|---|-------------|------|
| ELECTRICIAN (Communication<br>Technician Only).....   | \$ 15.35 ** | 1.39 |
| ELECTRICIAN (Low Voltage<br>Wiring Only).....   | \$ 17.04    | 1.39 |
| ELECTRICIAN, Excludes Low<br>Voltage Wiring and<br>Installation of Alarms/Sound<br>and Communication Systems..... | \$ 20.01    | 2.69 |
| FORM WORKER.....  | \$ 11.89 ** | 0.00 |
| GLAZIER.....  | \$ 16.46    | 3.94 |
| HIGHWAY/PARKING LOT STRIPING:<br>Operator (Striping Machine).....   | \$ 10.04 ** | 2.31 |
| INSTALLER - SIDING<br>(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 -<br>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<br>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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\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

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

is available at  
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (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 National Office because National Office has 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 Collin County prior to access being granted to Collin County facilities. Upon request, Vendor/Contractor/Provider shall provide list of individuals to the 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 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.

#### 1.54 INSURANCE REQUIREMENTS

##### A. CONTRACTOR'S INSURANCE

1. Everything that follows under insurance requirements is applicable to all subcontractors. Contractor will have discretion to determine coverage limits for its subcontractors for the required insurances.
2. Before commencing work, the CONTRACTOR shall be required 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. CONTRACTOR shall also be required to furnish the Collin County Purchasing Agent with certified copies of subcontractor's insurance certificates required by the Texas Department of Insurance, Division of Workers' Compensation, section 406.096(b), and coverages required herein in section 4.2. 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 required of each policy for the CONTRACTOR and each subcontractor 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.
3. 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 at \$1,000,000. In addition to these, the CONTRACTOR and each subcontractor must comply with all the requirements of the Texas Department of Insurance, Division of Workers' Compensation, section 406.096(b); (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 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 \$1,000,000
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.
- 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. Owner's Protective Liability Insurance required by Contractor only is acceptable.

F. "UMBRELLA" LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain umbrella liability insurance (over Workers Comp, Auto, and General Liability) during the contract term, insuring CONTRACTOR for an amount of not less than \$2,000,000 per occurrence/\$2,000,000 aggregate limit 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. Contractor can adjust to lower limits on umbrella liability insurance for its subcontractors.

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;

(c) Surplus lines insurance carriers will be acceptable when surplus lines companies meet all financial requirements and be liscensed in their home state. Collin County will take an extra step if a bid comes in to include coverage from a surplus lines carrier to verify if that company is approved by TDI to do business in the state of Texas. Please verify with TDI at the phone number list in below link if your or your proposed surplus lines company is approved before you submit your bid. <https://www.tdi.texas.gov/pubs/consumer/cb015.html>; and

(d) 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.

I. BUILDERS RISK INSURANCE

CONTRACTOR shall obtain, pay for and maintain Builders Risk Insurance policy in the name of the CONTRACTOR and name the OWNER as Additional Named Insured, with the limit amount being the same as the total cost of the project. Builders Risk Insurance required by Contractor only is acceptable.

1.55 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.

1.56 Force Majeure: No party shall be liable or responsible to the other party, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond the affected party's reasonable control, including, without limitation: acts of God; flood, fire or explosion; war, invasion, riot or other civil unrest; actions, embargoes or blockades in effect on or after the date of this Agreement; or national or regional emergency (each of the foregoing, a "Force Majeure Event"). A party whose performance is affected by a Force Majeure Event shall give notice to the other party, stating the period of time the occurrence is expected to continue and shall use diligent efforts to end the failure or delay and minimize the effects of such Force Majeure Event.

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# Collin County Purchasing

**2024-066**

## **Construction, Adult Detention Smoke-Heat Detector Replacement**

Issue Date: 2/13/2024

Questions Deadline: 3/1/2024 05:00 PM (CT)

Response Deadline: 3/14/2024 02:00 PM (CT)

Collin County Purchasing

### **Contact Information**

Contact: Ruyue Ding  
Address: Purchasing  
Admin. Building  
Ste. 3160  
2300 Bloomdale Road  
Ste. 3160  
McKinney, TX 75071  
Phone: 1 (972) 548-4115  
Fax: 1 (972) 548-4694  
Email: [rding@co.collin.tx.us](mailto:rding@co.collin.tx.us)

## Event Information

Number: 2024-066  
Title: Construction, Adult Detention Smoke-Heat Detector Replacement  
Type: Invitation for Bid  
Issue Date: 2/13/2024  
Question Deadline: 3/1/2024 05:00 PM (CT)  
Response Deadline: 3/14/2024 02:00 PM (CT)  
Notes: SCOPE OF WORK INCLUDES all materials, labor, equipment and services to produce or be incorporated in such construction. Contract will be a general contract for the construction of the Adult Detention Smoke-Heat Detector Replacement. The project is to complete the installation of a modification to the existing EST-3 addressable automatic fire detection and emergency voice/alarm communication system in the Sherrif's Office and throughout the Collin County Detention Center located at 4300 Community Avenue in McKinney Texas to monitor and control the existingsprinkler system. System is located in CC50 911 Dispatch Center. The construction is also to upgrade the existing IRC-3 existing initiating appliances within the Project to EST-3 initiating appliances as noted on the Contract Drawings and described within the project specifications. Reference Specification 283100 and 283101. 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 \$ 1,300,000.00.

## Ship To Information

Contact: Ruyue Ding  
Address: Collin County Justice Center  
Cluster 1 and 3, Sheriff's office  
4300 Community Ave.  
McKinney, TX 75071  
Phone: 1 (972) 548-4115  
Email: rding@co.collin.tx.us

## Billing Information

Address: Auditor  
Admin. Building  
Ste. 3100  
2300 Bloomdale Rd.  
Ste. 3100  
McKinney, TX 75071  
Phone: 1 (972) 548-4733  
Email: accountspayable@co.collin.tx.us

## Bid Activities

### Mandatory Pre-Bid Conference

2/26/2024 9:30:00 AM (CT)

A **mandatory PRE-BID CONFERENCE** will be held on Monday, February 26, 2024 at 9:30 A.M. and Wednesday, February 28, 2024 at 1:30 P.M. at Collin County Justice Center, 4300 Community Ave., McKinney, TX 75071 (meet in Detention Center Lobby) in order for bidders to ask questions regarding the proposed work. All Bidders desiring to bid the work **must** attend **ONE** of the two conferences, but does **not** have to attend both (same sites will be viewed at both conferences). It is the bidder's responsibility to review the site and documents to gain a full understanding of the requirements of the bid.

## Mandatory Pre-Bid Conference

2/28/2024 1:30:00 PM (CT)

A **mandatory PRE-BID CONFERENCE** will be held on Monday, February 26, 2024 at 9:30 A.M. and Wednesday, February 28, 2024 at 1:30 P.M. at Collin County Justice Center, 4300 Community Ave., McKinney, TX 75071 (meet in Detention Center Lobby) in order for bidders to ask questions regarding the proposed work. All Bidders desiring to bid the work must attend ONE of the two conferences, but does not have to attend both (same sites will be viewed at both conferences). It is the bidder's responsibility to review the site and documents to gain a full understanding of the requirements of the bid.

## Bid Attachments

### LEGAL\_NOTICE-2024-066.doc

Download

Legal Notice

### CCADF Fire Alarm Initiating Device Replacement Bid Book.pdf

View Online

Bid Book

### Collin County Fire Alarm Shop Drawings with JH Annotations\_Sealed.pdf

View Online

Plans

## Requested Attachments

### W-9

*(Attachment required)*

### Conflict of Interest Questionnaire

### Proposed Construction Schedule

*(Attachment required)*

Bidder is required to submit a Proposed Construction Schedule with his/her bid

### Bid Bond

*(Attachment required)*

Please upload copy of the Bid Bond here. **BID SECURITY:** All Bidders must submit, prior to the bid opening time, a Certified Check, 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, certified check or Cashier's Check may be mailed or 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://collincountytexas.ionwave.net> Regardless of delivery method, all Bid Bonds shall be received prior to the bid opening time to be considered. Failure to submit a copy of bid security prior to bid opening shall be cause for rejection of bid. 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.

## Bid Attributes

### 1 eBid Notice

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. Please initial.

*(Required: Maximum 1000 characters allowed)*

**2 Contact Information**

List the contact name, email address and phone number of the main person(s) Collin County should contact in reference to this solicitation. Contact(s) shall be duly authorized by the company, corporation, firm, partnership or individual to respond to any questions, clarification, and or offers in response to this solicitation.

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*(Required: Maximum 4000 characters allowed)*

**3 Exceptions (for IFB - Construction)**

If you take any exceptions to the specifications, you must submit the exception/s as a Question via the public eBid portal before the Question Cutoff Date for County consideration. The County will review and publish a response via eBid. If you would like to offer any substitutions, please review the Instruction to Bidders Document 002113, Section 1.7 and submit by separate attachment. Please initial.

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*(Required: Maximum 1000 characters allowed)*

**4 Number of Years' Experience with Edwards Fire Alarm System**

Bidder shall state the number of years' experience with Edwards Fire Alarm Systems installation and programming.

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*(Required: Maximum 1000 characters allowed)*

**5 Calendar Days Bid**

Please state the consecutive calendar days bid from notice to proceed through completion of project.

*(Required: Numbers only)*

**6 Insurance Acknowledgement – Construction/Public Works**

I understand that the insurance requirements of this solicitation are required and are included in the submitted pricing. The Contractor shall furnish certificates of insurance for both the Contractor and any subcontractor to the Purchasing department if awarded all or a portion of the resulting contract. Please initial.

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*(Required: Maximum 1000 characters allowed)*



**7 Bonding Requirement Acknowledgement**

I understand that the bonding requirements of this solicitation are required and are included in the submitted pricing. A bond certificate (payment, performance, and/or maintenance) as stated in the specification document shall be submitted to the Purchasing department if I am awarded all or a portion of the resulting contract. Please initial.

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*(Required: Maximum 1000 characters allowed)*

**8 Bid Bond Acknowledgement**

I understand that 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. 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.

I understand that 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.** Please initial.

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*(Required: Maximum 4000 characters allowed)*

**9 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".

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*(Required: Maximum 4000 characters allowed)*

**10 Reference No. 1**

List a company or governmental agency, other than Collin County, where these same/like products/services, as stated herein, have been provided. Texas references are preferred. Include the following: Company/Entity, Contact, Address, City/State/Zip, Phone, and E-Mail. It is the responsibility of the Bidder/Proposer to ensure submitted references will be responsive to the County's requests. The County reserves the right to contact references other than those listed, and to consider any information acquired from all references during the evaluation process.

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*(Required: Maximum 4000 characters allowed)*



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4** **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).

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.

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*(Required: Maximum 4000 characters allowed)*

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5** **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. Please initial.

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*(Required: Maximum 1000 characters allowed)*

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6** **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. 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.

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*(Required: Maximum 1000 characters allowed)*

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7** **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 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.

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*(Required: Maximum 1000 characters allowed)*

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**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. 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.

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*(Required: Maximum 1000 characters allowed)*

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

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*(Required: Maximum 1000 characters allowed)*

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**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. How did you receive notice of this request?

- Plano Star Courier     Plan Room     Collin County eBid Notification     Collin County Website
- Other

*(Required: Check only one)*

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**Critical Infrastructure Affirmation**

Pursuant to section 2274.0102 of the Texas Government Code, Respondent certifies that neither it nor its parent company, nor any affiliate of Respondent or its parent company, is: (1) majority owned or controlled by citizens or governmental entities of China, Iran, North Korea, Russia, or any other country designated by the Governor under Government Code Section 2274.0103, or (2) headquartered in any of those countries. Please initial.

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*(Required: Maximum 1000 characters allowed)*

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**Energy Company Boycotts**

Pursuant to Section 2274.002 of the Texas Government Code, should the contract have a value of \$100,000 or more and the company employs 10 or more full-time employees, Respondent represents and warrants that: (1) it does not, and will not for the duration of the contract, boycott energy companies, and (2) will not boycott energy companies during the term of the contract. If circumstances relevant to this provision change during the course of the contract, Respondent shall promptly notify Agency. Please initial.

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*(Required: Maximum 1000 characters allowed)*

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**3** **Firearm Entities and Trade Associations Discrimination**

Pursuant to section 2274.002 of the Texas Government Code, should the contract have a value of \$100,000 or more and the company employs 10 or more full-time employees, Respondent verifies that: (1) it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association. If circumstances relevant to this provision change during the course of the contract, Respondent shall promptly notify Agency. Please initial.

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*(Required: Maximum 1000 characters allowed)*

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**4** **Construction Acknowledgement**

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. 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.

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\_\_\_\_\_  
*(Required: Maximum 1000 characters allowed)*

**Bid Lines**

**1** **Package Header**

Bid Grand Total.

Quantity:   1   UOM:   lump sum   Total: \$

Item Notes: Lines 1.1 and 1.2 must add up to the Bid Grand Total. Please provide bids on both Line 1 and Line 3.

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

- No bid
- Alternate specification  
*(Attach separate sheet)*
- Additional notes  
*(Attach separate sheet)*

## Package Items

**1.1** Total Material Cost for replacing approximately 450 smoke/heat detectors in the original Adult Detention Center (Clusters one and three, together with the main detention building from the Detention Lobby entrance to the loading dock area) and Sheriff's Office.

(Response required)

Quantity:   1   UOM:   lump sum   Price: \$  Total: \$

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

- No bid
- Additional notes  
(Attach separate sheet)

**1.2** Total Labor Cost for replacing approximately 450 smoke/heat detectors in the original Adult Detention Center (Clusters one and three, together with the main detention building from the Detention Lobby entrance to the loading dock area) and Sheriff's Office.

(Response required)

Quantity:   1   UOM:   lump sum   Price: \$  Total: \$

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

- No bid
- Additional notes  
(Attach separate sheet)

## 2 Unit Prices

(Response required)

Quantity:   1   Price: \$  Total: \$

Item Notes: Unit price shall include all materials, equipment, requirement and labor mentioned in the Specifications to provide and install one (1) replacement device.

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

- No bid
- Alternate specification  
(Attach separate sheet)
- Additional notes  
(Attach separate sheet)

## Item Attributes

### 1. State Unit Price for: One (1) Siga-OSD device and installation of replacing existing device

Bidder shall provide a unit price for any additional One (1) Siga-OSD device that may be required during the project other than the estimated four hundred and fifty (450) smoke/heat detectors stated in the Specifications. Unit price shall include all materials, equipment, requirements stated in the Specifications and labor to provide and install one (1) replacement device.

(Required: Numbers only)

### 2. State Unit Price for: One (1) Siga-HRD device and installation of replacing existing device

Bidder shall provide a unit price for any additional One (1) Siga-HRD device that may be required during the project other than the estimated four hundred and fifty (450) smoke/heat detectors stated in the Specifications. Unit price shall include all materials, equipment, requirements stated in the Specifications and labor to provide and install one (1) replacement device.

(Required: Numbers only)

**3. State Unit Price for: One (1) Siga-SD device and installation of replacing existing device**

Bidder shall provide a unit price for any additional One (1) Siga-SD device that may be required during the project other than the estimated four hundred and fifty (450) smoke/heat detectors stated in the Specifications. Unit price shall include all materials, equipment, requirements stated in the Specifications and labor to provide and install one (1) replacement device.

(Required: Numbers only)

**3 Package Header**

Alternate Grand Total

Quantity:   1   UOM:  lump sum  Total: \$

Item Notes: Lines 3.1 and 3.2 must add up to the Alternate Grand Total. Please provide bids on both Line 1 and Line 3.

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

- No bid
- Alternate specification  
(Attach separate sheet)
- Additional notes  
(Attach separate sheet)

**Package Items**

**3.1** Total Material Cost to retrofit to provide electric supervision on fire sprinkler isolation and control valves in lieu of existing chains and padlock. Contractor shall provide all necessary equipment, approved pathways, and FACP programming. Please include all these cost into your bid.

(Response required)

Quantity:   1   UOM:  lump sum  Price: \$  Total: \$

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

- No bid
- Additional notes  
(Attach separate sheet)

**3.2** Total Labor Cost to retrofit to provide electric supervision on fire sprinkler isolation and control valves in lieu of existing chains and padlock. Contractor shall provide all necessary equipment, approved pathways, and FACP programming. Please include all these cost into your bid.

(Response required)

Quantity:   1   UOM:  lump sum  Price: \$  Total: \$

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

- No bid
- Additional notes  
(Attach separate sheet)

**Supplier Information**

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

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

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

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.

\_\_\_\_\_  
*Print Name*

\_\_\_\_\_  
*Signature*



**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 \_\_\_\_\_ 202\_\_\_\_\_.

**WHEREAS**, the Principal is herewith submitting its proposal for IFB 2024-066, Construction, Adult Detention Smoke-Heat Detector Replacement

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: \_\_\_\_\_

**SURETY**

\_\_\_\_\_

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

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

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

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

\_\_\_\_\_

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

**Revised 11/2008**

**SECTION 004325 - PRODUCT SUBSTITUTION REQUEST FORM**

(Must be submitted a minimum of 10 days before the bid date)

Bidder: \_\_\_\_\_

Project No: **IFB 2024-066**

Project: **Construction, Adult Detention Smoke-Heat Detector Replacement**

Section: \_\_\_\_\_ Article/ Paragraph: \_\_\_\_\_

Proposed Substitution: \_\_\_\_\_

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

Telephone: \_\_\_\_\_ Proposed Model No.: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its installation.

The undersigned warrants and represents:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by substitution.

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

Signed: \_\_\_\_\_

Firm: \_\_\_\_\_

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

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

**REVIEW & ACTION (Initial)**

\_\_\_\_\_ Substitution approved - Make submittals in accordance with Project Manual requirements.

\_\_\_\_\_ Substitution approved as noted - Make submittals in accordance with Project Manual requirements.

\_\_\_\_\_ Substitution rejected - Use specified materials.

\_\_\_\_\_ Substitution Request received too late - Use specified materials.

Signature: \_\_\_\_\_

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

Supporting Data Attached: \_\_\_ Drawings \_\_\_ Product Data \_\_\_ Samples \_\_\_ Tests \_\_\_ Reports \_\_\_ Other

**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.collincountytx.gov/government/Pages/officials.aspx>

At the time of this solicitation being released, the following are known to be involved in the planning, recommending, selecting, and/or contracting for the attached procurement:

Department:

Bill Burke - Director of Construction and Planning

Rickee Harris - Building Projects Coordinator of Construction and Planning

Purchasing:

Michelle Charnoski, NIGP-CPP, CPPB – Purchasing Agent

Marci Chrismon, CPPB – Assistant Purchasing Agent

Ruyue Ding - Senior Buyer

Commissioners Court:

Chris Hill – County Judge

Susan Fletcher – Commissioner Precinct No. 1

Cheryl Williams – Commissioner Precinct No. 2

Darrell Hale – Commissioner Precinct No. 3

Duncan Webb – Commissioner Precinct No. 4

Advisors: MD Engineering, L.P., L.L.P.

1255 W. 15th St., Ste. 300,  
Plano, TX 75075

# 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.



# 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.

**Engineer:** The term “Engineer” means the Engineer or his duly authorized representative. The Engineer shall be understood to be the Engineer of the OWNER, and nothing contained in the Contract Documents shall create any contractual or agency relationship between the Engineer 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 Engineer 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 one (1) year maintenance 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 Engineer 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 \_\_\_\_\_
  - 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, Fifth edition (2017) 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 One-Year 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 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 2024-066, Construction, Adult Detention Smoke-Heat Detector Replacement**

### 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 Engineer.

#### 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 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, produce for examination for a minimum period of three (3) years following final payment or termination of contract 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 Engineer 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 Engineer. The CONTRACTOR shall not be relieved responsibility for deviations from the requirements of the Contract Documents by errors or omissions by the OWNER or Engineer 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 Engineer'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 Engineer's approval of shop drawings, product data or samples unless the CONTRACTOR has specifically informed the Engineer in writing of such deviation at the time of submission and the Engineer 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 Engineer'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 Engineer 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 Engineer 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 Engineer. 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 and 00611 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 (100%) 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 (100%) 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 one (1)-year maintenance 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 Engineer 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 Engineer 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, and Engineer'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 Engineer 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, address and telephone 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 whom purchased or rented, along with copies of invoices for such materials, plant equipment or construction equipment.

The CONTRACTOR and his subcontractors, when required by the OWNER, must also produce for inspection for a minimum period of three (3) years following final payment or termination of contract, produce for examination and audit by designated OWNER representatives, 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: TX20230239 10/13/2023

Superseded General Decision Number: TX20220239

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: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

|                               |                            |  |
|-------------------------------|----------------------------|--|
| If the contract is entered    | . Executive Order 14026    |  |
| into on or after January 30,  | generally applies to the   |  |
| 2022, or the contract is      | contract.                  |  |
| renewed or extended (e.g., an | . The contractor must pay  |  |
| option is exercised) on or    | all covered workers at     |  |
| after January 30, 2022:       | least \$16.20 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 2023.   |
| If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: | . Executive Order 13658 generally applies to the contract.<br>. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023. |

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

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

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 01/06/2023       |
| 1                   | 01/13/2023       |
| 2                   | 04/14/2023       |
| 3                   | 10/13/2023       |

\* ASBE0021-011 06/01/2023

|   | Rates    | Fringes |
|---|----------|---------|
| ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)..... | \$ 31.32 | 7.52    |

\* BOIL0074-003 07/01/2023

|                  | Rates    | Fringes |
|------------------|----------|---------|
| BOILERMAKER..... | \$ 37.00 | 24.64   |



CARP1421-002 02/01/2023

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| MILLWRIGHT..... | \$ 30.12 | 41.45   |

ELEV0021-006 01/01/2023

|                        | Rates    | Fringes    |
|------------------------|----------|------------|
| ELEVATOR MECHANIC..... | \$ 47.60 | 37.335+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.

ENGI0178-005 06/01/2020

|   | Rates    | Fringes |
|---|----------|---------|
| POWER EQUIPMENT OPERATOR  |          |         |
| (1) Tower Crane.....  | \$ 32.85 | 13.10   |
| (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.....   | \$ 32.35 | 13.10   |

\* IRON0263-005 06/01/2023

|   | Rates    | Fringes |
|---|----------|---------|
| IRONWORKER (ORNAMENTAL AND STRUCTURAL)..... | \$ 27.89 | 7.93    |

PLUM0100-005 11/01/2022

|  | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

|  |          |       |
|--|----------|-------|
| HVAC MECHANIC (HVAC Unit<br>Installation Only).....  | \$ 35.73 | 13.07 |
| PIPEFITTER (Excludes HVAC<br>Pipe Installation)..... | \$ 35.73 | 13.07 |

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\* SUTX2014-015 07/21/2014

|   | Rates       | Fringes |
|---|-------------|---------|
| BRICKLAYER.....   | \$ 21.06    | 0.00    |
| CARPENTER, Excludes Drywall<br>Hanging, Form Work, and Metal<br>Stud Installation.....                            | \$ 15.78 ** | 0.00    |
| CAULKER.....  | \$ 15.16 ** | 0.00    |
| CEMENT MASON/CONCRETE FINISHER....  | \$ 13.04 ** | 0.00    |
| DRYWALL HANGER AND METAL STUD<br>INSTALLER.....   | \$ 13.00 ** | 0.00    |
| ELECTRICIAN (Alarm<br>Installation Only).....   | \$ 20.93    | 3.86    |
| ELECTRICIAN (Communication<br>Technician Only).....   | \$ 15.35 ** | 1.39    |
| ELECTRICIAN (Low Voltage<br>Wiring Only).....   | \$ 17.04    | 1.39    |
| ELECTRICIAN, Excludes Low<br>Voltage Wiring and<br>Installation of Alarms/Sound<br>and Communication Systems..... | \$ 20.01    | 2.69    |
| FORM WORKER.....  | \$ 11.89 ** | 0.00    |
| GLAZIER.....  | \$ 16.46    | 3.94    |
| HIGHWAY/PARKING LOT STRIPING:<br>Operator (Striping Machine).....   | \$ 10.04 ** | 2.31    |
| INSTALLER - SIDING<br>(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 -<br>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<br>Irrigation.....                  | \$ 10.55 ** | 0.00 |
| LATHER.....  | \$ 16.00 ** | 0.00 |
| OPERATOR:<br>Backhoe/Excavator/Trackhoe.....               | \$ 12.83 ** | 0.00 |
| OPERATOR: Bobcat/Skid<br>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,<br>Aggregate, and Concrete)..... | \$ 18.44    | 0.00 |
| OPERATOR: Roller.....                                      | \$ 15.04 ** | 0.00 |

|   |             |      |
|---|-------------|------|
| PAINTER (Brush, Roller and<br>Spray), Excludes Drywall<br>Finishing/Taping..... | \$ 13.35 ** | 5.10 |
| PAINTER: Drywall<br>Finishing/Taping Only.....                                  | \$ 14.24 ** | 3.83 |
| PIPEFITTER (HVAC Pipe<br>Installation Only).....                                | \$ 20.45    | 4.00 |
| PLASTERER.....  | \$ 16.58    | 0.00 |
| PLUMBER, Excludes HVAC Pipe<br>Installation.....                                | \$ 22.46    | 4.06 |
| ROOFER.....   | \$ 17.19    | 0.00 |
| SHEET METAL WORKER (HVAC Duct<br>Installation Only).....                        | \$ 21.13    | 4.79 |
| SHEET METAL WORKER, Excludes<br>HVAC Duct Installation.....                     | \$ 24.88    | 5.97 |
| SPRINKLER FITTER (Fire<br>Sprinklers).....                                      | \$ 37.50    | 0.00 |
| TILE FINISHER.....  | \$ 11.22 ** | 0.00 |
| TILE SETTER.....  | \$ 14.25 ** | 0.00 |
| TRUCK DRIVER: 1/Single Axle<br>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<br>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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\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

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

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (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 National Office because National Office has 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 contractors 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 Engineer 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 Engineer; 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 Engineer determines shall perform adequately the duties imposed by the general design or which the Engineer 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 Engineer 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 Engineer shall accomplish such redesigns and alterations. The CONTRACTOR shall bear all reasonable costs associated with redesign and alteration efforts performed by the Engineer.

### 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

Everything that follows under insurance requirements is applicable to all subcontractors. Contractor will have discretion to determine coverage limits for its subcontractors for the required insurances.

Before commencing work, the CONTRACTOR shall be required 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. CONTRACTOR shall also be required to furnish the Collin County Purchasing Agent with certified copies of subcontractor's insurance certificates required by the Texas Department of Insurance, Division of Workers' Compensation, section 406.096(b), and coverages required herein in section 4.2. 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 required of each policy for the CONTRACTOR and each subcontractor 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.

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 and each subcontractor must comply with all the requirements of the Texas Department of Insurance, Division of Workers' Compensation, section 406.096(b); (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 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 \$ 1,000,000

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. Owner's Protective Liability Insurance required by Contractor only is acceptable.

#### 4.6 "UMBRELLA" LIABILITY INSURANCE

CONTRACTOR shall obtain, pay for and maintain umbrella liability insurance (over Workers Comp, Auto, and General Liability) during the contract term, insuring CONTRACTOR for an amount of not less than \$2,000,000 per occurrence/\$2,000,000 aggregate limit 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. Contractor can adjust to lower limits on umbrella liability insurance for its subcontractors.

#### 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

All policies 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.

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;
- C. Surplus lines insurance carriers will be acceptable when surplus lines companies meet all financial requirements and be licensed in their home state. Collin County will take an extra step if a bid comes in to include coverage from a surplus lines carrier to verify if that company is approved by TDI to do business in the state of Texas. Please verify with TDI at the phone number list in below link if your or your proposed surplus lines company is approved before you submit your bid. <https://www.tdi.texas.gov/pubs/consumer/cb015.html>; and
- D. 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.

#### 4.9 BUILDERS RISK INSURANCE

CONTRACTOR shall obtain, pay for and maintain Builders Risk Insurance policy in the name of the CONTRACTOR and name the OWNER as Additional Named Insured, with the limit amount being the same as the total cost of the project. Builders Risk Insurance required by Contractor only is acceptable.

### **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 Engineer that the improvement is ready for inspection. The Engineer 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 Engineer 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 Engineer, 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 Engineer 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 Engineer 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 Engineer.

#### 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 Engineer that the improvement is ready for final inspection. The Engineer 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 Engineer 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:

- A. Substantial Completion – is \_\_\_\_\_ calendar days
- B. Final Completion – Entire project length is \_\_\_\_\_ Calendar days.

##### 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:

**\$175.00/day**

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 Engineer, 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 Engineer:

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 Engineer 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 Engineer. 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 Engineer 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 Engineer and the OWNER in the form and with the certification prescribed herein. 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. The termination claim shall (1) list all Contract Work which the CONTRACTOR has completed but for which the CONTRACTOR asserts it has not been paid, including any retainage; (2) list of all 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 Contract and the itemized cost for each such fabricated or unfabricated part, work in process, completed work, supplies and other material; (3) list all costs and expenses saved as a result of the termination of the Contract. The termination claim must include a copy of all invoices for fabricated or unfabricated parts, supplies and other material produced as a part of, or acquired in connection with the performance of the Contract for which the CONTRACTOR seeks compensation; all invoices for any subcontractors providing services related to the Contract; and (3) evidence of payment of all material suppliers and subcontractors, together with CONTRACTOR's certification that all such-material suppliers and

subcontractors have been fully paid together with executed lien releases from each such material supplier and subcontractor. The termination claim may not include any request for payment of Extra Work for which a Change Order has not been issued or for which the CONTRACTOR has not fully and timely complied with the provisions of section 2.3 of this Contract.

### 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 Engineer 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 extension 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 ENGINEER

6.1 All work shall be performed in a good and workmanlike manner and to the satisfaction of the Engineer. The Engineer 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 Engineer 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 Engineer 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 Engineer shall in no way relieve the CONTRACTOR of any of its responsibilities or duties pursuant to the Contract Documents. The Engineer 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 sole 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

Engineer 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 Engineer 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 Engineers 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 Engineer'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 Engineer or OWNER; any order, measurement, quantity or certificate by the Engineer; 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 or Engineer 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. CONTRACTOR acknowledges that no representations have been made to it, upon which it is relying in entering into this Contract, which are not expressly set forth in the Contract Documents.

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.

8.15 FORCE MAJEURE

No party shall be liable or responsible to the other party, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond the affected party's reasonable control, including, without limitation: acts of God; flood, fire or explosion; war, invasion, riot or other civil unrest; actions, embargoes or blockades in effect on or after the date of this Agreement; or national or regional emergency (each of the foregoing, a "Force Majeure Event"). A party whose performance is affected by a Force Majeure Event shall give notice to the other party, stating the period of time the occurrence is expected to continue and shall use diligent efforts to end the failure or delay and minimize the effects of such Force Majeure Event.

8.16 SEVERABILITY

If any term or provision of this Agreement is invalid, illegal, or unenforceable in any jurisdiction, such invalidity, illegality, or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal, or unenforceable, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

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:**

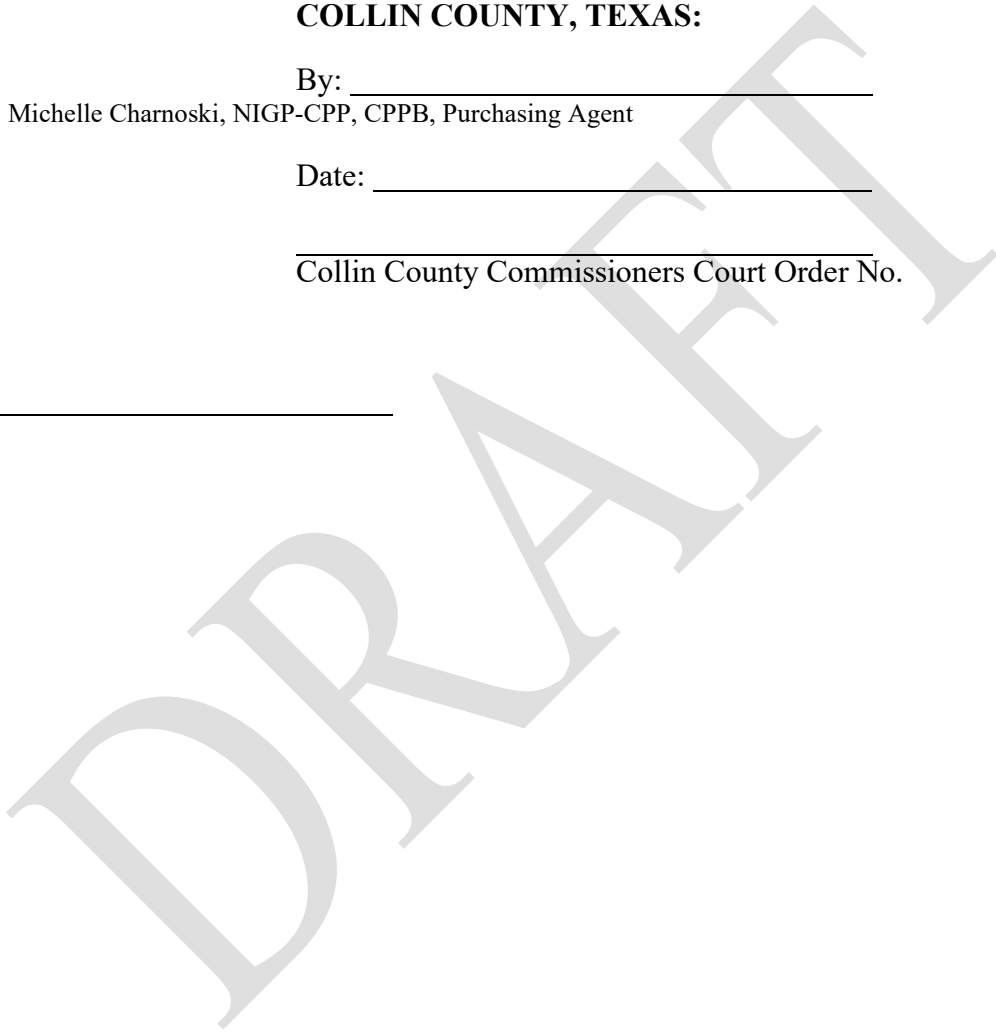
By: \_\_\_\_\_  
Michelle Charnoski, NIGP-CPP, CPPB, Purchasing Agent

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

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

**ATTEST:**

\_\_\_\_\_  
Secretary



**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 \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
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 \_\_\_\_\_, 20\_\_

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

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

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

**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 \_\_\_\_\_, 202\_\_\_\_, 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 2024-066 Construction, Adult Detention Smoke-Heat Detector Replacement.

**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 \_\_\_\_\_ 202\_\_\_\_.

**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

**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 \_\_\_\_\_, 202\_\_\_\_, 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 2024-066 Construction, Adult Detention Smoke-Heat Detector Replacement.

**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 \_\_\_\_\_ 202\_\_\_\_.

**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.

**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 \_\_\_\_\_, 202\_\_\_\_, 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 2024-066 Construction, Adult Detention Smoke-Heat Detector Replacement.

**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 \_\_\_\_\_ 202\_\_\_\_ .

**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.



## SECTION 28 31 00

### AUTOMATIC FIRE ALARM SYSTEM, DETECTION AND VOICE EVACUATION

#### Part 1 – GENERAL

##### 1.1. SCOPE OF WORK

- A. The Contractor shall furnish all labor, equipment, and materials; shall secure all required permits and approvals; and shall perform all operations required in connection with the design and installation of a modification to the existing addressable automatic fire detection and emergency voice/alarm communication system throughout the Collin County Detention Center located at 4300 Community Avenue in McKinney Texas, hereinafter described as "Project".
- B. The Contractor shall provide all equipment, labor, materials, and programming to upgrade the existing IRC-3 initiating devices within the Project to EST-3 initiating devices as noted on the Contract Drawings and as described within the project specifications. The detailed design of the system is delegated to the Contractor.
- C. The Contractor shall provide all equipment, labor, materials, and programming upgrade the existing EST-3 FACU located in the Sherrif's Office to actuate and release the existing pre-action system. Reference Specification 28 3101.
- D. Work shall begin at the source of 120-volt AC power for the fire alarm field panels and shall include, but not be limited to, providing the following:
  1. Intelligent / Analog Addressable Fire Alarm Control Unit.
  2. Remote Annunciator(s).
  3. Programming.
  4. SLC Circuits.
  5. Dedicated 120 VAC Power Circuits and any associated electrical work required.
  6. Initiating Circuits.
  7. Notification Appliance Circuits.
  8. Control Circuits.
  9. Monitoring Circuits.
  10. Detection Devices.
  11. Manual Pull Stations.
  12. Addressable Monitor Modules.
  13. Addressable Control Modules.
  14. Speaker/Visual Appliances.
  15. HVAC Shutdown / Alarm Interface with Building Automation System (BAS).
  16. Monitoring of existing Potter FACU in Sheriff's office.
  17. Existing HVAC Control Panel Interface
  18. Existing deluge fire sprinkler system monitoring.
  19. Sprinkler System Interface.
  20. Carbon Monoxide Detectors.
  21. Cutting, and Access Panels.
  22. Raceway, Conduits, and Sleeves.
  23. Securing all Required Permits and Approvals.
- E. Provide three (3) four (4) hour training sessions for staff personnel, in the operation and use of the system. Training to include digital video recording (performed by Contractor) of the training session for future use by Owner.
- F. All equipment, devices, conductors, raceway and other materials shall be new.

## 1.2. RELATED SPECIFICATIONS

- A. 28 31 01 – Pre-Action Sprinkler Detection and Releasing System

## 1.3. CODES AND STANDARDS

- A. Design, equipment, and installation shall be in accordance with the applicable provisions of the following:
  - 1. International Building Code, 2018 Edition with City of McKinney Amendments (IBC)
  - 2. International Fire Code, 2018 Edition with City of McKinney Amendments (IFC)
  - 3. NFPA 70, National Electrical Code (NEC), 2014 Edition
  - 4. NFPA 72, National Fire Alarm and Signaling Code, 2016 Edition
  - 5. The latest published edition of the equipment manufacturers' product datasheets, technical specifications, installation instructions and wiring guidelines.
  - 6. All appendicies and additional codes referenced within the applicable codes and standards.
- B. The systems shall be tested in accordance with the following:
  - 1. NFPA 72, National Fire Alarm and Signaling Code.
  - 2. The latest published edition of the equipment manufacturers' testing procedures and guidelines.
- C. All work and materials shall conform to all Federal, State and local codes and regulations governing the installation, including the codes outlined by §1.2.
- D. The Contractor shall be responsible for filing of all documents, paying all fees, securing all permits, coordinating and performing inspections, and approvals necessary for conducting this work. These documents shall either be stamped approved or be accompanied by a copy of a letter from the Local Authority Having Jurisdiction (AHJ) stating approval of this work.
- E. All devices, appliances, systems, equipment and materials furnished and installed shall be of types or models approved for use in systems and occupancies of this type in accordance with the codes identified by §1.2.
- F. All devices, appliances, systems, equipment and materials furnished and installed shall be new and listed by Underwriters Laboratories Inc. (UL) and/or approved by Factory Mutual (FM) for the intended use. All equipment shall be installed in accordance with the manufacturer's recommendations and the UL listing limitations. Compatibility listing requirements for separate voice, fire alarm systems and smoke detectors shall be met. The Contractor shall provide evidence, with the submittals, of listings of all proposed equipment and combinations of equipment.
- G. If there is a conflict between the referenced NFPA standards, federal, state or local codes, and this specification, it shall be the Contractor's responsibility to bring the conflict to the attention of the Owner immediately for resolution. Contractor shall not attempt to resolve conflicts directly with the local authorities unless specifically authorized by the Owner. It is the Contractor's responsibility to be familiar with all applicable codes, and City of Plano requirements and to identify conflicts.

## 1.4. ORDER OF PRECEDENCE

- A. Should conflicts arise out of discrepancies between documents referenced in this specification, the most stringent requirement shall apply.
- B. Should a level of stringency be indeterminable, the discrepancies shall be resolved as follows:
  - 1. Local/State Codes and associated amendments shall take precedence over this specification.
  - 2. The National Fire Protection Association Standards shall take precedence over this specification.
  - 3. This specification shall take precedence over the drawings.

## 1.5. QUALIFICATIONS OF CONTRACTOR

- A. Be a manufacturer of fire alarm systems and devices, or a registered manufacturer's distributor of fire alarm systems and devices.
- B. Hold all licenses and obtain all permits necessary to perform work in the State of Texas. Contractor shall submit copies of their Contractor's license (APS) with design submittal.
- C. Be qualified and authorized to issue certificates for the installation and maintenance of fire alarm systems in accordance with the requirements of applicable NFPA standards.
- D. Have at least five (5) years of experience in the installation of systems of this type.
- E. Have worked on one (1) or more Institutional Group I-3, Commercial, or Mixed Occupancy projects of equivalent size and scope in the last three (3) years.

## 1.6. SUBCONTRACTORS

- A. Contractor shall submit with their design, a list of all proposed Subcontractors. All proposed Subcontractors are subject to the approval of the Owner.

- B. The installing electrical Subcontractor(s) shall:
  1. Hold all licenses and permits necessary to perform this work.
  2. Have at least five (5) years of experience in the installation of systems of this type and be familiar with all applicable local, state, and federal laws and regulations.
  3. Be regularly engaged in the servicing, installation, and testing of fire detection, emergency voice communication and alarm systems, as appropriate.
  4. Have worked on one (1) or more Institutional Group I-3 project in the last three (3) years.
- 1.7. WORKING CONDITIONS
  - A. It shall be the Contractor's responsibility to inspect the job site and become familiar with the conditions under which the work will be performed. Inspection of the building may be made by appointment with the Owner.
- 1.8. SPURIOUS ALARMS
  - A. If the Owner experiences an unacceptable number of spurious or unexplained false alarms during the installation and guarantee periods, the Contractor shall be responsible for any fines and providing the necessary labor, material and technical expertise to correct the problem to the satisfaction of the Owner, and local AHJ.
  - B. The following number of spurious alarms, calculated as a ratio of false alarms to number of initiation devices, shall be considered unacceptable:
    1. Automatic photoelectric-type (system connected) smoke detectors – More than two spurious alarms per 100 detectors per six (6) months during the system guarantee period. If this number is calculated to be less than two, two spurious alarms shall be considered unacceptable. Any calculated number is rounded up.
    2. Automatic duct-type smoke detectors – More than two spurious alarms per 50 per six (6) months during the system installation and guarantee periods. If this number is calculated to be less than two, two spurious alarms shall be considered unacceptable. Any calculated number shall be rounded up.
  - C. Any spurious alarms shall be considered unacceptable for the following types of equipment:
    1. Manual fire alarm boxes.
    2. Sprinkler or standpipe system valve supervisory switches.
    3. Kitchen hood and duct fire suppression system monitoring devices.
    4. Heat detectors.
    5. Carbon monoxide detectors.
    6. Sprinkler water flow monitoring devices.
- 1.9. TRAINING
  - A. The Contractor shall submit a proposed training agenda for review by the Owner and local AHJ within sixty (60) days of authorization to proceed. The final, approved training agenda shall be submitted thirty (30) days prior to the final system acceptance test. Provide three (3) four (4) hour training sessions for staff personnel, in the operation and use of the system. Training to include digital video recording (performed by Contractor) of the training session for future use by Owner.
  - B. Training shall include all system operational functions needed by the Owner's staff. This shall include, but will not be limited to:
    1. Alarm acknowledgment and silencing
    2. Interpretation of the scheme used to provide identifiers
    3. Differentiating between trouble signals
    4. Differentiating between trouble and supervisory conditions
    5. System reset
    6. Accessing different Access Levels
    7. Accessing individual devices
    8. Changing smoke detector sensitivity
    9. Disabling and enabling system points for maintenance
    10. Activating and deactivating control modules
    11. Walk Test
    12. Basic maintenance (i.e. cleaning dirty smoke detectors, etc.)
    13. Device testing
    14. Bypass switch operation and use



15. Basic troubleshooting
  16. Warranty and service agreement
- 1.10. SUMMARY
- A. Section Includes:
1. Fire alarm control unit.
  2. Manual fire alarm boxes.
  3. System smoke detectors.
  4. Notification appliances.
  5. Addressable interface devices.
  6. Digital alarm communicator transmitter.
- 1.11. DEFINITIONS
- A. EMT: Electrical Metallic Tubing.
- B. FACU: Fire Alarm Control Unit.
- C. HLI: High Level Interface.
- D. NICET: National Institute for Certification in Engineering Technologies.
- E. PC: Personal computer.
- F. Local AHJ: City of McKinney
- 1.12. ACTION SUBMITTALS
- A. Product Data: For each type of product, including furnished options and accessories.
1. Include construction details, material descriptions, dimensions, profiles, and finishes.
  2. Include rated capacities, operating characteristics, and electrical characteristics.
- B. Shop Drawings: For fire alarm system.
1. Comply with recommendations and requirements in the "Documentation" chapter 7 in NFPA 72.
  2. Include plans, elevations, sections, details, and attachments to other work.
  3. Include details of equipment assemblies. Indicate dimensions, weights, loads, and required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
  4. Include drawings of detailed connections to interfaced equipment, including, but not limited to, HVAC units, elevator controllers, and sprinkler systems.
  5. Detail assembly and support requirements.
  6. Include battery size calculations based on the standby requirements, the alarm requirements and spare capacity required herein.
  7. Conduit/Raceway fill calculations. Raceway fill calculations, in chart form, indicating the cross sectional area percent fill for the worst case of every combination of wire/cable in each size of raceway used in the system. A maximum forty (40) percent fill is allowed.
  8. Include input/output matrix with a sequence of operations including a detailed description of the operation of each system function for all alarm, supervisory and trouble conditions.
  9. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
  10. Include performance parameters and installation details for each detector.
  11. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
  12. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale; coordinate location of duct smoke detectors and access to them.
    - i. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
    - ii. Show field wiring required for HVAC unit shutdown on alarm.
    - iii. Show field wiring and equipment required for HVAC unit shutdown on alarm.
    - iv. Show field wiring and equipment required for HVAC unit shutdown on alarm.
    - v. Locate detectors according to manufacturer's written recommendations.
  13. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.
  14. Detailed riser diagram for all initiating devices and circuits, notification devices and circuits, auxiliary power supplies, audio devices and circuits.

15. Factory data sheets for each piece of equipment proposed, including all electrical equipment and components. Where datasheets include more than one product, indicate which is included for this project. Equipment datasheets shall indicate operating voltages and currents, where applicable.
  16. Complete bill of materials with device quantities.
  - C. General Submittal Requirements:
    1. Submittals shall be submitted to the local Authority Having Jurisdiction.
    2. Shop Drawings shall be prepared by persons with the following qualifications:
      - i. Trained and certified by manufacturer in fire alarm system design.
      - ii. NICET-certified, fire alarm technician; Level III minimum.
      - iii. Licensed or certified by Texas State Fire Marshal office APS.
  - D. Delegated-Design Submittal: For notification appliances and smoke detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
    1. Drawings showing the location of each smoke detector, ratings of each, and installation details as needed to comply with listing conditions of the device.
    2. Design Calculations: Calculate requirements for selecting the spacing and sensitivity of detection, complying with NFPA 72.
  - E. Load Calculations
    1. Provide calculations showing that no individual initiation, SLC, or notification circuit is loaded beyond 80% of its capacity. Provide calculations that show that the total load for each remote power supply or FACU power supply is 80% or less of its capacity.
  - F. Voltage drop calculations for notification circuits.
    1. Provide voltage drop calculations with all devices assumed at the end of the total length of the Class B circuit. Use the UL maximum listed current draw of the devices. Provide calculations such that with a supply voltage of 20.4 VDC, the voltage at the end of the circuit will be no less than the minimum voltage required for device operation and in no cases less than 16 VDC.
    2. For power supplies operating at higher voltages, the supply voltage for the calculations may be increased if approved by Owner and local AHJ. Contractor shall supply documentation from manufacturer as requested to verify the power supply features.
  - G. Battery capacity calculations.
    1. Calculate standby battery requirements per manufacturer's installation requirements including all factors (e.g. aging).
    2. Batteries shall be sized to provide a minimum of 24-hours of standby capacity followed by 15 minutes in alarm and 20% spare capacity.
  - H. One (1) electronic copy (.pdf format) of the manufacturers' literature on all system equipment and system conductors. Literature shall include specification and description of recommended supporting methods, enclosures or boxes, and wiring connections. The PDF document shall have accurate and active bookmarks for the each section heading.
  - I. One (1) copy each of the qualifications and authorization of the representative of the Fire Alarm Equipment Manufacturer (FAEM).
  - J. One (1) copy each of all installation manuals.
  - K. Forward in writing, to the Owner, any comments from the Authority Having Jurisdiction within five (5) working days after the receipt of their comments.
  - L. Contractor is responsible for revising and resubmitting submittals as required to address all comments from the Authority Having Jurisdiction, and the Owner to the satisfaction of said parties. Contractor shall provide written responses to all comments, numbered to match the comments.
  - M. The Owner shall not be responsible for any additional costs resulting from replacement of equipment or materials not reviewed prior to installation.
  - N. All submittals shall be complete. Incomplete or phased submittals shall be returned without review. Approval of the submittals by the Owner shall, in no case, relieve the Contractor of its responsibility to meet the requirements of this specification.
  - O. Approval of Contractor submittal shop drawings by the local AHJ is not intended to be final approval of installation of the fire alarm system. Owner's Representative, and local AHJ have the authority to review installation as described in § 1.115 Quality Assurance.
- 1.13. INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.

- B. Seismic Qualification Data: Certificates, for fire alarm control unit, accessories, and components, from manufacturer.
    - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
    - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
    - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
  - C. Field quality-control reports.
- 1.14. CLOSEOUT SUBMITTALS
- A. Operation and Maintenance Data: For fire alarm systems and components to include in emergency, operation, and maintenance manuals.
  - B. Following submittal of the current Working As-Built drawings for the Demonstration Acceptance Test and following Owner and local AHJ review and approval, the Contractor shall update the Working As-Built drawings as noted in the Owner and local AHJ review and to reflect the final as-built configuration. Copy and bind into sets.
  - C. On the bottom right corner of each drawing sheet, the Contractor shall stamp in red letters 1-inch high, the wording "RECORD DRAWINGS."
  - D. The as-built drawings shall be in a final form for submission for final approvals. Once the as-built drawings are approved, the Contractor shall submit three copies and the updated AutoCAD/REVIT files to the Owner for distribution.
  - E. State of Texas installation tags on all FACU's and signed by the installing Contractor APS.
  - F. Operation and Maintenance Data: For fire alarm systems and components to include in emergency, operation, and maintenance manuals.
    - 1. Items for "Operation and Maintenance Data," include the following:
      - i. Comply with the "Records" section of the "Inspection, Testing and Maintenance" and "Documentation" chapters in NFPA 72.
      - ii. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" chapter in NFPA 72.
      - iii. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
      - iv. Riser diagram.
      - v. Device addresses.
      - vi. Automatic smoke detection sensitivity settings.
      - vii. Record copy of site-specific software.
      - viii. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" and "Documentation" chapters in NFPA 72, and include the following:
        - 1) Equipment tested.
        - 2) Frequency of testing of installed components.
        - 3) Frequency of inspection of installed components.
        - 4) Requirements and recommendations related to results of maintenance.
        - 5) Manufacturer's user training manuals.
        - 6) Manufacturer's required maintenance related to system warranty requirements.
      - ix. Abbreviated operating instructions for mounting at fire alarm control unit and each annunciator unit.
  - G. Software and Firmware Operational Documentation:
    - 1. The Contractor shall provide complete indexed bound sets of the Operation and Maintenance (O&M) manual, as outlined in NFPA 72. These O&M manuals shall include the following in addition to that required in NFPA 72:
      - i. The final Equipment List identifying the quantities and types of equipment listed by manufacturer's part number.
      - ii. An equipment datasheet (or specification sheet) on every piece of fire alarm system equipment installed.
      - iii. Standby power calculations and voltage drop calculations that coincide with the equipment that has been installed in the building.
      - iv. A point ID list referencing the signaling line circuit loops and the devices on those loops.

- v. Documentation of automatic smoke detection sensitivity settings.
  - vi. Complete System Programming
  - vii. Program Software Backup: On magnetic media, compact disk or portable USB flash drive, complete with data files.
  - viii. Device labels.
  - ix. The control unit configuration, serial number, access passwords, and a description of remote functions.
  - x. Software operating and upgrade manuals.
  - xi. Printout of software application and graphic screens.
- H. Prior to final payment for the fire alarm system, acceptance of the system as complete, and the beginning of the warranty period, submit to the Owner a transmittal for all final complete project record documents.
- 1.15. MAINTENANCE MATERIAL SUBMITTALS/SPARE PARTS AND SPECIAL TOOLS
- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. The fire alarm contractor shall maintain a service organization with adequate spare parts stock and service technicians trained in service of the type of systems installed within seventy-five (75) miles of the installation location.
- 1.16. QUALITY ASSURANCE
- A. All work and devices shall meet the requirements of the Owner, and the local AHJ.
- B. All equipment and components shall be listed by Underwriters' Laboratories and/or approved by Factory Mutual for the actual intended use unless hereinafter specifically excluded from such a listing or approval.
- C. Installation and supervision of installation shall be in strict compliance with the requirements of regulations, licenses, and permits for fire alarm system installers in the State of Texas.
- D. The installer must have been actively engaged in the business of selling, installing, and servicing fire alarm systems for at least five (5) years and provide details of at least five (5) comparable projects completed within the past five (5) years. A list of five (5) fire service contacts shall also be provided.
- E. The Contractor must be an authorized representative of the Fire Alarm Equipment Manufacturer (FAEM) and have technical factory training specifically for the system proposed.
- F. The FAEM shall have a representative supervise the final connection of devices and wiring and programming of the control panels.
- G. If the Contractor's installation, upon review by the Owner or local AHJ, do not conform to the requirements of these Specifications; the Contractor shall be required to make corrective modifications to the installation within ten (10) working days of receipt of notification to Contractor. If the Contractor does not respond to the identified deficiencies or does not make the required modifications to meet the requirements of the Specifications, the Contractor shall be responsible for the Owner's extra expenses for subsequent review(s) of rejected installation necessitated by the Contractor's failure to make the requested modifications. Such extra fees shall be deducted from payments by the Owner to the Contractor via a deductive change order.
- 1.17. REGULATORY REQUIREMENTS
- A. No approvals or interpretations of the Contract Documents shall be pursued except through the Owner by written submission.
- B. Any work performed prior to the satisfactory review of shop drawings by the Owner's Representative, approval by the local AHJ, and determined to be non-compliant with the Contract Documents or applicable codes by the Owner's Representative or local AHJ will be replaced at the Contractor's expense.
- C. The Contractor shall submit all records of final testing to the Owner's Representative, and local AHJ. The system will not be accepted until final testing is complete and until receipt and approval of the Inspection and Testing Form by the Owner's Representative.
- D. The Contractor hereby acknowledges that all dollar amounts quoted in Contract Documents, correspondence, unit prices, alternate proposals, and any other prices provided by the Contractor or requested by the Owner's representatives include all sales, use, value-added, and excise currently in place or enacted in the course of the project. No additional amounts of compensation are to be charged to the Owner for taxes applicable to this project.
- 1.18. PROJECT CONDITIONS
- A. Contractor shall provide a thorough Existing Conditions Report to be reviewed for all equipment or wiring that the prospective contractor proposes to retain and to confirm the existing system's sequence of operations. All equipment proposed for re-use should be reviewed within fourteen (14) days of notice to proceed, and a written report should be submitted by the Contractor no more than seven (7) calendar days

later. The Contractor is responsible for determining if all equipment to be reused is operating properly and document any areas that were not accessible during statement of conditions testing. Written documentation requesting access to inaccessible areas to Ownership shall be required as part of the report for any areas that were not accessed. The existing sequence of operations shall be documented in an input output matrix. Testing should include, but not be limited to:

1. Performing sprinkler flow tests to verify proper flow switch operation
2. Control valves must be exercised to verify proper alignment and operation of valve supervisory (tamper) switches.
3. Monitoring of suppression system control panels.
4. Sound system shunt.
5. Elevator recall functions.
6. Mag-lock release.
7. Notification appliance activation, synchronization and operation in accordance with local codes.

B. Interruption of Existing Fire alarm Service: Do not interrupt fire alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:

1. Notify Client no fewer than seven days in advance of proposed interruption of fire alarm service.
2. Do not proceed with interruption of fire alarm service without Client's written permission.

C. Use of Devices during Construction: Protect devices with an approved protection method during construction unless devices are placed in service to protect the facility during construction.

#### 1.19. SEQUENCING AND SCHEDULING

- A. The Contractor shall provide a schedule to the Owner indicating the installation sequence and time frame prior to beginning work. No installation work shall begin until shop drawings and submittals are approved by the Owner and local AHJ. The Contractor shall provide weekly updates to the Owner. It is the Contractor's responsibility to have all wiring, circuit testing and device installation completed in time for the equipment supplier to make all final connections and conduct all tests as outlined in these specifications.
- B. If a fire watch is needed, the fire watch services shall be provided at the Contractor's expense while conversions are made from the existing system to the new system where applicable.
- C. The Contractor shall be responsible for coordinating the Demonstration Test for the system with the Owner.
- D. The Contractor shall be responsible for coordinating the Acceptance Test for the system with the Owner, and local AHJ.

#### 1.20. WARRANTY

- A. The Contractor shall guarantee all new equipment installed and new raceways, new wiring and connections to existing wiring and equipment from defects in workmanship and inherent mechanical and electrical defects for a period of one (1) year from the date of written acceptance by the Owner. Warranty shall include Parts and Labor.
- B. The Manufacturer or the authorized representative shall guarantee all new system equipment for a period of one (1) year from the date of written acceptance by the Owner.
- C. The manufacturer or the authorized representative shall guarantee parts availability for a minimum of one (1) year after date of written acceptance by the Owner.
- D. Upon completion of the installation of the fire alarm system equipment including Acceptance Testing, Demonstration of existing fire alarm, and delivery of all record submittals and spare parts, the Contractor shall provide the Owner with a signed Completion and Warranty Statement, substantially in the form as follows:
  1. "The undersigned, having been engaged as the Contractor on the Plano Event Center Fire Alarm Project, confirms that the fire alarm system equipment was installed in accordance with the system manufacturer's wiring diagrams, installation instructions and technical specifications provided to us by the manufacturer and the Owner and that the installed system is warranted for a period of two (2) years effective <insert date of Owner acceptance>. The warranty includes parts and labor to repair or replace (at the Owner discretion) any and all defects in workmanship or inherent electrical and/or mechanical defects. The installed system includes all new equipment installed and new raceways, new wiring and connections to existing wiring."

- E. Emergency Warranty Calls: Provide 24-hr emergency phone number to the Owner Designated Representative.
- F. Warranty Calls: The Contractor's Fire Alarm maintenance personnel shall respond around the clock, seven days per week to trouble services calls within four (4) hours from the time of notification of a trouble call. The maintenance personnel shall complete warranty call within five working days of notification.
- G. The Contractor's Fire Alarm Maintenance Personnel Qualification: Maintenance Personnel must have three years' experience in the installation of fire alarm systems, certified by the system manufacturer, and possess a minimum LEVEL II certificate from the National Institute for Certification in Engineering Technologies (NICET) in the subfield Fire Protection Engineering Technology (Fire Alarm Systems).

## **PART 2 – PRODUCTS**

### 2.1. GENERAL

### 2.2. ACCEPTABLE MANUFACTURERS

- A. Unless otherwise permitted by the Contract Documents, only the following manufacturers are acceptable as the fire alarm equipment manufacturer (FAEM) for this project. Only products manufactured by these vendors or by listed "OEM" producers for these vendors.

- 1. Edwards EST-3 (existing)

### 2.3. SYSTEM DESCRIPTION

- A. The system shall operate as a low voltage fire alarm system and shall be a complete intelligent addressable supervised fire alarm system with voice evacuation as hereinafter specified. The existing Fire Alarm Constrol Unit (FACU) IRC-3 loop cards will be replaced with EST-3 3-SDCC1 loop cards. The Property has seven (7) FACU's located as follows:
  - 1. Panel 1: Electrical Room behind main jail lobby
  - 2. Panel 2: Cluster 1
  - 3. Panel 3: Cluster 3
  - 4. Panel 4: Cluster 4
  - 5. Panel 5: Cluster 5
  - 6. Panel 6: Sheriff's Office
  - 7. Panel 7: Central Plant Control Room.
- B. All fire alarm systems shall be installed in such a manner that the failure of any single alarm initiating device will not interfere with the normal operation of any other such device. All fire alarm systems shall be wired in accordance with NFPA 70 requirements and, at a minimum, shall be wired as follows:
  - 1. Initiating device circuits (IDC) – Class A.
  - 2. Signaling line circuits to initiating and control devices (SLC) – Class A.
  - 3. Inter-panel networking circuits – Class X.
  - 4. Notification appliance circuits (NAC) – Class B.
  - 5. Provide a minimum 4-foot horizontal and 1-foot vertical separation between supply and return loops in all Class A and Class X wired circuits. Auxiliary circuits shall meet the minimum requirements of a Class B notification circuit. Circuits for relay coil operation shall be 24-volt maximum. Risers shall be Class X with 1'-0" vertical separation per NFPA 72.
- C. The control panel, node fire alarm panels, auxiliary power supplies, distributed amplifiers and other fire alarm system control equipment shall receive its power from a 120 volt AC dedicated branch circuit(s) and labeled "Fire Alarm." The 24-volt DC power for all system initiation, supervisory, notification, and control circuits shall be provided by the fire alarm control panel power supplies or listed auxiliary power supplies.
- D. Upon loss of building power, the entire system shall transfer to secondary power (Batteries) without loss of signals in accordance with NFPA 72. The system shall operate under secondary power (Batteries) in quiescent (normal or trouble) conditions for twenty-four (24) hours and have sufficient power to support complete alarm condition operation for a subsequent (15) fifteen minutes of evacuation alarm operation at maximum connected load.
- E. Provide initiating devices in the following locations, at a minimum:
  - 1. For doorways equipped with door holding devices, electromagnetic door holders connected to the building fire alarm system shall be used. Electromechanical devices are not acceptable. Magnetic door holders are to be powered by 24 volt DC only.
  - 2. Smoke detection devices shall be provided in the following locations:

- i. In the main return air and exhaust air plenum of each air-handling unit having a capacity greater than 2,000 cubic feet per minute (cfm) located in a serviceable area downstream of the last inlet duct. Controls allowing the manual re-starting of air-handling equipment during an alarm condition must be provided. Contractor is responsible for designing and performing all work necessary to accomplish the air-handling unit shut-down requirements of the applicable codes.
      - ii. At all fire/smoke damper and smoke damper locations throughout facility. Contractor is responsible for designing and performing all work necessary to accomplish all damper closure requirements of the applicable codes.
      - iii. At all doors utilizing door release service in accordance with NFPA 72.
      - iv. In all other locations required by the Facility Design Guidelines.
      - v. In all storage, mechanical, telephone, and electrical rooms.
    - 3. Smoke detectors shall be installed per NFPA 72 above the main fire alarm control panel, each auxiliary power supply, each distributed amplifier, or other fire alarm system control equipment.
  - F. Provide auxiliary devices, monitoring devices, and fire safety functions to include as indicated on the bid contract drawings, but not limited to the following:
    - 1. Provide addressable control modules to accomplish air handling-unit shutdown and smoke damper closure in accordance with the applicable codes.
    - 2. Provide addressable control modules to accomplish interface to existing fire fighters override panel.
    - 3. Provide addressable monitoring modules as necessary for monitoring of all existing pre-action system alarm, trouble, and supervisory relays.
    - 4. Provide addressable control modules as necessary for access control, remotely unlocking all stair doors, and delayed-egress interface as required.
    - 5. Provide addressable control modules as necessary to shunt building audio systems upon an alarm condition.
    - 6. Provide addressable monitoring modules as necessary for monitoring of all sprinkler water flow switches, tamper switches, hi-lo air switches, pressure-type switches, kitchen hood suppression system alarm relays, and fire suppression control panel monitoring, .
    - 7. Provide distributed visual strobe auxiliary power supplies. The quantity of auxiliary power supplies (Qps) shall not be less than the result of the following calculation:
    - 8.  $Qps = ((S-60)/40) + 2$  rounded up to the nearest integer.
    - 9. "S" is the sum of the quantity of visual strobes and combination speaker/strobes to be installed in the building.
    - 10. The auxiliary power supplies shall be installed in electrical rooms or other approved locations as permitted by the Owner and local AHJ.
  - G. Provide Class A SLC and IDC wiring. Provide Class B notification wiring.
- 2.4. SYSTEMS OPERATIONAL DESCRIPTION
- A. Abnormal circuit conditions required for the Class of the circuit shall initiate a "trouble" condition at control panels and remote annunciators for that specific circuit. The "trouble" indication shall describe the nature of the condition on the affected circuit. The fire alarm system shall transmit detailed addressable information to the remote annunciator and the FACU(s).
  - B. Devices in an abnormal state shall initiate a "trouble" condition at control panels and remote annunciators for that specific device. The "trouble" indication shall describe the nature of the condition and specific address and alphanumeric description of the device affected. The fire alarm system shall transmit detailed addressable information to the remote annunciator and the FACU(s).
  - C. Activation of any pull station, smoke detector, heat detector, or water flow switch shall initiate a device specific "alarm" condition at control panels and remote annunciators by device address and by device location label. The fire alarm system shall transmit detailed addressable information to the remote annunciator, the FACU(s), and Central Station.
  - D. Activation of any duct detector serving an air-handling unit for the purposes for shutdown shall result in closure of isolation dampers (if present) and shut-down of air-handling unit. An addressable control relay module shall be used for interface. Contractor shall provide any interposing relays or other, additional equipment and labor as necessary to achieve the required operation. A "supervisory" condition shall be initiated at control panels. The "supervisory" indication shall describe the nature of the condition and specific address and alphanumeric description of the device affected. The fire alarm system shall transmit detailed addressable information to the remote annunciator the FACU(s), and Central Station.

- E. Activation of a carbon monoxide detector shall transmit a "supervisory" condition at FACU(s) and remote annunciator by device address and by device location label. The fire alarm system shall transmit detailed addressable information to the remote annunciator the FACU(s), and Central Station.
- F. Paging microphone in the FACU shall be capable of selecting all speakers throughout the building system. It shall be capable of broadcasting live messages to selective/all paging zones as well as alternative uses provided the manual fire alarm takes precedence over any other uses. Paging zones shall be provided in the following areas:
  - 1. Each floor
  - 2. Interior exit stairways
- G. The paging microphone in the FACU shall be capable of selecting all speakers in individual paging zone(s) or all speakers in a paging zone simultaneously by means of clearly labeled switches in the control panel. Each floor shall be a separate paging zone. Each enclosed exit stairwell shall be a separate paging zone. All system activity and conditions shall be accessible for observation and control from the FACU annunciator.
- H. Initiation of an "alarm" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Actuate all notification appliances (common area speaker/visual, visual only, speaker only) on the floor of, floor above, and the floor below the reported alarm for a high rise application or throughout the entire building in a low-rise application.
  - 3. Manually activating the "Alarm Silence" at the panel shall deactivate all notification appliances (speakers and strobes included). An additional alarm reported to the panel subsequent to activating the "Alarm Silence" shall reactivate the appropriate notification appliances.
  - 4. Transmit an "alarm" signal to the central station, remote annunciator, and the FACUs.
- I. Initiation of a "supervisory" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Transmit a "supervisory" signal to the central station, remote annunciator, and the FACUs.
- J. Initiation of a "trouble" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Transmit a "trouble" signal to the central station, remote annunciator, and the FACUs.

## 2.5. FIRE ALARM CONTROL UNIT

- A. General Requirements for Fire Alarm Control Unit (EXISTING EST-3):
  - 1. Provide a main fire alarm control unit (FACU) located within the main electrical room that has modular components, utilizing distributed solid-state programmable microprocessors to accomplish all system functions. These components shall include but not be limited to the following items:
    - i. Panel shall be equipped with an internal dialer.
    - ii. Fire alarm system is to have surge protection at each location the signaling line circuit leaves the main building or returns to the building from portables.
    - iii. Non-volatile RAM memory that provides for no program loss if a primary and secondary power loss occurs.
    - iv. Detection of removal, disconnection, or failure of any control panel module.
    - v. A real-time clock circuit to execute custom time control programs and time/date stamp events.
    - vi. System core processing capability of a minimum (600) addressable points including the necessary software, programming, motherboard/expansion card sockets.



- vii. Signaling line circuits (SLC) for a minimum (600) addressable points including a minimum (300) addressable detection devices and (300) addressable input modules and/or output modules. No SLC shall be assigned more than eighty (80) percent of its point capacity unless approved in writing by local AHJ. A single fault on a pathway connected to the addressable devices shall not cause the loss of more than 50 addressable devices. Provide isolation modules as required; at a minimum, each floor shall be isolated and there shall not be more than 50 devices between isolation modules.
- viii. System that is capable of using each input or detection device address as an individual software input zone. Manufacturers shall indicate on the submitted data sheets all limitations to such programming. Systems shall have, as a minimum, a quantity of input zones available to perform all specified functions with the additional spare capacity of 25% of the zones or the total quantity of addresses on the systems whichever is greater.
- ix. System that is capable of controlling the state of contacts located in remote addressable modules, smoke detector base-mounted programmable relays, and outputs on the panel including all necessary hardware and software. Each output address shall be capable of individual control by the processor. Systems that have a quantity of output software zones fewer than the quantity of output addresses shall not be acceptable.
- x. System that is capable of "and/or" logical functions using the individual input and detection address states as inputs.
  - 1) System processor shall be capable of reading and using the status of individual address devices (both input type and output type devices), software groupings of addresses, software zones, and control panel modules as criteria to generate logical function outputs.
  - 2) The system processor shall be capable of affecting the state or condition of individual addressable devices, software groupings of addresses, software zone states, and control panel modules as outputs of logical functions.
- xi. Interface for peer-to-peer operation with remote node panels. Each remote node panel shall automatically default to stand-alone mode if failure occurs in any processor, internal connection, module or inter-panel network NSLC circuit.
- xii. Interface for supervised remote annunciators.
- xiii. "T-tapping" of signaling line circuit (SLC) is not allowed for any number of devices on the SLC.
- xiv. "T-tapping" of indicating device circuit (IDC) is not allowed for any number of devices on the IDC.
- xv. "T-tapping" of notification appliance circuit (NAC) is not allowed for any number of devices on the NAC.
- xvi. Any circuit length limitations or branch tap length requirements of the system actually supplied shall be coordinated so that the full capacity of the circuits shown on the drawings and referenced in the specifications shall be available to the system. Any additional modules, programming, or required circuits to achieve the specified system capacity shall be provided and installed at no cost to the Owner.
- xvii. Automatic detector test feature which permits reading and adjusting the sensitivity of all intelligent detectors from the control panel.
- xviii. Drift compensation feature that monitors sensitivity variation and initiates a trouble condition if detector threshold reaches false alarm or non-alarm conditions. Feature shall perform electronic adjustments for existing conditions within the U.L. recommended limits.
- xix. Function testing of any intelligent detector or addressable interface device individually or by software zone from the control panel without actuation of notification devices.
- xx. The main fire alarm control unit display shall include a minimum of 640 characters, backlit by a long life, solid-state LCD display. It shall also include a full numeric style keypad. The keypad shall be of quality capable of withstanding normal use and wear and tear. Additionally, the network display shall include minimum of five manual keys for screen navigation and the ability to scroll events by type (i.e. fire alarm conditions, supervisory conditions, trouble conditions, etc.). The main fire alarm control unit display shall have the ability to display a minimum of six events in order of priority and time of occurrence. Counters shall be provided to indicate the total number of events by type. The display shall mount in the main fire alarm control panel cabinet.
- xxi. System processing capable of supporting addressable analog smoke detection, addressable analog heat detection, addressable pull stations, addressable monitoring modules, and remote addressable control modules.
- xxii. Control panel that is capable of including an integral module for serial data output (RS-232) to an ASCII based printer. Space for this module shall be in addition to other RS-232 outputs (if any)

required for other devices. The Contractor shall assure proper operation of the output transmissions. The control panel cabinet and circuit board slots shall be of sufficient size and capacity for addition of this module.

- xxiii. Programming for the sequence of operations that can be accomplished by all of the following three methods. The initial sequence of operation program shall be installed on the system by method "a" described below. Modifications to the programming shall be permitted by any of the three methods listed. Systems that cannot be programmed by all methods listed below are not acceptable. Programmers or programming installers that cannot perform all methods listed below shall not be acceptable as FAEM representatives. The control panel shall be provided with any interface modules, software or firmware required to perform these methods. The "lap-top" computer or similar programming device shall remain the property of the Contractor unless otherwise specified in the Contract Documents.
- 1) The initial sequence of operation program is entered into a "lap-top" computer that is located remote from the project site. On site, the installer shall connect the computer to each control panel requiring programming and perform an automatic file transfer or download of the system sequence of operation program.
  - 2) Modifications to the initial sequence of operation program shall be entered directly to the affected control panel from a "lap-top" computer connected to the panel after installation of the control panel at the project site.
  - 3) Modifications to the initial sequence of operation program shall be entered directly to the affected control panel from the control keypad or switches on the panel after accessing the initial program with the appropriate level password.
- B. Node panels shall have the same address capacity, processing capabilities, functional characteristics and spare capacity as required in this specification section for the main control panel except as follows:
1. Integral displays shall be a minimum eighty (80) characters liquid crystal display (LCD). Provide light-emitting diodes (LED) for AC power, system alarm, system trouble, display trouble and disable. The display shall be visible through the control panel cabinet's transparent window. The processor shall be capable of displaying historical log data; current system status information; and all individual device addresses, descriptions and conditions on the integral display.
- 2.6. MANUAL FIRE ALARM BOXES
- A. General Requirements for Manual Fire alarm Boxes: SIGA-278 Dual Action Pull Station. Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface-mounted, provide manufacturer's surface back box.
1. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire alarm control unit.
  2. Station Reset: Key- or wrench-operated switch.
  3. Provide double action type manual pull stations at the main FACU location. On command from the control panel, send data to the panel representing the state of the manual station.
  4. Install these devices at a height between 42-48" in height from finished floor to handle.
  5. Provide address-setting means and store an internal identification code that the control panel can use to identify the type of device.
- 2.7. SYSTEM SMOKE DETECTORS
- A. General Requirements for SIGA-PD Photoelectric System Smoke Detectors:
1. Comply with UL 268; operating at 24-V dc, nominal.
  2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire alarm control unit.
  3. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
  4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
  5. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.

6. Remote Control: Unless otherwise indicated, detectors shall be digital-addressable type, individually monitored at fire alarm control unit for calibration, sensitivity, and alarm condition and individually adjustable for sensitivity by fire alarm control unit.
  - i. Multiple levels of detection sensitivity for each sensor.
  - ii. Sensitivity levels based on time of day.
- B. Photoelectric Smoke Detectors:
  1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
  2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
    - i. Primary status.
    - ii. Device type.
    - iii. Present average value.
    - iv. Present sensitivity selected.
    - v. Sensor range (normal, dirty, etc.).
  3. Provide analog photoelectric smoke detectors where required by the applicable codes, Facility Design Guidelines and these specifications. Provide detectors utilizing the photoelectric principal to measure smoke density and, on command from the control panel, send data to the panel representing the ANALOG level of smoke density. Provide automatic sensitivity "drift" compensation to provide long term stability and reliability. Provide a "maintenance alert" feature whereby the detector initiates a trouble condition should the unit's sensitivity approach the outside limits of the normal sensitivity window.
  4. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself by activating the detector magnetic test switch or may be activated remotely on command from the control panel.
  5. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.
- C. SIGA-HRD Addressable Rate of Rise Heat Detectors:
  1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system.
  2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
    3. Primary status.
    4. Device type.
    5. Present average value.
  6. Provide addressable heat detectors where required by the applicable codes, Facility Design Guidelines and these specifications. Provide heat detection above the main stage location. Provide self restoring detectors with rate of rise heat detection method of a temperature increase at the sensor of fifteen (15) degrees Farenheight or nine (9) degrees celculus for more per minute causes an alarm activation condition.
  7. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself by activating the detector magnetic test switch or may be activated remotely on command from the control panel.
  8. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.
- D. SIGA-SD Duct Smoke Detectors: Photoelectric type complying with UL 268A.
  1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting and sensor range.
  2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
    - i. Primary status.
    - ii. Device type.
    - iii. Present average value.
    - iv. Present sensitivity selected.
    - v. Sensor range (normal, dirty, etc.).
  3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector for smoke detection in HVAC system ducts.

4. Each sensor shall have multiple levels of detection sensitivity.
  5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
  6. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.
  7. Provide duct-mounted intelligent photoelectric smoke detectors. Provide the same type of detection head as specified by the "Intelligent Photo-electric Smoke Detectors" Paragraphs in this specification. Provide units capable of interchanging/accepting either photoelectric or ionization type sensors. Provide detectors operating in air velocities of 300 fpm to 4,000 fpm without adverse effects on detector sensitivity. Provide detectors that communicate directly with the fire alarm control panel without the use of monitor, control or power modules.
  8. Provide a molded plastic enclosure with integral conduit knockouts. Provide housing with gasket seals to insure proper seating of the housing to the associated ductwork. Provide sampling tubes that extend across the width of the duct. Sample tubes shall be cut to length; sample ports shall not be permitted outside the ducts. Provide porosity filters to reduce sensor/chamber contamination. Provide with integral SPDT auxiliary control contacts.
  9. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at a remote test station consisting of a key operated switch and indicating LED or may be activated remotely on command from the control panel.
  10. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.
  11. Provide LED(s) integral to the unit and visible when the housing is installed and closed. LED(s) shall indicate a normal status/power condition (indicating that the detector is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that an alarm condition has been detected. LED(s) that are mounted on separate plates and at locations remote from the detector shall be provided when the duct detector is not readily accessible.
  12. Duct detector housing shall have ports that can be opened for testing of the duct smoke detector. Placement of the ports shall permit testing personnel to measure air flow in the detector housing without removing the duct detector cover. Placement of the ports shall permit testing personnel to insert smoke into the duct detector housing without removing the duct detector cover. Provide label on housing indicating the direction of airflow; label shall not be hand-written.
  13. Provide a remote test and indicating station in an accessible location that is actuated by a keyed switch. Key shall be keyed alike with the panel and other fire alarm device keys. LED(s) shall be provided in the switch cover plate to indicate the activation of the detector by either smoke or keyed switch activations.
- 2.8. MONITOR MODULES SIGA CT1 SINGLE INPUT MODULE/ SIGA0CT2 DUAL INPUT MODULE
- A. Provide addressable monitor modules where required by the applicable codes to interface to contact alarm and supervisory devices. Provide monitor modules to connect any single supervised conventional initiating devices (any normally open dry contact device, including 4-wire smoke detectors; each device requires a unique address) to an intelligent SLC loop. Mount in a 4-inch square electrical box. Wire contact side of each monitor module as an IDC.
  - B. Provide address-setting means and store an internal identification code that the control panel shall use to identify the type of device. Provide LED(s) integral to the unit and visible when the unit is installed that shall indicate a normal status/power condition (indicating that the monitor module is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that the module activation has been detected.
- 2.9. CONTROL MODULES SIGA-CC1 /SIGA-CRH/SIGA-IM/SIGA-RM1
- A. Provide addressable control/relay modules where required by the applicable codes to provide audible alarm interface and/or relay control interface. Provide control modules to connect a supervised zone of conventional notification devices (any 24-volt DC polarized notification appliance) to an intelligent loop. Mount in a standard 4-inch electrical box. Wire the contact side of each control module as an auxiliary circuit. The control module may be optionally wired as dry contact (Form C) relay. Provide power for the relay actuation from the intelligent detector loop to reduce wiring connection requirements. Provide notification appliance power from a separate loop from the FACU, control node, or from supervised remote power supplies.
  - B. Provide address-setting means and store an internal identification code that the control panel shall use to identify the type of device. Provide LED(s) integral to the unit and visible when the unit is installed shall

indicate a normal status/power condition (indicating that the monitor module is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that a change of state to the module output has occurred.

- C. Control relay modules shall be installed a maximum of 3-feet from the interfaced equipment/device.

#### 2.10. CONDUCTORS

- A. Initiation, notification, and auxiliary device circuit conductors shall be type FPL, FPLP, or FPLR solid copper. Where the size or type of conductor hereinafter specified conflicts with the applicable codes or the FAEM's requirements, the larger size or more specialized conductor type shall be used.

1. Minimum size for conductors for signaling line circuits and initiating device circuits shall be 18 awg.
2. Notification appliance circuits, audio circuits, and relay or auxiliary circuits shall be 14 to 18 awg. Contractor shall supply product data sheets and UL listing detailing approved wire for notification appliances.

- B. Conductors for any non-power limited circuits shall be type THHN installed in raceway or conduit.

1. Conductors for wet locations shall be:
  - i. Types RHW, TW, THW, THHW, THWN or XHHW.
  - ii. Type listed for use in wet locations.
  - iii. Supervision of the installation are the responsibilities of the Contractor.

#### 2.11. RACEWAY

- A. The following raceway types shall be permitted:

1. EMT conduit.
2. RIGID conduit.
3. Non-Metallic conduit for wet locations.
4. Surface-mounted metallic race with a minimum size equivalent to 3/4-inch nominal conduit.

- B. Conduit fill calculations shall be performed by Contractor for all conduit and shall be included with shop drawing submittals.

- C. Boxes, supports, and other accessories for the raceway installation shall be listed for the application.

- D. Conduit shall be painted to match existing structure/or other conduit within open structure tenant spaces.

#### 2.12. EXTERIOR EQUIPMENT

- A. All devices, appliances, and equipment shall be listed for use in the environment in which it is installed.

- B. Speakers and strobes installed at the building exterior shall be weatherproof.

### Part 3 – EXECUTION

#### 3.1. COORDINATION WITH OTHER TRADES

- A. Coordinate closely with all other trades to expedite construction, accurately interface with related systems and avoid interferences.

- B. Contractor is responsible for sub-contracting and coordinating with all other trades required to complete the entire scope of work including, but not limited to:

1. Electrical contractor.
2. Mechanical contractor.
3. Sprinkler contractor.
4. Building controls contractor.

#### 3.2. EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.

1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.

- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.

- C. The job site Project Manager/Supervisor must examine daily all areas in which the work will be performed on the day prior to beginning work. The Project Manager/Supervisor must immediately report unsatisfactory working conditions to the Owner for resolution. The Project Manager/Supervisor must not proceed with the work until all unsatisfactory working conditions have been corrected.

- D. Prior to any work on site, the Contractor must fully inspect the facility and its systems to document damage, or non-functional or non-complying facilities. Any and all deficiencies not specifically described by the

Contractor in a report after such inspection must be the responsibility of the Contractor to repair or replace during construction.

### 3.3. EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, NFPA 1, System Facility Design Guidelines, and requirements of the local AHJ for installation and testing of fire alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
  - 1. Devices placed in service before all other trades have completed final cleanup shall be replaced.
  - 2. Where detectors are installed for signal initiating during construction, they shall be cleaned and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance test of the system.
  - 3. Where detectors are installed but not operational during construction, they shall be protected from construction debris, dirt, dust and damage in accordance with the manufacturer's recommendations and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance of the system.
  - 4. Where detection is not required during construction, detectors shall not be installed until after all other construction trades have completed cleanup.
- B. Install a document cabinet at the fire alarm control panel that contains a copy of the fire alarm control panel program, location of remote power supply and amp cabinet locations.
- C. Install fire alarm control unit cabinets surface-mounted with no operational parts that may require maintenance mounted greater than 72 inches above the finished floor. The control panel annunciator display and control surface shall be mounted so that no switch, manually operated device, display or LED is greater than 60-inches above the finished floor.
  - 1. Comply with requirements for seismic-restraint devices specified in Section 270548.16 "Seismic Controls for Communications Systems."
- D. Manual Fire Alarm Boxes:
  - 1. Install manual fire alarm box in the normal path of egress within 60 inches (1520 mm) of the exit doorway.
  - 2. Mount manual fire alarm box on a background of a contrasting color.
  - 3. The operable part of manual fire alarm box shall be between 42 inches (1060 mm) and 48 inches (1220 mm) above floor level. All devices shall be mounted at the same height unless otherwise indicated.
- E. Smoke- or Heat-Detector Spacing:
  - 1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
  - 2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
  - 3. Smooth ceiling spacing shall not exceed 30 feet (9 m) Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A in NFPA 72.
  - 4. HVAC: Locate detectors not closer than 36 inches (910 mm) from air-supply diffuser or return-air opening.
  - 5. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.
- F. Install a UL Listed dust cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.
- G. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct. Tubes more than 36 inches (9100 mm) long shall be supported at both ends.
  - 1. Duct detectors shall be mounted in the main supply air duct and exhaust air plenum of each HVAC unit of greater than 2,000 cfm capacity, and at each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. Duct detectors shall be mounted in such a way as to obtain a representative sample of the airstream. Where possible, locate the duct detectors in serviceable area downstream from the last inlet duct. The actuation of any such detector shall shutdown the affected air handling units or operate dampers to prevent the re-circulation of smoke.
  - 2. Detectors shall be accessible for cleaning and shall be mounted in accordance with the manufacturer's instructions and NFPA standards. Coordinate placement of the detector with all affected trades and equipment. Connect all circuit conductors that terminate on the detector.

3. Remote test stations for duct detectors shall be mounted inside each mechanical room and, not higher than 72-inches above the finished floor and with the final locations acceptable to the local AHJ.
  4. All HVAC equipment shutdowns shall be initiated by addressable control modules. Modules shall be mounted within 3 feet of the motor controller of the affected equipment. Install all control circuits and terminations on the "coil" side of the modules.
  5. Duct detectors are to be powered by the fire alarm system not the HVAC circuit.
- H. Remote Status and Alarm Indicators: Install in a visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.
  - I. Audible Notification Appliances: Install with the tops of the appliances or not less than 90 inches (2.29 m) above the finished floors and not less than 6 inches (150 mm) below the ceiling. Install on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all appliances at the same height unless otherwise indicated.
  - J. Visual Notification Appliances: Install such that the entire lens is not less than 80 inches (2.03 m) and not greater than 96 inches (2.44 m) above the finished floor. Install all appliances at the same height unless otherwise indicated and approved by local AHJ.
  - K. Device Location-Indicating Lights: Locate in public space near the device they monitor.
  - L. Antenna for Radio Alarm Transmitter: Mount to building structure where indicated. Use mounting arrangement and substrate connection that resists 100-mph (160-km/h) wind load with a gust factor of 1.3 without damage.
  - M. Furnish and install all circuit conductors, raceway, and outlet boxes.
  - N. Furnish and install all back-boxes, fire alarm equipment, electrical equipment, and fire alarm devices.
    1. Back-boxes shall be of the exact type recommended by the FAEM as shown on the equipment and device submittals.
    2. Devices and equipment must be installed by personnel legally permitted and currently licensed to install the devices and equipment. The cost of installation, warranty of installation and equipment, coordination of the installation, and supervision of the installation are responsibilities of the Contractor.
  - O. Open conductors and conduits shall be concealed from public view at all locations by routing on the inside of joists, above ceilings (hard and lay-in types), over girders, within partitions or in any other manner acceptable to the Owner and local AHJ. All conductors and conduits shall be installed at right angles to the building walls, floors and ceilings.
  - P. Open conductors and conduits shall be supported in a manner and at intervals compliant with NEC requirements. Conductors and conduits installed above ceilings (hard and lay-in) shall be supported from the building structure and shall be a minimum of 18-inches above or behind removable panels or ceiling tiles.
  - Q. Prior to cutting, or coring, x-ray or ultrasound detection shall be used for locations core drilled through the building slabs of all locations throughout the building.
  - R. Circuits shall be installed exposed in finished areas only at locations specifically approved in writing by the Owner and local AHJ (areas without ceiling systems). Provide wire mold for these circuits to be painted to match existing finishes as approved by Owner and local AHJ.
  - S. All wires shall be tagged at all junction points and shall test free from grounds or crosses between conductors.
  - T. No other conductors shall be installed in conduits with conductors for the fire alarm system.
  - U. Final connections between equipment and the wiring system shall be made under direct supervision of a representative of the FAEM. If other personnel are required by the local AHJ to be present during final connections, this shall not relieve the Contractor of the responsibility of providing a representative of the FAEM for direct supervision.
  - V. All equipment and devices shall be clearly labeled with the device address. Labels shall be of professional quality and shall not be hand-written.
  - W. All through-penetrations through fire resistive rated construction shall be sealed with an ASTM E 814 or UL 1479 listed fire stop system.
  - X. Equipment and/or devices shall not be supported by ceiling tiles. Equipment and/or devices must be attached to a back-box supported in accordance with the applicable codes and manufacturer's recommendations.
- 3.4. CONNECTIONS
- A. Verify that hardware and devices are listed for use with installed fire alarm system before making connections.

- B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches (910 mm) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
  - 1. Supervisory connections at valve supervisory switches of sprinkler and standpipe systems.
  - 2. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.
  - 3. Supervisory connections at fire pump power failure including a dead-phase or phase-reversal condition.
  - 4. Supervisory connections at fire pump engine control panel.
  - 5. Alarm connections at fire sprinkler and standpipe water flow switches.
- 3.5. IDENTIFICATION
  - A. Identify system components, wiring, cabling, and terminals. Comply with requirements of Owner and local AHJ.
  - B. Install framed instructions in a location visible from fire alarm control unit.
- 3.6. GROUNDING
  - A. Ground fire alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire alarm control unit.
  - B. Ground shielded cables at the control panel location only. Insulate shield at device location.
- 3.7. FIELD QUALITY CONTROL
  - A. Field tests shall be witnessed by Owner, the local AHJ and their designated representative.
  - B. All test and inspections specified in this section shall be reported in writing and three (3) hard copies and one (1) electronic copy submitted in accordance with this specification section.
  - C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
  - D. Perform tests and inspections.
  - E. Perform the following tests and inspections:
    - 1. Visual Inspection: Conduct visual inspection prior to testing.
      - i. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" chapter in NFPA 72.
      - ii. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" and documentation chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
    - 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
      - i. Verify the absence of unwanted voltages between circuit conductors and ground.
      - ii. Test the insulation of all conductors for insulation resistance to the conduit, insulation resistance between conductors, and insulation resistance from conductor to shield, using an insulation-testing device (Megger). Provide record of these tests on all circuits.
      - iii. With each circuit pair, short circuit at the far end of the circuit and measure the circuit resistance with an ohmmeter. Record the circuit resistance of each circuit on record drawings.
      - iv. Verify that the control unit is in the normal condition as detailed in the manufacturer's operation and maintenance manual.
      - v. Test all circuits for proper signal transmission under open circuit conditions. One connection should be opened at each SLC, initiating, and notification circuits. Observe that all signals are received with a single open circuit.
      - vi. Test each initiating and notification device for alarm operation and proper response at the control unit. Test smoke detectors with actual products of combustion or an approved aerosol spray.
      - vii. Test that the audibility levels of the voice evacuation system meet the requirements of NFPA 72.
      - viii. Test that the intelligibility levels of the voice evacuation system meet the requirements by using one of the following test methods: NFPA 72 Annex D, IEC 60268-16, or ISO 7240-19 unless specifically permitted otherwise by the local AHJ.
      - ix. Test the system for all specified functions according to the approved operation and maintenance manual. Systematically initiate specified functional performance items at each station, including making all possible alarm and monitoring initiations and using all communications options. For each item, observe related performance at all devices required to be affected by the item under all system sequences. Observe indicating lights, displays, signal tones, and annunciator indications.



- Observe all audio signals for routing, clarity, quality, freedom from noise and distortion, and proper sound level.
- x. Test Both Primary and Secondary Power: Verify by test that the secondary power system is capable of operating the system for the period and in the manner specified.
  3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
  4. Test visual appliances for the public operating mode according to manufacturer's written instructions.
  5. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- F. Report of Pre-testing: After pre-testing is complete, provide a form certifying the installation is complete and fully operable, including the names and titles of witnesses to preliminary tests. The designer of record shall include a report indicating the installation complies with the approved design.
  - G. Provide the Fire Detection and Alarm System Acceptance Testing Criteria and Expectations Pre-Test Checklist, filled out in completion and signed by Contractor representatives. For occupied buildings, after hours testing shall be required.
  - H. Local AHJ acceptance tests for the system shall be conducted during a time frame set by Owner and shall meet all requirements of the listed applicable codes, these specifications, and the requirements of the local AHJ. The system tests, test methods, and test documents, including those required for and by the central station, shall meet the requirements of the local AHJ.
  - I. Any additional costs resulting from improper system operation during acceptance testing shall be the responsibility of, and paid for, by the Contractor. This includes but is not limited, to costs associated with the attendance by the Owner, or local AHJ during retesting.
  - J. All testing, inspection and retesting required for certification and all warranty work or replacements shall meet the requirements of the local AHJ. This certification, inspection, or testing shall be completed at no additional cost to the Owner.
  - K. Provide the testing date in writing to the Owner a minimum of two weeks before the date. The Owner may, at the Owner's option, have a representative present for testing.
  - L. A proposal to perform annual testing and/or inspection services shall be submitted to the Owner a minimum of three weeks before the date of initial acceptance testing. The proposal shall include all testing and/or inspection services required by the local AHJ and applicable codes for the two-year period beginning at final acceptance of the system. The proposal shall include full services on all new and existing devices as part of the Fire Alarm System. The Owner has the option to accept or reject the proposal.
  - M. If the operation of a device, circuit, control unit function, or special hazard system interface is simulated, it must be noted on the certificate that the operation was simulated, and the certificate must indicate by whom it was simulated.
  - N. At the completion of all testing defects and malfunctions must be corrected. If a defect or malfunction is not corrected at the conclusion of system inspection, testing, or maintenance, the Owner must be informed of the impairment in writing within 24 hours with a written explanation addressing the contractor's proposed corrective measures.
  - O. Failure of all or part of the Final Acceptance Test must invalidate the Contractor's System Certification, in which case re-certification (including 100% Contractor retesting) and a repeat of the Final Acceptance Test must be required at no additional cost to the Owner.
  - P. The Contractor must provide the Owner with a completed NFPA 72 Inspection and Testing Form and the NFPA 72 Record of Completion Form or Contractor Equal and record drawings at the successful completion of the Construction Acceptance Inspection (CAI).
- 3.8. MAINTENANCE SERVICE
- A. Initial Maintenance Service: Beginning at system acceptance, maintenance service shall include twenty-four (24) months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
    1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
    2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- 3.9. SOFTWARE SERVICE AGREEMENT
    - A. Comply with UL 864.
    - B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.
    - C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
      1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.
  - 3.10. DEMONSTRATION
    - A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire alarm system.
    - B. The Contractor shall submit a proposed training agenda for review at least 30 days prior to authorization to proceed.
    - C. The final, approved training agenda shall be submitted at least 7 days prior to the final system acceptance test.
    - D. Provide three (3) four (4) hour training sessions in the operation and use of the system. All training shall be digitally recorded and provided to Owner.
  - 3.11. FINAL ACCEPTANCE
    - A. The fire alarm system will not be acceptable until final testing, project record documents, and receipt of the testing certificates have been obtained and approved by Owner and local AHJ. Owner shall provide final acceptance to Contractor, in writing, on the date of final acceptance. Warranty period shall begin at 5 pm CST on date of final acceptance.

**End of Section**



## SECTION 28 31 01

### PRE-ACTION SPRINKLER DETECTION AND RELEASING SYSTEM

#### Part 1 – GENERAL

##### 1.1. SCOPE OF WORK

- A. The Contractor shall furnish all labor, equipment, and materials; shall secure all required permits and approvals; and shall perform all operations required in connection with the design and installation of a modification to the existing EST-3 addressable automatic fire detection and emergency voice/alarm communication system in the Sherrif's Office of the Collin County Detention Center to monitor and control the existing pre-action sprinkler system. System is a single interlock pre-action system located in CC50 911 Dispatch Center.
- B. The Contractor shall provide all equipment, labor, materials, and programming to upgrade the existing IRC-3 existing initiating appliances within the Project to EST-3 initiating appliances as noted on the Contract Drawings and described within the project specifications. Reference Specification 283100.
- C. The detailed design of the system is delegated to the Contractor.
- D. Work shall begin at the source of 120-volt AC power for the fire alarm field panels and shall include, but not be limited to, providing the following:
  - 1. Intelligent / Analog Addressable Fire Alarm Control Unit.
  - 2. Remote Annunciator(s).
  - 3. Programming.
  - 4. SLC Circuits.
  - 5. Dedicated 120 VAC Power Circuits and any associated electrical work required.
  - 6. Initiating Circuits.
  - 7. Notification Appliance Circuits.
  - 8. Control Circuits.
  - 9. Monitoring Circuits.
  - 10. Detection Devices.
  - 11. Manual Pull Stations.
  - 12. Addressable Monitor Modules.
  - 13. Addressable Control Modules.
  - 14. Speaker/Visual Appliances.
  - 15. Sprinkler System Interface.
  - 16. Cutting, and Access Panels.
  - 17. Raceway, Conduits, and Sleeves.
  - 18. Securing all Required Permits and Approvals.
- E. Provide three (3) four (4) hour training sessions for staff personnel, in the operation and use of the system. Training to include digital video recording (performed by Contractor) of the training session for future use by Owner.
- F. All equipment, devices, conductors, raceway and other materials shall be new.

##### 1.2. RELATED SPECIFICATIONS

- A. 28 31 00 – Automatic fire alarm, detection, and voice evacuation system.

##### 1.3. CODES AND STANDARDS

- A. Design, equipment, and installation shall be in accordance with the applicable provisions of the following:
  - 1. International Building Code, 2018 Edition with City of McKinney Amendments (IBC)

2. International Fire Code, 2018 Edition with City of McKinney Amendments (IFC)
  3. NFPA 70, National Electrical Code (NEC), 2014 Edition
  4. NFPA 72, National Fire Alarm and Signaling Code, 2016 Edition
  5. The latest published edition of the equipment manufacturers' product datasheets, technical specifications, installation instructions and wiring guidelines.
  6. All appendices and additional codes referenced within the applicable codes and standards.
- B. The systems shall be tested in accordance with the following:
1. NFPA 72, National Fire Alarm and Signaling Code.
  2. The latest published edition of the equipment manufacturers' testing procedures and guidelines.
- C. All work and materials shall conform to all Federal, State and local codes and regulations governing the installation, including the codes outlined by §1.2.
- D. The Contractor shall be responsible for filing of all documents, paying all fees, securing all permits, coordinating and performing inspections, and approvals necessary for conducting this work. These documents shall either be stamped approved or be accompanied by a copy of a letter from the Local Authority Having Jurisdiction (AHJ) stating approval of this work.
- E. All devices, appliances, systems, equipment and materials furnished and installed shall be of types or models approved for use in systems and occupancies of this type in accordance with the codes identified by §1.2.
- F. All devices, appliances, systems, equipment and materials furnished and installed shall be new and listed by Underwriters Laboratories Inc. (UL) and/or approved by Factory Mutual (FM) for the intended use. All equipment shall be installed in accordance with the manufacturer's recommendations and the UL listing limitations. Compatibility listing requirements for separate voice, fire alarm systems and smoke detectors shall be met. The Contractor shall provide evidence, with the submittals, of listings of all proposed equipment and combinations of equipment.
- G. If there is a conflict between the referenced NFPA standards, federal, state or local codes, and this specification, it shall be the Contractor's responsibility to bring the conflict to the attention of the Owner immediately for resolution. Contractor shall not attempt to resolve conflicts directly with the local authorities unless specifically authorized by the Owner. It is the Contractor's responsibility to be familiar with all applicable codes, and City of Plano requirements and to identify conflicts.
- 1.4. ORDER OF PRECEDENCE
- A. Should conflicts arise out of discrepancies between documents referenced in this specification, the most stringent requirement shall apply.
- B. Should a level of stringency be indeterminable, the discrepancies shall be resolved as follows:
1. Local/State Codes and associated amendments shall take precedence over this specification.
  2. The National Fire Protection Association Standards shall take precedence over this specification.
  3. This specification shall take precedence over the drawings.
- 1.5. QUALIFICATIONS OF CONTRACTOR
- A. Be a manufacturer of fire alarm systems and devices, or a registered manufacturer's distributor of fire alarm systems and devices.
- B. Hold all licenses and obtain all permits necessary to perform work in the State of Texas. Contractor shall submit copies of their Contractor's license (APS) with design submittal.
- C. Be qualified and authorized to issue certificates for the installation and maintenance of fire alarm systems in accordance with the requirements of applicable NFPA standards.
- D. Have at least five (5) years of experience in the installation of systems of this type.
- E. Have worked on one (1) or more Institutional Group I-3, Commercial, or Mixed Occupancy projects of equivalent size and scope in the last three (3) years.
- 1.6. SUBCONTRACTORS
- A. Contractor shall submit with their design, a list of all proposed Subcontractors. All proposed Subcontractors are subject to the approval of the Owner.
- B. The installing electrical Subcontractor(s) shall:
1. Hold all licenses and permits necessary to perform this work.
  2. Have at least five (5) years of experience in the installation of systems of this type and be familiar with all applicable local, state, and federal laws and regulations.
  3. Be regularly engaged in the servicing, installation, and testing of fire detection, emergency voice communication and alarm systems, as appropriate.

4. Have worked on one (1) or more Institutional Group I-3 project in the last three (3) years.
- 1.7. WORKING CONDITIONS
    - A. It shall be the Contractor's responsibility to inspect the job site and become familiar with the conditions under which the work will be performed. Inspection of the building may be made by appointment with the Owner.
  - 1.8. SPURIOUS ALARMS
    - A. If the Owner experiences an unacceptable number of spurious or unexplained false alarms during the installation and guarantee periods, the Contractor shall be responsible for any fines and providing the necessary labor, material and technical expertise to correct the problem to the satisfaction of the Owner, and local AHJ.
    - B. The following number of spurious alarms, calculated as a ratio of false alarms to number of initiation devices, shall be considered unacceptable:
      1. Automatic photoelectric-type (system connected) smoke detectors – More than two spurious alarms per 100 detectors per six (6) months during the system guarantee period. If this number is calculated to be less than two, two spurious alarms shall be considered unacceptable. Any calculated number is rounded up.
      2. Automatic duct-type smoke detectors – More than two spurious alarms per 50 per six (6) months during the system installation and guarantee periods. If this number is calculated to be less than two, two spurious alarms shall be considered unacceptable. Any calculated number shall be rounded up.
    - C. Any spurious alarms shall be considered unacceptable for the following types of equipment:
      1. Manual fire alarm boxes.
      2. Sprinkler or standpipe system valve supervisory switches.
      3. Automatic smoke detectors.
      4. Sprinkler water flow monitoring devices.
  - 1.9. TRAINING
    - A. The Contractor shall submit a proposed training agenda for review by the Owner and local AHJ within sixty (60) days of authorization to proceed. The final, approved training agenda shall be submitted thirty (30) days prior to the final system acceptance test. Provide three (3) four (4) hour training sessions for staff personnel, in the operation and use of the system. Training to include digital video recording (performed by Contractor) of the training session for future use by Owner.
    - B. Training shall include all system operational functions needed by the Owner's staff. This shall include, but will not be limited to:
      1. Alarm acknowledgment and silencing
      2. Interpretation of the scheme used to provide identifiers
      3. Differentiating between trouble signals
      4. Differentiating between trouble and supervisory conditions
      5. System reset
      6. Accessing different Access Levels
      7. Accessing individual devices
      8. Changing smoke detector sensitivity
      9. Disabling and enabling system points for maintenance
      10. Activating and deactivating control modules
      11. Walk Test
      12. Basic maintenance (i.e. cleaning dirty smoke detectors, etc.)
      13. Device testing
      14. Bypass switch operation and use
      15. Basic troubleshooting
      16. Warranty and service agreement
  - 1.10. SUMMARY
    - A. Section Includes:
      1. Fire alarm control unit.
      2. Manual fire alarm boxes.
      3. System smoke detectors.
      4. Notification appliances.

5. Addressable interface devices.
- 1.11. DEFINITIONS
- A. EMT: Electrical Metallic Tubing.
  - B. FACU: Fire Alarm Control Unit.
  - C. HLI: High Level Interface.
  - D. NICET: National Institute for Certification in Engineering Technologies.
  - E. PC: Personal computer.
  - F. Local AHJ: City of McKinney
- 1.12. ACTION SUBMITTALS
- A. Product Data: For each type of product, including furnished options and accessories.
    - 1. Include construction details, material descriptions, dimensions, profiles, and finishes.
    - 2. Include rated capacities, operating characteristics, and electrical characteristics.
  - B. Shop Drawings: For fire alarm system.
    - 1. Comply with recommendations and requirements in the "Documentation" chapter 7 in NFPA 72.
    - 2. Include plans, elevations, sections, details, and attachments to other work.
    - 3. Include details of equipment assemblies. Indicate dimensions, weights, loads, and required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
    - 4. Include drawings of detailed connections to interfaced equipment, including, but not limited to, HVAC units, elevator controllers, and sprinkler systems.
    - 5. Detail assembly and support requirements.
    - 6. Include battery size calculations based on the standby requirements, the alarm requirements and spare capacity required herein.
    - 7. Conduit/Raceway fill calculations. Raceway fill calculations, in chart form, indicating the cross sectional area percent fill for the worst case of every combination of wire/cable in each size of raceway used in the system. A maximum forty (40) percent fill is allowed.
    - 8. Include input/output matrix with a sequence of operations including a detailed description of the operation of each system function for all alarm, supervisory and trouble conditions.
    - 9. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
    - 10. Include performance parameters and installation details for each detector.
    - 11. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
    - 12. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale; coordinate location of duct smoke detectors and access to them.
      - i. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
      - ii. Show field wiring required for HVAC unit shutdown on alarm.
      - iii. Show field wiring and equipment required for HVAC unit shutdown on alarm.
      - iv. Show field wiring and equipment required for HVAC unit shutdown on alarm.
      - v. Locate detectors according to manufacturer's written recommendations.
    - 13. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.
    - 14. Detailed riser diagram for all initiating devices and circuits, notification devices and circuits, auxiliary power supplies, audio devices and circuits.
    - 15. Factory data sheets for each piece of equipment proposed, including all electrical equipment and components. Where datasheets include more than one product, indicate which is included for this project. Equipment datasheets shall indicate operating voltages and currents, where applicable.
    - 16. Complete bill of materials with device quantities.
  - C. General Submittal Requirements:
    - 1. Submittals shall be submitted to the local Authority Having Jurisdiction.
    - 2. Shop Drawings shall be prepared by persons with the following qualifications:
      - i. Trained and certified by manufacturer in fire alarm system design.
      - ii. NICET-certified, fire alarm technician; Level III minimum.
      - iii. Licensed or certified by Texas State Fire Marshal office APS.

- D. Delegated-Design Submittal: For notification appliances and smoke detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
    - 1. Drawings showing the location of each smoke detector, ratings of each, and installation details as needed to comply with listing conditions of the device.
    - 2. Design Calculations: Calculate requirements for selecting the spacing and sensitivity of detection, complying with NFPA 72.
  - E. Load Calculations
    - 1. Provide calculations showing that no individual initiation, SLC, or notification circuit is loaded beyond 80% of its capacity. Provide calculations that show that the total load for each remote power supply or FACU power supply is 80% or less of its capacity.
  - F. Voltage drop calculations for notification circuits.
    - 1. Provide voltage drop calculations with all devices assumed at the end of the total length of the Class B circuit. Use the UL maximum listed current draw of the devices. Provide calculations such that with a supply voltage of 20.4 VDC, the voltage at the end of the circuit will be no less than the minimum voltage required for device operation and in no cases less than 16 VDC.
    - 2. For power supplies operating at higher voltages, the supply voltage for the calculations may be increased if approved by Owner and local AHJ. Contractor shall supply documentation from manufacturer as requested to verify the power supply features.
  - G. Battery capacity calculations.
    - 1. Calculate standby battery requirements per manufacturer's installation requirements including all factors (e.g. aging).
    - 2. Batteries shall be sized to provide a minimum of 24-hours of standby capacity followed by 15 minutes in alarm and 20% spare capacity.
  - H. One (1) electronic copy (.pdf format) of the manufacturers' literature on all system equipment and system conductors. Literature shall include specification and description of recommended supporting methods, enclosures or boxes, and wiring connections. The PDF document shall have accurate and active bookmarks for the each section heading.
  - I. One (1) copy each of the qualifications and authorization of the representative of the Fire Alarm Equipment Manufacturer (FAEM).
  - J. One (1) copy each of all installation manuals.
  - K. Forward in writing, to the Owner, any comments from the Authority Having Jurisdiction within five (5) working days after the receipt of their comments.
  - L. Contractor is responsible for revising and resubmitting submittals as required to address all comments from the Authority Having Jurisdiction, and the Owner to the satisfaction of said parties. Contractor shall provide written responses to all comments, numbered to match the comments.
  - M. The Owner shall not be responsible for any additional costs resulting from replacement of equipment or materials not reviewed prior to installation.
  - N. All submittals shall be complete. Incomplete or phased submittals shall be returned without review. Approval of the submittals by the Owner shall, in no case, relieve the Contractor of its responsibility to meet the requirements of this specification.
  - O. Approval of Contractor submittal shop drawings by the local AHJ is not intended to be final approval of installation of the fire alarm system. Owner's Representative, and local AHJ have the authority to review installation as described in § 1.115 Quality Assurance.
- 1.13. INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
  - B. Seismic Qualification Data: Certificates, for fire alarm control unit, accessories, and components, from manufacturer.
    - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
    - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
    - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
  - C. Field quality-control reports.

## 1.14. CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire alarm systems and components to include in emergency, operation, and maintenance manuals.
- B. Following submittal of the current Working As-Built drawings for the Demonstration Acceptance Test and following Owner and local AHJ review and approval, the Contractor shall update the Working As-Built drawings as noted in the Owner and local AHJ review and to reflect the final as-built configuration. Copy and bind into sets.
- C. On the bottom right corner of each drawing sheet, the Contractor shall stamp in red letters 1-inch high, the wording "RECORD DRAWINGS."
- D. The as-built drawings shall be in a final form for submission for final approvals. Once the as-built drawings are approved, the Contractor shall submit three copies and the updated AutoCAD/REVIT files to the Owner for distribution.
- E. State of Texas installation tags on all FACU's and signed by the installing Contractor APS.
- F. Operation and Maintenance Data: For fire alarm systems and components to include in emergency, operation, and maintenance manuals.
  - 1. Items for "Operation and Maintenance Data," include the following:
    - i. Comply with the "Records" section of the "Inspection, Testing and Maintenance" and "Documentation" chapters in NFPA 72.
    - ii. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" chapter in NFPA 72.
    - iii. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
    - iv. Riser diagram.
    - v. Device addresses.
    - vi. Automatic smoke detection sensitivity settings.
    - vii. Record copy of site-specific software.
    - viii. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" and "Documentation" chapters in NFPA 72, and include the following:
      - 1) Equipment tested.
      - 2) Frequency of testing of installed components.
      - 3) Frequency of inspection of installed components.
      - 4) Requirements and recommendations related to results of maintenance.
      - 5) Manufacturer's user training manuals.
      - 6) Manufacturer's required maintenance related to system warranty requirements.
    - ix. Abbreviated operating instructions for mounting at fire alarm control unit and each annunciator unit.
- G. Software and Firmware Operational Documentation:
  - 1. The Contractor shall provide complete indexed bound sets of the Operation and Maintenance (O&M) manual, as outlined in NFPA 72. These O&M manuals shall include the following in addition to that required in NFPA 72:
    - i. The final Equipment List identifying the quantities and types of equipment listed by manufacturer's part number.
    - ii. An equipment datasheet (or specification sheet) on every piece of fire alarm system equipment installed.
    - iii. Standby power calculations and voltage drop calculations that coincide with the equipment that has been installed in the building.
    - iv. A point ID list referencing the signaling line circuit loops and the devices on those loops.
    - v. Documentation of automatic smoke detection sensitivity settings.
    - vi. Complete System Programming
    - vii. Program Software Backup: On magnetic media, compact disk or portable USB flash drive, complete with data files.
    - viii. Device labels.
    - ix. The control unit configuration, serial number, access passwords, and a description of remote functions.
    - x. Software operating and upgrade manuals.
    - xi. Printout of software application and graphic screens.



- H. Prior to final payment for the fire alarm system, acceptance of the system as complete, and the beginning of the warranty period, submit to the Owner a transmittal for all final complete project record documents.
- 1.15. MAINTENANCE MATERIAL SUBMITTALS/SPARE PARTS AND SPECIAL TOOLS
- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. The fire alarm contractor shall maintain a service organization with adequate spare parts stock and service technicians trained in service of the type of systems installed within seventy-five (75) miles of the installation location.
- 1.16. QUALITY ASSURANCE
- A. All work and devices shall meet the requirements of the Owner, and the local AHJ.
- B. All equipment and components shall be listed by Underwriters' Laboratories and/or approved by Factory Mutual for the actual intended use unless hereinafter specifically excluded from such a listing or approval.
- C. Installation and supervision of installation shall be in strict compliance with the requirements of regulations, licenses, and permits for fire alarm system installers in the State of Texas.
- D. The installer must have been actively engaged in the business of selling, installing, and servicing fire alarm systems for at least five (5) years and provide details of at least five (5) comparable projects completed within the past five (5) years. A list of five (5) fire service contacts shall also be provided.
- E. The Contractor must be an authorized representative of the Fire Alarm Equipment Manufacturer (FAEM) and have technical factory training specifically for the system proposed.
- F. The FAEM shall have a representative supervise the final connection of devices and wiring and programming of the control panels.
- G. If the Contractor's installation, upon review by the Owner or local AHJ, do not conform to the requirements of these Specifications; the Contractor shall be required to make corrective modifications to the installation within ten (10) working days of receipt of notification to Contractor. If the Contractor does not respond to the identified deficiencies or does not make the required modifications to meet the requirements of the Specifications, the Contractor shall be responsible for the Owner's extra expenses for subsequent review(s) of rejected installation necessitated by the Contractor's failure to make the requested modifications. Such extra fees shall be deducted from payments by the Owner to the Contractor via a deductive change order.
- 1.17. REGULATORY REQUIREMENTS
- A. No approvals or interpretations of the Contract Documents shall be pursued except through the Owner by written submission.
- B. Any work performed prior to the satisfactory review of shop drawings by the Owner's Representative, approval by the local AHJ, and determined to be non-compliant with the Contract Documents or applicable codes by the Owner's Representative or local AHJ will be replaced at the Contractor's expense.
- C. The Contractor shall submit all records of final testing to the Owner's Representative, and local AHJ. The system will not be accepted until final testing is complete and until receipt and approval of the Inspection and Testing Form by the Owner's Representative.
- D. The Contractor hereby acknowledges that all dollar amounts quoted in Contract Documents, correspondence, unit prices, alternate proposals, and any other prices provided by the Contractor or requested by the Owner's representatives include all sales, use, value-added, and excise currently in place or enacted in the course of the project. No additional amounts of compensation are to be charged to the Owner for taxes applicable to this project.
- 1.18. PROJECT CONDITIONS
- A. Contractor shall provide a thorough Existing Conditions Report to be reviewed for all equipment or wiring that the prospective contractor proposes to retain and to confirm the existing system's sequence of operations. All equipment proposed for re-use should be reviewed within fourteen (14) days of notice to proceed, and a written report should be submitted by the Contractor no more than seven (7) calendar days later. The Contractor is responsible for determining if all equipment to be reused is operating properly and document any areas that were not accessible during statement of conditions testing. Written documentation requesting access to inaccessible areas to Ownership shall be required as part of the report for any areas that were not accessed. The existing sequence of operations shall be documented in an input output matrix. Testing should include, but not be limited to:
1. Performing sprinkler flow tests to verify proper flow switch operation
  2. Control valves must be exercised to verify proper alignment and operation of valve supervisory (tamper) switches.
  3. Monitoring of suppression system control panels.

4. Notification appliance activation, synchronization and operation in accordance with local codes.
- B. Interruption of Existing Fire alarm Service: Do not interrupt fire alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:
    1. Notify Client no fewer than seven days in advance of proposed interruption of fire alarm service.
    2. Do not proceed with interruption of fire alarm service without Client's written permission.
  - C. Use of Devices during Construction: Protect devices with an approved protection method during construction unless devices are placed in service to protect the facility during construction.
- 1.19. SEQUENCING AND SCHEDULING
- A. The Contractor shall provide a schedule to the Owner indicating the installation sequence and time frame prior to beginning work. No installation work shall begin until shop drawings and submittals are approved by the Owner and local AHJ. The Contractor shall provide weekly updates to the Owner. It is the Contractor's responsibility to have all wiring, circuit testing and device installation completed in time for the equipment supplier to make all final connections and conduct all tests as outlined in these specifications.
  - B. If a fire watch is needed, the fire watch services shall be provided at the Contractor's expense while conversions are made from the existing system to the new system where applicable.
  - C. The Contractor shall be responsible for coordinating the Demonstration Test for the system with the Owner.
  - D. The Contractor shall be responsible for coordinating the Acceptance Test for the system with the Owner, and local AHJ.
- 1.20. WARRANTY
- A. The Contractor shall guarantee all new equipment installed and new raceways, new wiring and connections to existing wiring and equipment from defects in workmanship and inherent mechanical and electrical defects for a period of one (1) year from the date of written acceptance by the Owner. Warranty shall include Parts and Labor.
  - B. The Manufacturer or the authorized representative shall guarantee all new system equipment for a period of one (1) year from the date of written acceptance by the Owner.
  - C. The manufacturer or the authorized representative shall guarantee parts availability for a minimum of one (1) year after date of written acceptance by the Owner.
  - D. Upon completion of the installation of the fire alarm system equipment including Acceptance Testing, Demonstration of existing fire alarm, and delivery of all record submittals and spare parts, the Contractor shall provide the Owner with a signed Completion and Warranty Statement, substantially in the form as follows:
    1. "The undersigned, having been engaged as the Contractor on the Plano Event Center Fire Alarm Project, confirms that the fire alarm system equipment was installed in accordance with the system manufacturer's wiring diagrams, installation instructions and technical specifications provided to us by the manufacturer and the Owner and that the installed system is warranted for a period of two (2) years effective <insert date of Owner acceptance>. The warranty includes parts and labor to repair or replace (at the Owner discretion) any and all defects in workmanship or inherent electrical and/or mechanical defects. The installed system includes all new equipment installed and new raceways, new wiring and connections to existing wiring."
  - E. Emergency Warranty Calls: Provide 24-hr emergency phone number to the Owner Designated Representative.
  - F. Warranty Calls: The Contractor's Fire Alarm maintenance personnel shall respond around the clock, seven days per week to trouble services calls within four (4) hours from the time of notification of a trouble call. The maintenance personnel shall complete warranty call within five working days of notification.
  - G. The Contractor's Fire Alarm Maintenance Personnel Qualification: Maintenance Personnel must have three years' experience in the installation of fire alarm systems, certified by the system manufacturer, and possess a minimum LEVEL II certificate from the National Institute for Certification in Engineering Technologies (NICET) in the subfield Fire Protection Engineering Technology (Fire Alarm Systems).

**PART 2 – PRODUCTS**

## 2.1. GENERAL

## 2.2. ACCEPTABLE MANUFACTURERS

- A. Unless otherwise permitted by the Contract Documents, only the following manufacturers are acceptable as the fire alarm equipment manufacturer (FAEM) for this project. Only products manufactured by these vendors or by listed “OEM” producers for these vendors.

1. Edwards EST-3 (existing) UL 864 Listed.

## 2.3. SYSTEM DESCRIPTION

- A. The system shall operate as a low voltage fire alarm system and shall be a complete intelligent addressable supervised fire alarm system with voice evacuation as hereinafter specified. The existing Fire Alarm Control Unit (FACU) is located in the Sheriff’s office. Edwards releasing system components will be added to the existing EST-3 FACU for the single interlock pre-action system.
- B. All fire alarm systems shall be installed in such a manner that the failure of any single alarm initiating device will not interfere with the normal operation of any other such device. All fire alarm systems shall be wired in accordance with NFPA 70 requirements and, at a minimum, shall be wired as follows:
1. Initiating device circuits (IDC) – Class A.
  2. Signaling line circuits to initiating and control devices (SLC) – Class A.
  3. Inter-panel networking circuits – Class X.
  4. Notification appliance circuits (NAC) – Class B.
  5. Provide a minimum 4-foot horizontal and 1-foot vertical separation between supply and return loops in all Class A and Class X wired circuits. Auxiliary circuits shall meet the minimum requirements of a Class B notification circuit. Circuits for relay coil operation shall be 24-volt maximum. Risers shall be Class X with 1'-0" vertical separation per NFPA 72.
- C. The control panel, node fire alarm panels, auxiliary power supplies, distributed amplifiers and other fire alarm system control equipment shall receive its power from a 120 volt AC dedicated branch circuit(s) and labeled “Fire Alarm.” The 24-volt DC power for all system initiation, supervisory, notification, and control circuits shall be provided by the fire alarm control panel power supplies or listed auxiliary power supplies.
- D. Upon loss of building power, the entire system shall transfer to secondary power (Batteries) without loss of signals in accordance with NFPA 72. The system shall operate under secondary power (Batteries) in quiescent (normal or trouble) conditions for twenty-four (24) hours and have sufficient power to support complete alarm condition operation for a subsequent (15) fifteen minutes of evacuation alarm operation at maximum connected load.
- E. Provide initiating devices in the following locations, at a minimum:
1. Smoke detectors shall be installed per NFPA 72 above the ceiling and under the raised floor in accordance with NFPA 72 and design bid drawings.
  2. Provide double action manual fire alarm releasing boxes at FACU location.
- F. Provide auxiliary devices, monitoring devices, and fire safety functions to include as indicated on the bid contract drawings, but not limited to the following:
1. Provide addressable monitoring modules as necessary for monitoring of all existing pre-action system alarm, trouble, and supervisory relays.
  2. Provide addressable control modules as necessary for access control, remotely unlocking all stair doors, and delayed-egress interface as required.
  3. Provide addressable control modules as necessary to shunt building audio systems upon an alarm condition.
  4. Provide addressable monitoring modules as necessary for monitoring of all sprinkler water flow switches, tamper switches, hi-lo air switches, pressure-type switches, kitchen hood suppression system alarm relays, and fire suppression control panel monitoring, .
  5. Provide distributed visual strobe auxiliary power supplies. The quantity of auxiliary power supplies (Qps) shall not be less than the result of the following calculation:
  6.  $Qps = ((S-60)/40) + 2$  rounded up to the nearest integer.
  7. “S” is the sum of the quantity of visual strobes and combination speaker/strobes to be installed in the building.
  8. The auxiliary power supplies shall be installed in electrical rooms or other approved locations as permitted by the Owner and local AHJ.
- G. Provide Class A SLC and IDC wiring. Provide Class B notification wiring.

## 2.4. SYSTEMS OPERATIONAL DESCRIPTION

- A. Abnormal circuit conditions required for the Class of the circuit shall initiate a "trouble" condition at control panels and remote annunciators for that specific circuit. The "trouble" indication shall describe the nature of the condition on the affected circuit. The fire alarm system shall transmit detailed addressable information to the remote annunciator and the FACU(s).
- B. Devices in an abnormal state shall initiate a "trouble" condition at control panels and remote annunciators for that specific device. The "trouble" indication shall describe the nature of the condition and specific address and alphanumeric description of the device affected. The fire alarm system shall transmit detailed addressable information to the remote annunciator and the FACU(s).
- C. Initiation of an "alarm" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Actuate all notification appliances (common area speaker/visual, visual only, speaker only) on the floor of, floor above, and the floor below the reported alarm for a high rise application or throughout the entire building in a low-rise application.
  - 3. Manually activating the "Alarm Silence" at the panel shall deactivate all notification appliances (speakers and strobes included). An additional alarm reported to the panel subsequent to activating the "Alarm Silence" shall reactivate the appropriate notification appliances.
  - 4. Transmit an "alarm" signal to the central station, remote annunciator, and the FACUs.

## 2.5. PREACTION SEQUENCE OF OPERATION

- D. The activation of an electric fire detector BEFORE activation by heat of an automatic sprinkler head shall:
  - 1. The activation of the detection condition alone will activate the solenoid valve to the open position, causing the preaction valve to open and allowing water to enter the system piping.
  - 2. The alarm pressure switch will activate and put the FACU into ALARM condition.
  - 3. Water will not discharge into the protected area since all sprinkler heads are closed.
- E. The activation by heat of an automatic sprinkler head OR a break or air leak in the sprinkler piping BEFORE activation of an electric fire detector shall:
  - 1. Activate the low air supervisor switch and put the FACU into SUPERVISORY condition.
  - 2. Water will not enter the sprinkler piping.
- F. The activation of an electric fire detector AND activation by heat of an automatic sprinkler head shall:
  - 1. Activate the solenoid open causing the preaction valve to open and water will flow out of any open sprinklers.
  - 2. The alarm pressure switch will activate and put the FACU into alarm condition.
- G. Operation of the emergency manual release shall:
  - 1. Depressurize the priming chamber, causing the deluge valve to open and allowing water to enter the system piping and water will discharge through any open sprinklers.
  - 2. The alarm pressure switch will activate and put the FACU into ALARM condition.

## 2.6. SPRINKLER MONITORING

- H. Initiation of a "supervisory" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Transmit a "supervisory" signal to the central station, remote annunciator, and the FACUs.
- I. Initiation of a "trouble" condition shall result in the following functions to be performed by the system:
  - 1. Initiate an alarm indication on the panel by tone and display the corresponding device specific alphanumeric LCD description. Manually activating the "Silence" or "Acknowledge" functions shall silence the tone at the panel. The alarm alphanumeric display shall remain "on" at the panel until the condition causing the alarm has been cleared and reset. An additional alarm reported to the panel subsequent to activating the "Silence" or "Acknowledge" functions shall reactivate the panel tone.
  - 2. Transmit a "trouble" signal to the central station, remote annunciator, and the FACUs.

## 2.7. FIRE ALARM CONTROL UNIT

### A. General Requirements for Fire Alarm Control Unit (EXISTING EST-3):

1. Provide a main fire alarm control unit (FACU) located within the main electrical room that has modular components, utilizing distributed solid-state programmable microprocessors to accomplish all system functions. These components shall include but not be limited to the following items:
  - i. Panel shall be equipped with an internal dialer.
  - ii. Panel must be UL 864 listed.
  - iii. Fire alarm system is to have surge protection at each location the signaling line circuit leaves the main building or returns to the building from portables.
  - iv. Non-volatile RAM memory that provides for no program loss if a primary and secondary power loss occurs.
  - v. Detection of removal, disconnection, or failure of any control panel module.
  - vi. A real-time clock circuit to execute custom time control programs and time/date stamp events.
  - vii. System core processing capability of a minimum (600) addressable points including the necessary software, programming, motherboard/expansion card sockets.
  - viii. Signaling line circuits (SLC) for a minimum (600) addressable points including a minimum (300) addressable detection devices and (300) addressable input modules and/or output modules. No SLC shall be assigned more than eighty (80) percent of its point capacity unless approved in writing by local AHJ. A single fault on a pathway connected to the addressable devices shall not cause the loss of more than 50 addressable devices. Provide isolation modules as required; at a minimum, each floor shall be isolated and there shall not be more than 50 devices between isolation modules.
  - ix. System that is capable of using each input or detection device address as an individual software input zone. Manufacturers shall indicate on the submitted data sheets all limitations to such programming. Systems shall have, as a minimum, a quantity of input zones available to perform all specified functions with the additional spare capacity of 25% of the zones or the total quantity of addresses on the systems whichever is greater.
  - x. System that is capable of controlling the state of contacts located in remote addressable modules, smoke detector base-mounted programmable relays, and outputs on the panel including all necessary hardware and software. Each output address shall be capable of individual control by the processor. Systems that have a quantity of output software zones fewer than the quantity of output addresses shall not be acceptable.
  - xi. System that is capable of "and/or" logical functions using the individual input and detection address states as inputs.
    - 1) System processor shall be capable of reading and using the status of individual address devices (both input type and output type devices), software groupings of addresses, software zones, and control panel modules as criteria to generate logical function outputs.
    - 2) The system processor shall be capable of affecting the state or condition of individual addressable devices, software groupings of addresses, software zone states, and control panel modules as outputs of logical functions.
  - xii. Interface for peer-to-peer operation with remote node panels. Each remote node panel shall automatically default to stand-alone mode if failure occurs in any processor, internal connection, module or inter-panel network NSLC circuit.
  - xiii. Interface for supervised remote annunciators.
  - xiv. "T-tapping" of signaling line circuit (SLC) is not allowed for any number of devices on the SLC.
  - xv. "T-tapping" of indicating device circuit (IDC) is not allowed for any number of devices on the IDC.
  - xvi. "T-tapping" of notification appliance circuit (NAC) is not allowed for any number of devices on the NAC.
  - xvii. Any circuit length limitations or branch tap length requirements of the system actually supplied shall be coordinated so that the full capacity of the circuits shown on the drawings and referenced in the specifications shall be available to the system. Any additional modules, programming, or required circuits to achieve the specified system capacity shall be provided and installed at no cost to the Owner.
  - xviii. Automatic detector test feature which permits reading and adjusting the sensitivity of all intelligent detectors from the control panel.

- xix. Drift compensation feature that monitors sensitivity variation and initiates a trouble condition if detector threshold reaches false alarm or non-alarm conditions. Feature shall perform electronic adjustments for existing conditions within the U.L. recommended limits.
  - xx. Function testing of any intelligent detector or addressable interface device individually or by software zone from the control panel without actuation of notification devices.
  - xxi. The main fire alarm control unit display shall include a minimum of 640 characters, backlit by a long life, solid-state LCD display. It shall also include a full numeric style keypad. The keypad shall be of quality capable of withstanding normal use and wear and tear. Additionally, the network display shall include minimum of five manual keys for screen navigation and the ability to scroll events by type (i.e. fire alarm conditions, supervisory conditions, trouble conditions, etc.). The main fire alarm control unit display shall have the ability to display a minimum of six events in order of priority and time of occurrence. Counters shall be provided to indicate the total number of events by type. The display shall mount in the main fire alarm control panel cabinet.
  - xxii. System processing capable of supporting addressable analog smoke detection, addressable analog heat detection, addressable pull stations, addressable monitoring modules, and remote addressable control modules.
  - xxiii. Control panel that is capable of including an integral module for serial data output (RS-232) to an ASCII based printer. Space for this module shall be in addition to other RS-232 outputs (if any) required for other devices. The Contractor shall assure proper operation of the output transmissions. The control panel cabinet and circuit board slots shall be of sufficient size and capacity for addition of this module.
  - xxiv. Programming for the sequence of operations that can be accomplished by all of the following three methods. The initial sequence of operation program shall be installed on the system by method "a" described below. Modifications to the programming shall be permitted by any of the three methods listed. Systems that cannot be programmed by all methods listed below are not acceptable. Programmers or programming installers that cannot perform all methods listed below shall not be acceptable as FAEM representatives. The control panel shall be provided with any interface modules, software or firmware required to perform these methods. The "lap-top" computer or similar programming device shall remain the property of the Contractor unless otherwise specified in the Contract Documents.
    - 1) The initial sequence of operation program is entered into a "lap-top" computer that is located remote from the project site. On site, the installer shall connect the computer to each control panel requiring programming and perform an automatic file transfer or download of the system sequence of operation program.
    - 2) Modifications to the initial sequence of operation program shall be entered directly to the affected control panel from a "lap-top" computer connected to the panel after installation of the control panel at the project site.
    - 3) Modifications to the initial sequence of operation program shall be entered directly to the affected control panel from the control keypad or switches on the panel after accessing the initial program with the appropriate level password.
- B. Node panels shall have the same address capacity, processing capabilities, functional characteristics and spare capacity as required in this specification section for the main control panel except as follows:
- 1. Integral displays shall be a minimum eighty (80) characters liquid crystal display (LCD). Provide light-emitting diodes (LED) for AC power, system alarm, system trouble, display trouble and disable. The display shall be visible through the control panel cabinet's transparent window. The processor shall be capable of displaying historical log data; current system status information; and all individual device addresses, descriptions and conditions on the integral display.
- 2.8. MANUAL FIRE ALARM BOXES
- A. General Requirements for Manual Fire alarm Boxes: SIGA-278 Dual Action Pull Station. Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface-mounted, provide manufacturer's surface back box.
- 1. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire alarm control unit.
  - 2. Station Reset: Key- or wrench-operated switch.

3. Provide double action type manual pull stations at the main FACU location. On command from the control panel, send data to the panel representing the state of the manual station.
4. Install these devices at a height between 42-48" in height from finished floor to handle.
5. Provide address-setting means and store an internal identification code that the control panel can use to identify the type of device.

## 2.9. SYSTEM SMOKE DETECTORS

### A. General Requirements for SIGA-PD Photoelectric System Smoke Detectors:

1. Comply with UL 268; operating at 24-V dc, nominal.
2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire alarm control unit.
3. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
5. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
6. Remote Control: Unless otherwise indicated, detectors shall be digital-addressable type, individually monitored at fire alarm control unit for calibration, sensitivity, and alarm condition and individually adjustable for sensitivity by fire alarm control unit.
  - i. Multiple levels of detection sensitivity for each sensor.
  - ii. Sensitivity levels based on time of day.

### B. Photoelectric Smoke Detectors:

1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
  - i. Primary status.
  - ii. Device type.
  - iii. Present average value.
  - iv. Present sensitivity selected.
  - v. Sensor range (normal, dirty, etc.).
3. Provide analog photoelectric smoke detectors where required by the applicable codes, Facility Design Guidelines and these specifications. Provide detectors utilizing the photoelectric principal to measure smoke density and, on command from the control panel, send data to the panel representing the ANALOG level of smoke density. Provide automatic sensitivity "drift" compensation to provide long term stability and reliability. Provide a "maintenance alert" feature whereby the detector initiates a trouble condition should the unit's sensitivity approach the outside limits of the normal sensitivity window.
4. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself by activating the detector magnetic test switch or may be activated remotely on command from the control panel.
5. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.

### C. SIGA-HRD Addressable Rate of Rise Heat Detectors:

1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system.
2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
3. Primary status.
4. Device type.
5. Present average value.
6. Provide addressable heat detectors where required by the applicable codes, Facility Design Guidelines and these specifications. Provide heat detection above the main stage location. Provide self restoring detectors with rate of rise heat detection method of a temperature increase at the sensor of fifteen (15) degrees Fahrenheit or nine (9) degrees celculus for more per minute causes an alarm activation condition.

7. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself by activating the detector magnetic test switch or may be activated remotely on command from the control panel.
  8. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.
- D. SIGA-SD Duct Smoke Detectors: Photoelectric type complying with UL 268A.
1. Detector address shall be accessible from fire alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting and sensor range.
  2. An operator at fire alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
    - i. Primary status.
    - ii. Device type.
    - iii. Present average value.
    - iv. Present sensitivity selected.
    - v. Sensor range (normal, dirty, etc.).
  3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector for smoke detection in HVAC system ducts.
  4. Each sensor shall have multiple levels of detection sensitivity.
  5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
  6. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.
  7. Provide duct-mounted intelligent photoelectric smoke detectors. Provide the same type of detection head as specified by the "Intelligent Photo-electric Smoke Detectors" Paragraphs in this specification. Provide units capable of interchanging/accepting either photoelectric or ionization type sensors. Provide detectors operating in air velocities of 300 fpm to 4,000 fpm without adverse effects on detector sensitivity. Provide detectors that communicate directly with the fire alarm control panel without the use of monitor, control or power modules.
  8. Provide a molded plastic enclosure with integral conduit knockouts. Provide housing with gasket seals to insure proper seating of the housing to the associated ductwork. Provide sampling tubes that extend across the width of the duct. Sample tubes shall be cut to length; sample ports shall not be permitted outside the ducts. Provide porosity filters to reduce sensor/chamber contamination. Provide with integral SPDT auxiliary control contacts.
  9. Provide a calibrated test method whereby the detectors will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at a remote test station consisting of a key operated switch and indicating LED or may be activated remotely on command from the control panel.
  10. Provide address-setting means and store an internal identification code for each detector that the control panel can use to identify the type and precise location of the detector.
  11. Provide LED(s) integral to the unit and visible when the housing is installed and closed. LED(s) shall indicate a normal status/power condition (indicating that the detector is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that an alarm condition has been detected. LED(s) that are mounted on separate plates and at locations remote from the detector shall be provided when the duct detector is not readily accessible.
  12. Duct detector housing shall have ports that can be opened for testing of the duct smoke detector. Placement of the ports shall permit testing personnel to measure air flow in the detector housing without removing the duct detector cover. Placement of the ports shall permit testing personnel to insert smoke into the duct detector housing without removing the duct detector cover. Provide label on housing indicating the direction of airflow; label shall not be hand-written.
  13. Provide a remote test and indicating station in an accessible location that is actuated by a keyed switch. Key shall be keyed alike with the panel and other fire alarm device keys. LED(s) shall be provided in the switch cover plate to indicate the activation of the detector by either smoke or keyed switch activations.
- 2.10. MONITOR MODULES SIGA CT1 SINGLE INPUT MODULE/ SIGA0CT2 DUAL INPUT MODULE
- A. Provide addressable monitor modules where required by the applicable codes to interface to contact alarm and supervisory devices. Provide monitor modules to connect any single supervised conventional initiating devices (any normally open dry contact device, including 4-wire smoke detectors; each device requires a



- unique address) to an intelligent SLC loop. Mount in a 4-inch square electrical box. Wire contact side of each monitor module as an IDC.
- B. Provide address-setting means and store an internal identification code that the control panel shall use to identify the type of device. Provide LED(s) integral to the unit and visible when the unit is installed that shall indicate a normal status/power condition (indicating that the monitor module is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that the module activation has been detected.
- 2.11. CONTROL MODULES SIGA-CC1 /SIGA-CRH/SIGA-IM/SIGA-RM1
- A. Provide addressable control/relay modules where required by the applicable codes to provide audible alarm interface and/or relay control interface. Provide control modules to connect a supervised zone of conventional notification devices (any 24-volt DC polarized notification appliance) to an intelligent loop. Mount in a standard 4-inch electrical box. Wire the contact side of each control module as an auxiliary circuit. The control module may be optionally wired as dry contact (Form C) relay. Provide power for the relay actuation from the intelligent detector loop to reduce wiring connection requirements. Provide notification appliance power from a separate loop from the FACU, control node, or from supervised remote power supplies.
- B. Provide address-setting means and store an internal identification code that the control panel shall use to identify the type of device. Provide LED(s) integral to the unit and visible when the unit is installed shall indicate a normal status/power condition (indicating that the monitor module is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that a change of state to the module output has occurred.
- C. Control relay modules shall be installed a maximum of 3-feet from the interfaced equipment/device.
- 2.12. SIGA-REL RELEASING MODULE
- A. Provide addressable releasing modules where required by the applicable codes to provide pre-action releasing interface and control. . Mount in a standard 4-inch electrical box. Wire the contact side of each control module as an auxiliary circuit. The control module may be optionally wired as dry contact (Form C) relay. Provide power for the relay actuation from the intelligent detector loop to reduce wiring connection requirements. Provide notification appliance power from a separate loop from the FACU, control node, or from supervised remote power supplies.
- B. Provide address-setting means and store an internal identification code that the control panel shall use to identify the type of device. Provide LED(s) integral to the unit and visible when the unit is installed shall indicate a normal status/power condition (indicating that the monitor module is operational and in regular communication with the control panel). LED(s) integral to the unit and visible when the unit is installed shall indicate that a change of state to the module output has occurred.
- C. Control relay modules shall be installed a maximum of 3-feet from the interfaced equipment/device.
- D. Releasing solenoid valves must be listed with the SIGA-REL
- E. RELA-EOL is the only listed solenoid polarizing relay for use with the SIGA-REL.
- F. Use listed power supply with the SIGA-REL.
- 2.13. CONDUCTORS
- A. Initiation, notification, and auxiliary device circuit conductors shall be type FPL, FPLP, or FPLR solid copper. Where the size or type of conductor hereinafter specified conflicts with the applicable codes or the FAEM's requirements, the larger size or more specialized conductor type shall be used.
1. Minimum size for conductors for signaling line circuits and initiating device circuits shall be 18 awg.
  2. Notification appliance circuits, audio circuits, and relay or auxiliary circuits shall be 14 to 18 awg. Contractor shall supply product data sheets and UL listing detailing approved wire for notification appliances.
- B. Conductors for any non-power limited circuits shall be type THHN installed in raceway or conduit.
1. Conductors for wet locations shall be:
    - i. Types RHW, TW, THW, THHW, THWN or XHHW.
    - ii. Type listed for use in wet locations.
    - iii. Supervision of the installation are the responsibilities of the Contractor.
- 2.14. RACEWAY
- A. The following raceway types shall be permitted:
1. EMT conduit.

2. RIGID conduit.
  3. Non-Metallic conduit for wet locations.
  4. Surface-mounted metallic race with a minimum size equivalent to 3/4-inch nominal conduit.
- B. Conduit fill calculations shall be performed by Contractor for all conduit and shall be included with shop drawing submittals.
  - C. Boxes, supports, and other accessories for the raceway installation shall be listed for the application.
  - D. Conduit shall be painted to match existing structure/or other conduit within open structure tenant spaces.
- 2.15. EXTERIOR EQUIPMENT
- A. All devices, appliances, and equipment shall be listed for use in the environment in which it is installed.
  - B. Speakers and strobes installed at the building exterior shall be weatherproof.

### Part 3 – EXECUTION

#### 3.1. COORDINATION WITH OTHER TRADES

- A. Coordinate closely with all other trades to expedite construction, accurately interface with related systems and avoid interferences.
- B. Contractor is responsible for sub-contracting and coordinating with all other trades required to complete the entire scope of work including, but not limited to:
  1. Electrical contractor.
  2. Mechanical contractor.
  3. Sprinkler contractor.
  4. Building controls contractor.

#### 3.2. EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
  1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. The job site Project Manager/Supervisor must examine daily all areas in which the work will be performed on the day prior to beginning work. The Project Manager/Supervisor must immediately report unsatisfactory working conditions to the Owner for resolution. The Project Manager/Supervisor must not proceed with the work until all unsatisfactory working conditions have been corrected.
- D. Prior to any work on site, the Contractor must fully inspect the facility and its systems to document damage, or non-functional or non-complying facilities. Any and all deficiencies not specifically described by the Contractor in a report after such inspection must be the responsibility of the Contractor to repair or replace during construction.

#### 3.3. EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, NFPA 1, System Facility Design Guidelines, and requirements of the local AHJ for installation and testing of fire alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
  1. Devices placed in service before all other trades have completed final cleanup shall be replaced.
  2. Where detectors are installed for signal initiating during construction, they shall be cleaned and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance test of the system.
  3. Where detectors are installed but not operational during construction, they shall be protected from construction debris, dirt, dust and damage in accordance with the manufacturer's recommendations and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance of the system.
  4. Where detection is not required during construction, detectors shall not be installed until after all other construction trades have completed cleanup.
- B. Install a document cabinet at the fire alarm control panel that contains a copy of the fire alarm control panel program, location of remote power supply and amp cabinet locations.
- C. Install fire alarm control unit cabinets surface-mounted with no operational parts that may require maintenance mounted greater than 72 inches above the finished floor. The control panel annunciator

display and control surface shall be mounted so that no switch, manually operated device, display or LED is greater than 60-inches above the finished floor.

1. Comply with requirements for seismic-restraint devices specified in Section 270548.16 "Seismic Controls for Communications Systems."
- D. Manual Fire Alarm Boxes:
1. Install manual fire alarm box in the normal path of egress within 60 inches (1520 mm) of the exit doorway.
  2. Mount manual fire alarm box on a background of a contrasting color.
  3. The operable part of manual fire alarm box shall be between 42 inches (1060 mm) and 48 inches (1220 mm) above floor level. All devices shall be mounted at the same height unless otherwise indicated.
- E. Smoke- or Heat-Detector Spacing:
1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
  2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
  3. Smooth ceiling spacing shall not exceed 30 feet (9 m) Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A in NFPA 72.
  4. HVAC: Locate detectors not closer than 36 inches (910 mm) from air-supply diffuser or return-air opening.
  5. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.
- F. Install a UL Listed dust cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.
- G. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct. Tubes more than 36 inches (9100 mm) long shall be supported at both ends.
1. Duct detectors shall be mounted in the main supply air duct and exhaust air plenum of each HVAC unit of greater than 2,000 cfm capacity, and at each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. Duct detectors shall be mounted in such a way as to obtain a representative sample of the airstream. Where possible, locate the duct detectors in serviceable area downstream from the last inlet duct. The actuation of any such detector shall shutdown the affected air handling units or operate dampers to prevent the re-circulation of smoke.
  2. Detectors shall be accessible for cleaning and shall be mounted in accordance with the manufacturer's instructions and NFPA standards. Coordinate placement of the detector with all affected trades and equipment. Connect all circuit conductors that terminate on the detector.
  3. Remote test stations for duct detectors shall be mounted inside each mechanical room and, not higher than 72-inches above the finished floor and with the final locations acceptable to the local AHJ.
  4. All HVAC equipment shutdowns shall be initiated by addressable control modules. Modules shall be mounted within 3 feet of the motor controller of the affected equipment. Install all control circuits and terminations on the "coil" side of the modules.
  5. Duct detectors are to be powered by the fire alarm system not the HVAC circuit.
- H. Remote Status and Alarm Indicators: Install in a visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.
- I. Audible Notification Appliances: Install with the tops of the appliances or not less than 90 inches (2.29 m) above the finished floors and not less than 6 inches (150 mm) below the ceiling. Install on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all appliances at the same height unless otherwise indicated.
- J. Visual Notification Appliances: Install such that the entire lens is not less than 80 inches (2.03 m) and not greater than 96 inches (2.44 m) above the finished floor. Install all appliances at the same height unless otherwise indicated and approved by local AHJ.
- K. Device Location-Indicating Lights: Locate in public space near the device they monitor.
- L. Antenna for Radio Alarm Transmitter: Mount to building structure where indicated. Use mounting arrangement and substrate connection that resists 100-mph (160-km/h) wind load with a gust factor of 1.3 without damage.
- M. Furnish and install all circuit conductors, raceway, and outlet boxes.
- N. Furnish and install all back-boxes, fire alarm equipment, electrical equipment, and fire alarm devices.

1. Back-boxes shall be of the exact type recommended by the FAEM as shown on the equipment and device submittals.
  2. Devices and equipment must be installed by personnel legally permitted and currently licensed to install the devices and equipment. The cost of installation, warranty of installation and equipment, coordination of the installation, and supervision of the installation are responsibilities of the Contractor.
  - O. Open conductors and conduits shall be concealed from public view at all locations by routing on the inside of joists, above ceilings (hard and lay-in types), over girders, within partitions or in any other manner acceptable to the Owner and local AHJ. All conductors and conduits shall be installed at right angles to the building walls, floors and ceilings.
  - P. Open conductors and conduits shall be supported in a manner and at intervals compliant with NEC requirements. Conductors and conduits installed above ceilings (hard and lay-in) shall be supported from the building structure and shall be a minimum of 18-inches above or behind removable panels or ceiling tiles.
  - Q. Prior to cutting, or coring, x-ray or ultrasound detection shall be used for locations core drilled through the building slabs of all locations throughout the building.
  - R. Circuits shall be installed exposed in finished areas only at locations specifically approved in writing by the Owner and local AHJ (areas without ceiling systems). Provide wire mold for these circuits to be painted to match existing finishes as approved by Owner and local AHJ.
  - S. All wires shall be tagged at all junction points and shall test free from grounds or crosses between conductors.
  - T. No other conductors shall be installed in conduits with conductors for the fire alarm system.
  - U. Final connections between equipment and the wiring system shall be made under direct supervision of a representative of the FAEM. If other personnel are required by the local AHJ to be present during final connections, this shall not relieve the Contractor of the responsibility of providing a representative of the FAEM for direct supervision.
  - V. All equipment and devices shall be clearly labeled with the device address. Labels shall be of professional quality and shall not be hand-written.
  - W. All through-penetrations through fire resistive rated construction shall be sealed with an ASTM E 814 or UL 1479 listed fire stop system.
  - X. Equipment and/or devices shall not be supported by ceiling tiles. Equipment and/or devices must be attached to a back-box supported in accordance with the applicable codes and manufacturer's recommendations.
- 3.4. CONNECTIONS
- A. Verify that hardware and devices are listed for use with installed fire alarm system before making connections.
  - B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches (910 mm) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
    1. Supervisory connections at valve supervisory switches of sprinkler and standpipe systems.
    2. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.
    3. Supervisory connections at fire pump power failure including a dead-phase or phase-reversal condition.
    4. Supervisory connections at fire pump engine control panel.
    5. Alarm connections at fire sprinkler and standpipe water flow switches.
- 3.5. IDENTIFICATION
- A. Identify system components, wiring, cabling, and terminals. Comply with requirements of Owner and local AHJ.
  - B. Install framed instructions in a location visible from fire alarm control unit.
- 3.6. GROUNDING
- A. Ground fire alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire alarm control unit.
  - B. Ground shielded cables at the control panel location only. Insulate shield at device location.
- 3.7. FIELD QUALITY CONTROL
- A. Field tests shall be witnessed by Owner, the local AHJ and their designated representative.
  - B. All test and inspections specified in this section shall be reported in writing and three (3) hard copies and one (1) electronic copy submitted in accordance with this specification section.

- C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- D. Perform tests and inspections.
- E. Perform the following tests and inspections:
  - 1. Visual Inspection: Conduct visual inspection prior to testing.
    - i. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" chapter in NFPA 72.
    - ii. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" and documentation chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
  - 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
    - i. Verify the absence of unwanted voltages between circuit conductors and ground.
    - ii. Test the insulation of all conductors for insulation resistance to the conduit, insulation resistance between conductors, and insulation resistance from conductor to shield, using an insulation-testing device (Megger). Provide record of these tests on all circuits.
    - iii. With each circuit pair, short circuit at the far end of the circuit and measure the circuit resistance with an ohmmeter. Record the circuit resistance of each circuit on record drawings.
    - iv. Verify that the control unit is in the normal condition as detailed in the manufacturer's operation and maintenance manual.
    - v. Test all circuits for proper signal transmission under open circuit conditions. One connection should be opened at each SLC, initiating, and notification circuits. Observe that all signals are received with a single open circuit.
    - vi. Test each initiating and notification device for alarm operation and proper response at the control unit. Test smoke detectors with actual products of combustion or an approved aerosol spray.
    - vii. Test that the audibility levels of the voice evacuation system meet the requirements of NFPA 72.
    - viii. Test that the intelligibility levels of the voice evacuation system meet the requirements by using one of the following test methods: NFPA 72 Annex D, IEC 60268-16, or ISO 7240-19 unless specifically permitted otherwise by the local AHJ.
    - ix. Test the system for all specified functions according to the approved operation and maintenance manual. Systematically initiate specified functional performance items at each station, including making all possible alarm and monitoring initiations and using all communications options. For each item, observe related performance at all devices required to be affected by the item under all system sequences. Observe indicating lights, displays, signal tones, and annunciator indications. Observe all audio signals for routing, clarity, quality, freedom from noise and distortion, and proper sound level.
    - x. Test Both Primary and Secondary Power: Verify by test that the secondary power system is capable of operating the system for the period and in the manner specified.
  - 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
  - 4. Test visual appliances for the public operating mode according to manufacturer's written instructions.
  - 5. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- F. Report of Pre-testing: After pre-testing is complete, provide a form certifying the installation is complete and fully operable, including the names and titles of witnesses to preliminary tests. The designer of record shall include a report indicating the installation complies with the approved design.
- G. Provide the Fire Detection and Alarm System Acceptance Testing Criteria and Expectations Pre-Test Checklist, filled out in completion and signed by Contractor representatives. For occupied buildings, after hours testing shall be required.
- H. Local AHJ acceptance tests for the system shall be conducted during a time frame set by Owner and shall meet all requirements of the listed applicable codes, these specifications, and the requirements of the local AHJ. The system tests, test methods, and test documents, including those required for and by the central station, shall meet the requirements of the local AHJ.

- I. Any additional costs resulting from improper system operation during acceptance testing shall be the responsibility of, and paid for, by the Contractor. This includes but is not limited, to costs associated with the attendance by the Owner, or local AHJ during retesting.
  - J. All testing, inspection and retesting required for certification and all warranty work or replacements shall meet the requirements of the local AHJ. This certification, inspection, or testing shall be completed at no additional cost to the Owner.
  - K. Provide the testing date in writing to the Owner a minimum of two weeks before the date. The Owner may, at the Owner's option, have a representative present for testing.
  - L. A proposal to perform annual testing and/or inspection services shall be submitted to the Owner a minimum of three weeks before the date of initial acceptance testing. The proposal shall include all testing and/or inspection services required by the local AHJ and applicable codes for the two-year period beginning at final acceptance of the system. The proposal shall include full services on all new and existing devices as part of the Fire Alarm System. The Owner has the option to accept or reject the proposal.
  - M. If the operation of a device, circuit, control unit function, or special hazard system interface is simulated, it must be noted on the certificate that the operation was simulated, and the certificate must indicate by whom it was simulated.
  - N. At the completion of all testing defects and malfunctions must be corrected. If a defect or malfunction is not corrected at the conclusion of system inspection, testing, or maintenance, the Owner must be informed of the impairment in writing within 24 hours with a written explanation addressing the contractor's proposed corrective measures.
  - O. Failure of all or part of the Final Acceptance Test must invalidate the Contractor's System Certification, in which case re-certification (including 100% Contractor retesting) and a repeat of the Final Acceptance Test must be required at no additional cost to the Owner.
  - P. The Contractor must provide the Owner with a completed NFPA 72 Inspection and Testing Form and the NFPA 72 Record of Completion Form or Contractor Equal and record drawings at the successful completion of the Construction Acceptance Inspection (CAI).
- 3.8. MAINTENANCE SERVICE
- A. Initial Maintenance Service: Beginning at system acceptance, maintenance service shall include twenty-four (24) months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
    - 1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
    - 2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
    - 3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- 3.9. SOFTWARE SERVICE AGREEMENT
- A. Comply with UL 864.
  - B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.
  - C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
    - 1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.
- 3.10. DEMONSTRATION
- D. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire alarm system.
  - E. The Contractor shall submit a proposed training agenda for review at least 30 days prior to authorization to proceed.
  - F. The final, approved training agenda shall be submitted at least 7 days prior to the final system acceptance test.
  - G. Provide three (3) four (4) hour training sessions in the operation and use of the system. All training shall be digitally recorded and provided to Owner.

3.11. FINAL ACCEPTANCE

- A. The fire alarm system will not be acceptable until final testing, project record documents, and receipt of the testing certificates have been obtained and approved by Owner and local AHJ. Owner shall provide final acceptance to Contractor, in writing, on the date of final acceptance. Warranty period shall begin at 5 pm CST on date of final acceptance.

**End of Section**