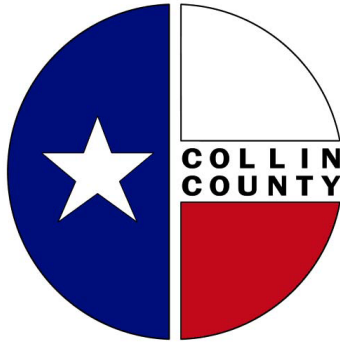




Collin County, TX

INVITATION FOR BID

2025-266

BUILDING AUTOMATION SYSTEM (BAS) UPGRADES

RELEASE DATE: September 9, 2025

RESPONSE DEADLINE: October 9, 2025, 2:00 pm

Please refer to the project timeline in this document for all important deadlines.

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001116 Advertisement for Bids

1 SCOPE OF WORK

SCOPE OF WORK INCLUDES all materials, labor, equipment and services to produce or be incorporated in such construction. Contract will be a general contract to furnish and install new controllers to replace the existing Honeywell X50's and install Honeywell XL's and furnish and install Jace 8000 to replace the existing R2 Jaces. This is required to allow for maintenance and the ability to communicate with Collin County's BAS network.

Payment for the contract work shall be made pursuant to the terms of the Contract Documents.

2 TIMELINE

Advertisement/Release Project Date:	September 9, 2025
Pre-Bid Meeting (Non-Mandatory):	September 23, 2025, 9:00am Administration Building Lobby (1st Floor), 2300 Bloomdale Road, McKinney TX 75071
Question and Substitution Request Submission Deadline:	October 2, 2025, 5:00pm
Bid Opening:	October 9, 2025, 2:00pm

3 PROBABLE CONSTRUCTION COST

The opinion of probable construction cost for this contract is three hundred forty-five thousand dollars (\$345,000.00)

4 BID INFORMATION

Collin County uses OpenGov Procurement 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.

Collin County prefers to receive all bids electronically through

<https://procurement.opengov.com/portal/collincountytx>, however the County will accept hard copy bids.

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. **Bids submitted via email, CD-ROM, or Flash Drive will not be accepted.** Bids may be submitted in electronic format via OpenGov located at <https://procurement.opengov.com/portal/collincountytx>

5 PRE-BID INFORMATION

A PRE-BID MEETING & SITE-WALK will be held by Collin County at Administration Building Lobby (1st Floor), 2300 Bloomdale Road, McKinney TX 75071, on **Tuesday, September 23, 2025 at 9:00 am** in order for bidders to ask questions regarding the proposed work. It is the bidder's responsibility to review the site and documents to gain a full understanding of the requirements of the bid.

6 BID SECURITY

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 OpenGov shall upload a Bid Bond at <https://procurement.opengov.com/portal/collincountytx>

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.**

7 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

Invitation For Bid #2025-266

Title: Building Automation System (BAS) Upgrades

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.

002113 Instructions to Bidders

1.01 RELATED DOCUMENTS

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

1.02 DEFINITIONS

1. All definitions set forth in the General Conditions of the Contract for Construction or in other Contract Documents are applicable to these Bidding Documents.
2. 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.
3. 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.
4. MD Engineering, LLP will be hereafter referred to in the Project Manual as “Engineer” and all correspondence shall be addressed to: Michael Smith, MD Engineering, LLP, 1255 W 15th Street, Suite 300 Plano, Texas 75075.
5. “George King” will be hereinafter referred to in this Project Manual as “Project Manager”.
6. “Collin County” will be hereafter referred to in this Project Manual as “Owner”.
7. 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.
8. 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.
9. 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.
10. 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.
11. A Bidder is a person or entity who submits a Bid.

12. 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.
13. 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.
14. 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

1.03 EXAMINATION OF DOCUMENTS AND SITE

1. Each bidder, by making his/her Bid, represents that he/she has read and understands the Bidding Documents.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.

1.04 BIDDING DOCUMENTS

1. 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.
2. 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.

1.05 BIDDING PROCEDURES

1. 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 of any exception including any additions or deductions to the bid/proposal prices offered please see "Exceptions" in Section 004513 Vendor Submissions. 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.
 - i. A single contract price for each bid item as detailed and described in these specifications.
 - ii. Acknowledgment of Addenda.
 - iii. Number of consecutive calendar days to complete project.
 - iv. Alternate bids.
 - v. Unit prices.
2. 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.
3. 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.
4. Bids shall not contain any recapitulation of the Work to be done.

5. 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.
6. Collin County is by statute exempt from the State Sales Tax and Federal Excise Tax; therefore, the prices submitted shall not include taxes.

1.06 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 the date specified in the solicitation. 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 OpenGov, by facsimile, E-mail transmission or mailed via the US Postal Service.

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. OpenGov Procurement at <https://procurement.opengov.com/portal/collincountytx>, 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.

1.07 SUBSTITUTIONS

1. Each bidder represents that his/her bid is based upon the materials and equipment described in the Bidding Documents.
2. No substitution will be considered unless written request has been submitted to the Engineer for approval by the date specified in the solicitation. Submit substitution request forms to halley@co.collin.tx.us.
3. If the Engineer and Owner approves a proposed substitution, such approval will be set forth in an Addendum.

1.08 QUALIFICATION OF BIDDERS

1. 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:
 - i. List of current projects.

- ii. List of projects completed within the past five years.
 - iii. Experience of key individuals of the organization.
 - iv. Trade and Bank references.
 - v. 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.
 - a. Financial Statement to include Balance Sheet and Income Statement
 - b. Must provide statements for two consecutive years, preferably most recent
 - c. Both years must be the same time periods, i.e. both January to December or both October to September. Partial years are not accepted
 - vi. A statement of cost for each major item of Work included in the Bid.
 - vii. A designation of the Work to be performed by the Bidder with his/her own forces.
 - viii. 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.
2. Bidders may be disqualified and their bids not considered for any of the following specific reasons:
- i. Reason for believing collusion exists among bidders.
 - ii. The bidder being interested in any litigation against Owner.
 - iii. The bidder being in arrears on any existing contract or having defaulted on a previous contract.
 - iv. Lack of competency as revealed by the financial statement, experience and equipment, questionnaires, or qualification statement.

- v. Uncompleted work which in the judgment of Owner will prevent or hinder the prompt completion of additional work if awarded.
3. Minimum Standards For Responsible Prospective Bidders: A prospective Bidder must meet the following minimum requirements. Collin County may request representation and other information sufficient to determine Bidder's ability to meet these minimum standards listed below.
- i. Have adequate financial resources, or the ability to obtain such resources as required;
 - ii. be able to comply with the required or proposed delivery/ completion schedule;
 - iii. have a satisfactory record of performance;
 - iv. have a satisfactory record of integrity and ethics; and
 - v. be otherwise qualified and eligible to receive an award.
4. In determining to whom to award the contract, the Owner may consider;
- i. the purchase price;
 - ii. the reputation of the bidder/contractor/vendor and of the bidder/contractor/vendor's goods or services;
 - iii. the quality of the bidder/contractor/vendor's goods or services;
 - iv. the extent to which the goods or services meet the Owner's needs;
 - v. the bidder/contractor/vendor's past relationship with the Owner;
 - vi. the total long-term cost to the Owner to acquire the bidder/contractor/vendor's goods or services; and
 - vii. any other relevant factors specifically listed in the Instruction to Bidders.

1.09 PREPARATION OF BID

1. 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.
2. Bidder shall bear any/all costs associated with its preparation of any bid, proposal or submittal.

3. 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.
4. The Bidder shall comply with Commissioners Court Order No. 2004-167-03-11, County Logo Policy.

1.10 BID SECURITY

1. 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 two (2) year Maintenance Bonds within ten (10) consecutive calendar days of Collin County Commissioners Court award of Contract.
2. 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.
3. 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.
4. Owner will have the right to retain the bid security of all bidders until either:
 - i. the Contract has been executed and the bonds have been furnished, or
 - ii. the specified time has elapsed so that bids may be withdrawn, or
 - iii. all bids have been rejected.

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

1. 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.
2. 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.
3. The Contractor shall post with Owner, not later than ten (10) consecutive calendar days of Collin County Commissioners Court award of Contract, a two (2) 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.
4. 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.
5. 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.

6. 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

1. 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.
2. No oral, telegraphic or telephonic submittals will be accepted. Bids, proposals, or submittals may be submitted in electronic format via Collin County OpenGov at <https://procurement.opengov.com/portal/collincountytx>.
3. All Bids, submittals or proposals submitted electronically via OpenGov Procurement at <https://procurement.opengov.com/portal/collincountytx> shall remain locked until official date and time of opening as stated in the Special Terms and Conditions of the IFB.
4. 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.
5. 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

1. 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

1. 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

1. 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

1. 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.
2. 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.
3. 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.
4. Evaluation of Alternatives: 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.
5. Owner anticipates award within ninety (90) consecutive calendar days after bid opening.
6. 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.
7. 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

1. 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

1. 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

1. 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

1. 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

1. Contractor shall submit Applications for Payment in accordance with the Contract, and payments shall be made in accordance with the Contract Documents.
2. 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.
3. 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

1. 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

1. 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

1. 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

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

1. 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.
2. Design, strength, quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practice.
3. All products must be new and unused, unless otherwise specified, in first-class condition and of current manufacture.

1.27 DRUG FREE

1. 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.

2. Substances and cut-off levels are as follows:

SUBSTANCE	MAXIMUM LEVEL
Amphetamines	1000 NG/ML
Barbiturates	300 NG/ML
Benzodiazepines	300 NG/ML
Cocaine Metabolite	300 NG/ML
Opiates	300 NG/ML
Phencyclidine (PCP)	25 NG/ML
THC (Marijuana) Metabolite	100 NG/ML
Methadone, Urinary	300 NG/ML
Methaqualone, Urine	300 NG/ML
Propoxyphene	300 NG/ML

1.28 INDEMNIFICATION

1. 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

1. 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.
2. 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

1. 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.
2. 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.

3. 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

Should the contractor fail to complete the project within the specified completion schedule the sum of one thousand dollars (\$1,000.00) 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:

1. completion of project;
2. acceptance of work ordered; or
3. 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.
4. breach of the contract by the Contractor for failure
 - i. to meet completion schedules, or
 - ii. 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

1. 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

1. 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

1. 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

1. 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

1. 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

1. 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

1. 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

1. TRENCH SAFETY
 - i. 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.

2. PAYMENT FOR TRENCH SAFETY

- i. 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.

3. PAYMENT FOR SPECIAL SHORING

- i. Payment for special shoring, if any, shall be based on the square feet of shoring used.
4. 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.
5. 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

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

2. 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

1. Contractor shall be responsible for obtaining all necessary permits.

1.43 MATERIALS TESTING

1. Owner will be responsible for all materials testing.

1.44 STORM WATER PROTECTION

1. The Contractor shall perform, track, participate, implement, and comply with storm water pollution prevention minimum control measures, protocols, and best management practices (BMP) and ensure that water quality standards are not violated in accordance with all regulations and policies as they apply to the Texas Pollutant Discharge Elimination System general permits. Applicable permits include:
1) Texas Construction General Permit (TXR150000).
2. Contractors will obtain permit coverage for construction activities disturbing over one acre of land (total acreage is cumulative across all portions of the project). BMPs include, but are not limited to:
 - i. Preparing and implementing a site-specific Storm Water Pollution Prevention Plan (SWPPP) as outlined in the permit and prior to any soil disturbance.
 - ii. Installing and managing erosion and sediment control.
 - iii. Make available, upon request, permit associated documentation.
 - iv. Practicing spill prevention and good housekeeping.
 - v. Meeting the requirements of the MS4 permit.
3. In addition to the requirements of the Construction General permit (TXR150000), the MS4 permits lists prohibited discharges which will be enforced at the County construction sites whether the operator is the County or a contractor. The following discharges are prohibited:
 - i. Wastewater from washout of concrete and wastewater from water well drilling operations, unless managed by an appropriate control;
 - ii. Wastewater from washout and cleanout of stucco, paint, from release oils, and other construction materials;
 - iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
 - iv. Soaps or solvents used in vehicle and equipment washing; and,

- v. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed by appropriate BMPs.

1.45 WAGE SCALE

1. 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.
2. Wage Determination: Building Construction, <https://sam.gov/wage-determination/TX20240239/1>
3. 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.
4. 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.
5. 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) 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.
6. 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.

1.46 CONTRACT ADMINISTRATOR

1. Collin County Purchasing Department shall serve as Contract Administrator or shall supervise agents designated by Collin County.

1.47 WARRANTIES

1. All warranties shall be stated as required in the Uniform Commercial Code.

1.48 UNIFORM COMMERCIAL CODE

1. The Contractor and Collin County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

1.49 ADVERTISEMENT OF CONTRACT

1. 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.

1.50 DIAGNOSTIC TOOLS

1. 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.

1.51 CRIMINAL HISTORY BACKGROUND CHECK

1. 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 Collin County Purchasing Department within five (5) working days.

1.52 IMMIGRATION AND REFORM ACT OF 1986

1. 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.

1.53 CERTIFICATION OF ELIGIBILITY

1. 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.

1.54 NOTICE TO CONTRACTORS (IF APPLICABLE)

1. The Collin County Detention Facility houses persons who have been charged with and/or convicted of serious criminal offenses. When entering the Detention Facility, you could:

- i. hear obscene or graphic language;
- ii. view partially clothed male inmates;
- iii. be subjected to verbal abuse or taunting;
- iv. risk physical altercations or physical contact, which could be minimal or possibly serious;
- v. be exposed to communicable or infectious diseases;
- vi. be temporarily detained or prevented from immediately leaving the Detention Facility in the case of an emergency or “lockdown; and
- vii. subjected to a search of your person or property.

While the Collin County Sheriff’s Office takes every reasonable precaution to protect the safety of visitors to the Detention Facility, because of the inherently dangerous nature of a Detention Facility and the type of the persons incarcerated therein, please be advised that the possibility of such situations exist and you should carefully consider such risks when entering the Detention Facility. By entering the Collin County Detention Facility, you acknowledge that you are aware of such potential risks and willingly and knowingly choose to enter the Collin County Detention Facility.

1.55 E-Verify

1. 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.

1.56 INSURANCE REQUIREMENTS

1. CONTRACTOR’S INSURANCE
 - i. 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.
 - ii. 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.

- iii. In addition to any coverage required by Texas Law, the CONTRACTOR shall provide the following coverages at not less than the specified amounts:
 - a. Workers Compensation insurance required by Texas Law at statutory limits, including employer's liability coverage of not less than \$1,000,000. In addition to these, the CONTRACTOR must comply with all the requirements of the Texas Department of Insurance, Division of Workers' Compensation; section 406.096(b); (Note: If you have questions concerning these requirements, you are instructed to contact the DWC.)
 - i. 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.
 - ii. 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.
 - b. 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 and its subcontractors 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:

- i. General Aggregate \$2,000,000
 - ii. Products — Components/Operations Aggregate \$2,000,000
 - iii. Personal and Advertising Injury \$ 1,000,000
 - iv. Each Occurrence \$ 2,000,000
 - v. Contractor's Pollution Liability \$1,000,000/\$3,000,000 (Occurrence Form)
 - vi. The policy shall include coverage extended to apply to completed operations, asbestos hazards (if this project involves work with asbestos) and XCU (explosion, collapse and underground) hazards. The completed operations coverage must be maintained for a minimum of one year after final completion and acceptance of the work, with evidence of same filed with OWNER.
- c. 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.
- d. OWNER'S PROTECTIVE LIABILITY INSURANCE
- i. 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.
- e. "UMBRELLA" LIABILITY INSURANCE
- i. 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.

f. RAILROAD PROTECTIVE INSURANCE

- i. 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.

g. BUILDER'S RISK

- i. CONTRACTOR shall obtain, pay for, and maintain builders risk insurance during the contract term, insuring CONTRACTOR for an amount of not less than the total contract amount.

iv. POLICY ENDORSEMENTS AND SPECIAL CONDITIONS

- a. Each insurance policy to be furnished by CONTRACTOR shall include the following conditions by endorsement to the policy:
 - i. each policy shall name the OWNER as an additional insured as to all applicable coverage
 - ii. 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;
 - iii. 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;
 - iv. the policy phrase "other insurance" shall not apply to the OWNER where the OWNER is an additional insured on the policy;
 - v. 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;
 - vi. each policy shall contain a waiver of subrogation in favor of OWNER, and its, past, present and future, officials, employees, and volunteers; and
 - vii. 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.
- b. Insurance furnished by the CONTRACTOR shall be in accordance with the following requirements:

- i. 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;
 - ii. all policies are to be written through companies duly licensed to transact that class of insurance in the State of Texas with a financial ratings of A+ VII or better as assigned by BEST Rating Company or equivalent; and
 - iii. 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.
- c. CONTRACTOR agrees to the following:
- i. 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;
 - ii. 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;
 - iii. 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
 - iv. No special payments shall be made for any insurance that the CONTRACTOR and subcontractors are required to carry; all are included in the Contract Price and the Contract unit prices. Any of such insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

1.57 BUSINESS WITH A FOREIGN ENTITY

1. 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.

1.58 FORCE MAJEURE

1. 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.

004113 Pricing Table

Line Items

2025-266 BUILDING AUTOMATION SYSTEM (BAS) UPGRADES

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total
1	Please provide the total cost for labor and materials combined for the work described. A single, all-inclusive amount should be entered.	1	lump-sum		
TOTAL					

004513 Vendor Submissions

1. OpenGov Notice*

Collin County exclusively uses OpenGov Procurement 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.

*Response required

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.

*Response required

3. Exceptions*

If you take any exceptions to the specifications, bid lines, sample contracts, other attachments, or any other part of this solicitation as written, you must submit the exception/s as a Question via the public portal before the Question Cutoff Date for County consideration. The County will review and publish a response via OpenGov. If you would like to offer any substitutions, please review the Instruction to Bidders Document 002113, Section 1.07 and submit by separate attachment. Please initial.

*Response required

4. Calendar Days Bid*

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

*Response required

5. Insurance Acknowledgement*

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.

*Response required

6. 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 OpenGov Procurement shall upload a Bid Bond at <https://procurement.opengov.com/portal/collincountytx>. 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.

*Response required

7. Bid Bond

Part 1 (Scanned and Upload)

Cashier's check, certified check, or bid bond payable to the order of the Collin County, TX, of not less **five percent (5%)** of the bid in said amount, payable to the Collin County, TX and signed by the bidder as well as a corporate surety, shall accompany the bid

Please scan and upload a copy of your bid bond/cashier's check.

or

Part 2 (Mail or Hand Deliver)

Bidder must also MAIL or hand deliver bid guarantee with a postmarked date no later than 2:00 pm on Thursday, October 9, 2025 addressed to:

Collin County Purchasing
2300 Bloomdale Suite 3160, **Ste. 3160**
McKinney, TX 75071

Please have the following listed clearly on the outside of the envelope:

1. Bidder Name,
2. Bid Bond" for Building Automation System (BAS) Upgrades
3. Contract Number 2025-266
4. Date/time of the bid opening
5. "DO NOT OPEN WITH REGULAR MAIL"

*****The Bid shall include the bid bond both uploaded into OpenGov Procurement and hard copy original mailed or hand delivered to the purchasing office no later than the close of business on the third working day after the bid opening, otherwise the bid will be deemed non-responsive.*****

8. 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.

*Response required

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".

*Response required

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.

*Response required

11. Reference No. 2*

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.

*Response required

12. Reference No. 3*

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.

*Response required

13. 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 or a state in which the nonresident is a resident manufacturer.(Texas Government Code, Title 10, Subtitle F., 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.

*Response required

14. 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.

*Response required

15. 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.

*Response required

16. Information Regarding Conflicts of Interest

During the 79th 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

84th 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: <https://www.ethics.state.tx.us/forms/conflict/>

The vendor acknowledges by doing business or seeking to do business with Collin County that they have been notified of the requirements under Chapter 176 of the Texas Local Government Code and that they are 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: <https://www.collincountytexas.gov/Contact/county-officials>

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:

Facilities Maintenance:

Ricky Thomas - Superintendent Facilities

Yoon Kim - County Administrator

Purchasing:

Michelle Charnoski, NIGP-CPP, CPPB – Purchasing Agent

Marci Chrismon, CPPB – Assistant Purchasing Agent

Hunter Alley, CPPB - 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

Engineer:

MD Engineering, LLP

1255 West 15th Street, Suite 300

Plano, TX 75075

Please complete and upload.

17. Confirmation of Conflict of Interest*

I have read the conflict of interest information above and will file the CIQ form if a conflict exists.

☐ Please confirm

*Response required

18. 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.

*Response required

19. 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.

*Response required

20. 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.

*Response required

21. 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?

- ☐ OpenGov Notification
- ☐ Plano Star Courier
- ☐ Plan Room
- ☐ Collin County Website
- ☐ Other

*Response required

22. 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.

*Response required

23. 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.

*Response required

24. 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.

*Response required

25. 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.

*Response required

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 _____, 20_____, 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 _____.

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 _____ 20_____.

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.

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 _____, 20____, 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 _____.

NOW, THEREFORE, THE 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 _____ 20____.

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.

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 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, 2004 edition and all subsequent addendums;
- H. The Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, as adopted by the Texas Department of Transportation on November 1, 2014, hereinafter referred to as the "Texas Standard Specifications";
- I. The Performance Bond in the sum of ONE HUNDRED PERCENT (100%) of the total Contract Price;
- J. The Payment Bond in the sum of ONE HUNDRED PERCENT (100%) of the total Contract Price; and,
- K. The Maintenance Bond in the sum of TEN PERCENT (10%) of the total Contract Price.

1.2.1 PRIORITY OF THE CONTRACT DOCUMENTS

These Contract Documents (A through K 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 supersedes 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 2025-266, Building Automation System (BAS) Upgrades**

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 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 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.

Most current Wage Scale from before close of bidding downloaded from SAM.Gov to be inserted here

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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 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.

3.6.4 STORM WATER PROTECTION

The Contractor shall perform, track, participate, implement, and comply with storm water pollution prevention minimum control measures, protocols, and best management practices (BMP) and ensure that water quality standards are not violated in accordance with all regulations and policies as they apply to the Texas Pollutant Discharge Elimination System general permits. Applicable permits include: 1) Texas Construction General Permit (TXR150000).

Contractors will obtain permit coverage for construction activities disturbing over one acre of land (total acreage is cumulative across all portions of the project). BMPs include, but are not limited to:

1. Preparing and implementing a site-specific Storm Water Pollution Prevention Plan (SWPPP) as outlined in the permit and prior to any soil disturbance.
2. Installing and managing erosion and sediment control.
3. Make available, upon request, permit associated documentation.
4. Practicing spill prevention and good housekeeping.
5. Meeting the requirements of the MS4 permit.

In addition to the requirements of the Construction General permit TXR150000, the MS4 permits lists prohibited discharges which will be enforced at the County construction sites whether the operator is the County or a contractor. The following discharges are prohibited:

1. Wastewater from washout of concrete and wastewater from water well drilling operations, unless managed by an appropriate control;
2. Wastewater from washout and cleanout of stucco, paint, from release oils, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
4. Soaps or solvents used in vehicle and equipment washing; and,
5. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed by appropriate BMPs.

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

****To be copied from Insurance Requirements under Section 002113 of solicitation including any Addenda****

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 20th 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:

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:

_____ (\$ _____)

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 EXTENSIONS 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 solely responsible for, the construction means and methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the Work or the Project.

6.4 CONSTRUCTION STAKES

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.

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 _____, _____.

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information 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.

**Request for Taxpayer
Identification Number and Certification**

Go to www.irs.gov/FormW9 for instructions and the latest information.

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

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See Specific Instructions on page 3.	1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)	
	2 Business name/disregarded entity name, if different from above.	
	3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only one of the following seven boxes. ☐ Individual/sole proprietor ☐ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate ☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner. ☐ Other (see instructions) _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any) _____ (Applies to accounts maintained outside the United States.)
	3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions ☐	
	5 Address (number, street, and apt. or suite no.). See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

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

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
				-				-			
or											
Employer identification number											
					-						

Part II Certification

Under penalties of perjury, I certify that:

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

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

Sign Here	Signature of U.S. person	Date
------------------	--------------------------	------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they



Collin County
Building Automation System Upgrade
for
Jack Hatchell Administration Building

May 15, 2025



MD ENGINEERING

MD Engineering, LLP Texas

Registered Engineering Firm F-7489

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END OF SECTION



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SECTION 23 05 00 – COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to the Work in this Section.

1.2 DESCRIPTION

- A. The General Requirements for Mechanical Work are intended to be complementary to the General Requirements of the Construction Contract.
- B. Work Included: Provide complete mechanical systems where shown on the drawings, as specified herein, and as needed for a complete and proper installation including, but not necessarily limited to the following summary of work:
 - 1. Furnish and install control devices as required and indicated on the plans
 - 2. Other items and services required to complete the systems.

1.3 GENERAL REQUIREMENTS

- A. Unless otherwise specified, materials are to be new and of current U.S. manufacture, free from defects and of the best quality of their respective kinds.
- B. Equipment and/or materials damaged in shipment or handling, or otherwise damaged before installation, shall be replaced with new equipment and/or materials. Damaged equipment and/or materials shall not be repaired at the jobsite.
- C. Furnishing of the proper equipment and/or materials and to see that it is installed as recommended by the manufacturer is entirely the responsibility of the Contractor. If required for proper installation, the Contractor shall obtain advice and supervisory assistance from a representative of the specific manufacturer of the equipment being installed.
- D. Materials and adhesives to conform to Federal Standard Flame-Spread Properties, Inc., with composite fire and smoke hazard ratings, maximum 25 for flame spread and 50 for smoke developed. Adhesives to be waterproof.
- E. The Contractor shall promptly notify the Architect in writing of any conflict between the requirements of the Contract Documents and the manufacturer's directions and shall obtain the Architect instructions before proceeding with the work. Should the Contractor perform any such work that does not comply with the manufacturer's directions or such instructions from the Architect, he shall bear all costs arising in connection with the deficiencies.

1.4 QUALITY ASSURANCE AND APPLICABLE STANDARDS

- A. Use adequate numbers of skilled workers that are thoroughly trained and experienced in the necessary crafts and are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Without prior approval from the engineer and owner, all mechanical equipment shall not be operated during construction of the building per manufacturer recommendations. The mechanical contractor shall be responsible to provide temporary heating or cooling as needed to climatize the building.
- C. Provide all equipment, materials, labor, supervision, and services necessary for or incidental to the installation of a complete and operating refrigeration and air handling system as indicated on the drawings and as specified.
- D. The Contractor shall be responsible for fitting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to avoid all obstructions, to conform to the details of the installation and thereby to provide an integrated satisfactory operating installation.

- E. Without additional cost to the Owner, provide such other labor and materials as are required to complete the work of this Section in accordance with the requirements of governmental agencies having jurisdiction, regardless of whether such materials and associated labor are called for elsewhere in these Contract Documents.
 - F. Codes: Perform all work in accordance with the latest edition of the following codes:
 - 1. State and city building, fire, plumbing and mechanical codes.
 - 2. International Fire Code
 - 3. International Mechanical Code
 - 4. International Plumbing Code
 - 5. International Electrical Code
 - 6. Energy Conservation Code
 - 7. National Fire Protection Association (NFPA)
 - 8. American with Disabilities Act (ADA)
 - 9. ICC/ANSI A117.1 Accessible and Useable Buildings and Facilities.
 - 10. All authorities having jurisdiction.
 - 11. Architectural code review drawing.
 - G. The Contractor shall comply in every respect with all requirements of National Fire Protection Association, local Fire Department regulations and utility company requirements. In no case does this relieve the Contractor of the responsibility of complying with these Specifications and Drawings where specified conditions are of higher quality than the requirements of the above-specified authorities. Where requirements of the Specifications and Drawings are more lenient than the requirements of the above authorities having jurisdiction, the Contractor shall make installations in compliance with the requirements of the above authorities with no extra compensation.
 - H. Where conflicts occur between drawings, specifications or code requirements, the most stringent requirement shall take precedence.
 - I. Standards: The specifications and standards of the following organizations are by reference made a part of these specifications. All work, unless otherwise indicated, shall comply with the requirements and recommendations wherever applicable:
 - 1. American National Standards Institute (ANSI).
 - 2. Air Conditioning and Refrigeration Institute (ARI).
 - 3. American Gas Association (AGA).
 - 4. American Society for Testing and Materials (ASTM).
 - 5. American Society of Mechanical Engineers (ASME).
 - 6. American Society of Refrigeration, Heating and Air Conditioning Engineers (ASHRAE).
 - 7. Electrical Testing Laboratories (ETL).
 - 8. National Bureau of Standards (NBS).
 - 9. National Electrical Manufacturer's Association (NEMA).
 - 10. National Fire Protection Association (NFPA).
 - 11. Sheet Metal and Air Conditioning National Association (SMACNA).
 - 12. Underwriters Laboratories, Inc. (UL).
 - J. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. ASME Boiler and Pressure Vessel Code: Section IX.
- 1.5 REQUIREMENTS OF REGULATORY AGENCIES
- A. The requirements and recommendations of the latest edition of the Occupational Safety and Health Administration (OSHA) Act are by reference made a part of these specifications. All work shall comply with the requirements and recommendations wherever applicable.
- 1.6 SUBMITTALS
- A. Comply with all submittal provisions of Division 1.

- B. Submit electronic copies of the submittal to the prime consultant (i.e. architect) in order to process and track the submittals properly in accordance submittal requirements. Submit all submittals and RFI's to the mechanical engineer electronically. Send to "mdengca@md-eng.com". Submittals shall be labeled by their project specification section or CSI specification section if not listed in project specifications
- C. Product Data: Submit the following:
 - 1. Materials list of items proposed to be provided under Division 23.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements. The term "Compliance" is understood to mean that the Contractor certifies that the submitted equipment will meet or exceed the contract document requirements. Items that do not clearly meet this definition should be identified and explained as required in the following paragraph.
 - 3. Identify the difference between the specified item or function and the proposed. Explain with enough detail so that the Engineer/Owner can easily determine that the item complies with the functional intent. List any disadvantages or advantages of the proposed item versus the specified item. Submit technical data sheets and/or pictures and diagrams to support and clarify. Organize in a clear and concise format. All substitutions shall be approved in writing by Architect. The Architect's decision shall be final.
 - 4. Allow a minimum of ten (10) working days for the review of submittals and each re-submittal.
 - 5. Submittals that have been reviewed and marked as REJECTED (REJ) or MAKE CORRECTIONS NOTED (MCN) should be resubmitted within 10 days to be reviewed again by engineer.
 - 6. Compliance with the Contract documents shall be the sole responsibility of the Contractor. Items on equipment that are were not accepted by the Architect in writing as an approved equal shall be replaced or revised to comply with the contract documents at the Contractor's expense.
 - 7. Manufacturer's recommended installation procedures which, when reviewed by the Architect, shall become the basis for accepting or rejecting actual installation procedures used on the work.
 - 8. Sign the submittal as an indication of compliance with the contract documents. Any deviations from the contract documents shall be indicated on the submittal prior to signing. Any deviations not indicated shall be cause for rejection and removal of the non-complying equipment at the Contractor's expense.
- D. Submittals required of materials and equipment under this section include the following:
 - 1. Controls:
 - a. Brief description of control contractor's experience.
 - b. Submittals as outlined in 23 0900
 - 2. Record Documents: Reference the requirements detailed in this section.
 - 3. Operation and Maintenance Data: Reference the requirements detailed in this section.
- E. Resubmission of rejected submittals shall be limited to one (1) in number. Costs for processing subsequent resubmittals in excess of the first resubmittal, resulting from the Contractor's disregard of Architect/Engineer's primary submittal rejection comments, shall be borne by the Contractor. Costs shall be based on Architect/Engineer's hourly rates as published in their current professional fee schedules and shall also include reimbursable costs for delivery, mailing, and photocopies at direct cost plus ten percent (10%).

1.7 SUBSTITUTIONS

- A. Comply with all provisions of Division 1.
- B. The use of manufacturers' names and catalog numbers followed by the phrase "or equal" is generally used to establish a standard of quality and utility for the specified items and to provide a dimensional reference for construction documents that are drawn to scale.
- C. Submittals for "equal" items shall, where applicable, include the following data that are not necessarily required for specified items:

1. Performance characteristics.
 2. Materials.
 3. Finish.
 4. Certification of conformance with specified codes and standards.
 5. Manufacturer's specifications and other data needed to prove compliance with the specified requirements. The term "Compliance" is understood to mean that the Contractor certifies that the submitted equipment will meet or exceed the contract document requirements. Items that do not clearly meet this definition should be identified and explained as required in Paragraph 6 below.
 6. Identify the difference between the specified item or function and the proposed. Explain with enough detail so that the Architect/ Engineer/Owner can easily determine that the item complies with the functional intent. List any disadvantages or advantages of the proposed item versus the specified item. Submit technical data sheets and/or pictures and diagrams to support and clarify. Include shop drawings for all piping and ductwork equipment per Paragraph 1.5 Submittals. Organize in a clear and concise format
- D. Submittals of "equal" components or systems may be rejected if:
1. The material or equipment would necessitate the alteration of any portion of the mechanical, electrical, architectural or structural design.
 2. Dimensions vary from the specified material or equipment in such a manner that accessibility or clearances are impaired or the work of other trades is adversely affected.
- E. Proposed substitutions for materials or equipment must be submitted seven (7) days prior to final bid date for consideration as approved equals. Otherwise, such substitutions will not be permitted. Proposals for substitutions shall be made only by the prime bidders. Manufacturers, distributors, and sub-contractors shall not make proposals to the Architect for substitutions.
- F. All equipment installed on this project shall have local representation, local factory authorized service, and a local stock of repair parts
- G. No substitution shall be made unless authorized in writing by the Architect. Should a substitution be accepted, and should the substitute material prove defective or otherwise unsatisfactory for the service intended, and within the guarantee period, the Contractor shall replace this material or equipment with material or equipment specified, at his own expense, and to the satisfaction of the Architect.
- H. Contractors submitting bids on substitute materials and equipment must also provide a written performance guarantee certifying that the substitute materials and equipment will produce the specified effects and meet the approval of the Architect.
- 1.8 ORDINANCES, PERMITS, METERS, UTILITIES AND ROYALTIES
- A. Procure all permits and licenses necessary for completion of this project and pay all lawful fees required and necessary pursuant in obtaining said permits and licenses. All required certificates of approvals and inspections by local governing and regulating authorities shall be obtained and paid for by the Contractor.
- B. Pay any royalty payments required or fees for the use of patented equipment or systems. Defend all law suits or claims for infringement of any patent rights and shall hold the Owner and/or Architect/Engineer harmless from loss as a result of said suits or claims.
- 1.9 COMPATIBILITY OF EQUIPMENT
- A. Assume full responsibility for satisfactory operation of all component parts of the mechanical systems to assure compatibility of all equipment and performance of the integrated systems in accordance with the requirements of the specifications. Should the Contractor consider any part of the specifications or drawings as rendering his acceptance of such responsibility impossible, prohibitive, or restrictive, he shall notify the Engineer before submitting his bid, and the bid shall be accompanied by a written statement of any objections or exceptions to the specifications and drawings.

- B. All equipment shall be installed in a manner to permit access to all surfaces. All valves, motors, drives, filters, and other accessory items shall be installed in a position to allow removal for service without disassembly of another part.

1.10 CONSTRUCTION REQUIREMENTS

- A. The drawings show the arrangements of work. Should project conditions necessitate rearrangement, or if the materials or equipment can be installed to a better advantage in a different manner, the Contractor shall, before proceeding with the work, prepare and submit five copies of Drawings of the proposed arrangement for the Architect's review. Allow a minimum of ten (10) working days for review.
- B. Should the Contractor propose to install equipment requiring space conditions other than those shown, or rearrange the equipment, he shall assume responsibility for the rearrangement of the space and shall have the Architect review the change before proceeding with the work. The request for such changes shall be accompanied by shop drawings of the space in question. Identify monetary credits proposed or other benefits of the change. Allow a minimum of ten (10) working days for review.
- C. The Contractor shall be responsible for the proper location and size of all slots, holes or openings in the building structure pertaining to his work and for the correct location of pipe sleeves.

1.11 PROJECT RECORD DOCUMENTS

- A. Provide the record documents associated with the work of Division 23 in strict accordance with the provisions of these specifications.
- B. Throughout progress of the Division 23 Work, maintain an accurate record of changes in the Contract Documents that apply to work of Division 23. Changes shall include all addendums issued during bidding. Maintain an accurate record of the location of mechanical service lines and outlets and all outside utilities.
- C. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Architect.
- D. Accuracy of Records
 - 1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of drawings and other documents where such entry is required to show the change properly. Match the symbology and format of the base documents.
 - 2. Accuracy of records shall be such that a future verification of items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.
- E. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the work and transfer of all recorded data to the final Project Record Documents.
- F. Making Entries on Drawings
 - 1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
 - 2. Date all entries.
 - 3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
 - 4. In the event of overlapping changes, use different colors for the overlapping changes.
 - 5. Make entries within 24 hours after receipt of information that the change has occurred.
 - 6. Maintain the base drawing format and use the same symbology.
 - 7. Convert field mark-ups to finished CADD record drawings when required in this section.

G. Conversion of Schematic Layouts

1. In some cases on the drawings, arrangements of ductwork and piping and similar items are shown schematically and are not intended to portray precise physical layout. Determine final physical arrangement subject to the Architect's approval. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the drawings.
2. Show on the job set of record drawings, by dimension accurate to within one inch, the centerline of each run of items such as all sleeves and piping, etc., below grade, in walls, or in the concrete slab. A surface mounted device indicates the exact location:
 - a. Clearly identify the item by accurate note such as "Sanitary Sewer" and the like.
 - b. Show, by symbol or note, the vertical location of the item "under slab," "in ceiling plenum," "exposed," and the like.
 - c. Make all identification sufficiently descriptive that it may be related reliably to the specifications.

H. Final Project Record Documents

1. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.
2. Provide CAD electronic files in .dwg format using AutoCAD software. Upon written request, completion of a release form, Engineer will email AutoCAD electronic files of base Contract Drawings in dwg format. Engineer will also provide a list of drawing layers and names that shall be maintained.
3. Provide completed record drawings on USB drive and one full size hard copy of each drawing.
4. Refer to Division 1 for additional requirements.

1.12 OPERATION AND MAINTENANCE DATA

- A. Submit two copies of a preliminary draft of the proposed manual or manuals to the Architect for review and comments. Allow a minimum of ten (10) working days for review.
- B. Submit specified number copies of the approved manual to the Architect prior to indoctrination of operation and maintenance personnel.
- C. Prepare in accordance with the following standards:

Format:

Size: 8½" x 11"

Paper: White bond, at least 20 lb. weight

Text: Neatly written or printed

Drawings: 11" in height preferable; bind in with text; foldout acceptable; larger drawings acceptable but fold to fit within the Manual and provide a drawing pocket inside rear cover or bind in with text.

Flysheets: Separate each section of the Manual with neatly prepared flysheets briefly describing contents of the ensuing section; flysheets may be in color.

Binding: Use heavy-duty plastic or fiber-board covers with binding mechanism concealed inside the manual; 3-ring binders will be acceptable; all binding is subject to the Architect's approval.

Measurements: Provide all measurements in U.S. standard units such as feet-and-inches, lbs, and cfm. Where items may be expected to be measured within ten years in accordance with metric formulae, provide additional measurements in the "International System of Units" (SI).

- D. Provide front and back covers for each manual, using durable material approved by the Architect, and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

- Title Page
 - Job Name
 - Site Address
 - Include Contact information of prime contractor.
- Table of contents
- Warranty Information.
 - Include all contractor warranties
 - Signed and dated documents
- Permits-Inspections
- Subcontractor list
 - Include all subcontractors.
 - Company name, Contact info.
 - Trade Responsibility.
- Vendor list
 - Include name and addresses of vendors
 - Warranty information
 - Replaceable parts
- Approved submittals
 - Include all approved product submittals
- Reports/Certificates/Redlines
 - Engineers Observation Reports
 - Contractor Start-up Report
 - Manufacturer Start-up Report
 - Owners Training Report (All Trades)
- O&M Manuals
- Equipment Information.
 - Include Model, Serial and location.
- Signed Approval
 - Page for approval signature of the engineer and approval date.

OPERATING AND MAINTENANCE MANUAL (Required Layout)

- E. Contents: Include at least the following:
1. Neatly typewritten index near the front of the manual, giving immediate information as to location within the manual of all emergency information regarding the installation.

2. Complete instructions regarding operation and maintenance of all equipment provided including disassembly, and reassembly.
3. Complete nomenclature of all parts of all equipment.
4. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
5. Copy of all guarantees and warranties issued.
6. Manufacturer's bulletins, drawings, and descriptive data, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
7. Such other data as required in other sections of these specifications.

1.13 WARRANTY

- A. Contractor shall warranty all equipment and workmanship for a period of one year after date of substantial completion and replace or repair any faulty equipment or installation at no cost to the Owner for such service during this period, all in accordance with requirements of Division 1.
- B. This warranty shall not void specific warranties issued by manufacturers for greater periods of time. Nor shall it void any rights guaranteed to the Owner by law.
- C. Warranties shall be in writing in a form satisfactory to the Owner, and shall be delivered to the Owner before final payment is made.
- D. Upon completion of the work of Division 23, thoroughly clean all exposed portions of the mechanical installation, removing all traces of soil, labels, grease, oil and other foreign material and using only the type cleaner recommended by the manufacturer of the item being cleaned.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 TESTING AND INSPECTION

- A. Provide personnel and equipment, make required tests, and secure required approvals from the Architect and governmental agencies having jurisdiction.
- B. Make written notice to the Architect adequately in advance of each of the following stages of construction:
 1. When all rough-in is complete, but not covered.
 2. As specified in all Division 23 sections.
 3. At the completion of the work of Division 23.
- C. When material or workmanship is found to not comply with the specified requirements, remove the noncomplying items from the job site and replace them with items complying with the specified requirements at no additional cost to the Owner. This shall be performed within 3 days after receipt of written notice of noncompliance.

3.2 JOBSITE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Include required work to correct conditions detrimental to the timely and proper completion of all Division 23 Work. Do not proceed until unsatisfactory conditions are corrected.
- B. The Contractor shall at all times take such precautions as may be necessary to properly protect all materials and equipment from damage from the time of delivery until the completion of the work. Failure on the part of the Contractor to comply with the above will be sufficient cause for the rejection of the items in question.
- C. Equipment and materials shall be protected from rust both before and after installation. Any equipment or materials found in a rusty condition at the time of final inspection must be cleaned of rust and repainted as specified elsewhere in these Specifications.

3.3 STORAGE AND PROTECTION

- A. Contractor shall provide the required protection of equipment and materials from the time of delivery until the completion of the Work. Protect from damage, rust, rain, humidity and dust.
- B. Do not receive equipment or materials on the jobsite until adequate space has been provided for storage.
- C. Provide adequate supports for protection from the ground and erect required shelters for items stored in the open.
- D. Items stored within the building are to be adequately protected and covered with tarpaulins or other protective covering.
- E. Protect the building at all times during construction from damage by workmen, their tools and/or equipment. Protect floors, steps, wall, ceilings, doors, windows and other finish surfaces.
- F. Equipment and materials found in a rusty condition at completion of the work will be thoroughly cleaned of rust and refinished as required to its original condition.

3.4 PREPARATION AND COORDINATION

- A. Perform coordination work in strict accordance with provisions of these specifications and the following:
 - 1. Coordinate as necessary with other trades to assure proper and adequate interface with all work.
 - 2. Where pipes or other HVAC items are shown in conflict with locations of structural members and other equipment, include labor and materials required for extensions, offsets and supports to clear the encroachment.
 - 3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation of the HVAC system.
 - 4. Coordinate accepted equipment changes from those scheduled or specified with other trades affected. Additional compensation to other trades for equipment changes is the responsibility of the Contractor making the change.
- B. The Drawings are necessarily diagrammatic by their nature, and are not intended to show every connection in detail or every pipe or conduit in its exact location. These details are subject to the requirements of standards referenced elsewhere in these specifications, and structural and architectural conditions. The Contractor shall carefully investigate structural and finish conditions and shall coordinate the separate trades in order to avoid interference between the various phases of work. Work shall be organized and laid out so that it will be concealed in furred chases and suspended ceilings, etc., in finished portions of the building, unless specifically noted to be exposed. All exposed work shall be installed parallel or perpendicular to the lines of the building unless otherwise noted.
- C. Where items such as diffusers, thermostats, switches, and control panels are not specifically located on the Drawings, locate as determined in the field by the Architect. Where such items are installed without such specific direction, relocate as directed by the Architect and at no additional cost to the Owner.
- D. Verify all dimensions and distances. No additional compensation will be allowed because of differences between work shown on the Drawings and actual dimensions and distances at the jobsite.

3.5 PAINTING

- A. All equipment shall be delivered to the job with suitable factory finish. Should the finish be damaged in transit or during the installation, it shall be finished to match appearance of original finish. All work shall be subject to approval by Architect.

- B. All equipment, piping, conduit, insulation, etc., furnished and installed in exposed areas under Divisions 23 of these Specifications and as hereinafter specified shall be cleaned, prepared, and painted according to the following specification. In the event of a conflict between the specifications referenced, the provisions of this specification shall prevail only for Division 23 work.
- C. Before painting, materials and equipment surfaces shall be thoroughly cleaned of cement, plaster, and other foreign materials, and all oil and grease spots shall be removed. Such surfaces shall be carefully wiped and all cracks and corners scraped out. Exposed metal work shall be carefully brushed down with the steel brushes to remove rust and other spots and left smooth and clean.

3.6 TRAINING

- A. Contractors are responsible to provide owner with an adequate amount of training to be able to operate any system installed.
 - 1. This includes training for HVAC control system.
 - 2. Provide a sign in sheet that is to be added to the O&M manual
 - a. Owners & all building maintenance personal are required to have training.

END OF SECTION

SECTION 23 09 00 – INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to the Work in this Section.

1.2 SUMMARY

- A. This Section includes control equipment for HVAC systems, components and other systems shown to be controlled by the Building Automation System (BAS), including, but not limited to, all computer software and hardware, controllers, sensors, transmission equipment, local panels, installation, engineering, supervision, commissioning, acceptance testing, training and warranty service necessary for a complete and working system.
- B. The Contractor shall furnish and install the controls including all necessary hardware and all operating and applications software necessary to perform the control sequences of operation as specified in Division 23 Section "Sequence of Operations for HVAC Controls". The controls contractor shall coordinate all work with the stand-alone controls provided with the equipment being controlled.
- C. The intent is that all facility operations new or existing would be stand-alone.
- D. All components of the system – local controllers, unitary controllers, etc. shall communicate using the BACnet protocol, as defined by the most current edition of ASHRAE Standard 135 and as specified herein or equal. Proprietary communications shall not be acceptable.
- E. OPEN NIC STATEMENTS - All Niagara 4 software licenses shall have the following NiCS: "accept.station.in=*"; "accept.station.out=*"and "accept.wb.in=*"and "accept.wb.out=*". In any case, the end user shall maintain the right to instruct the contractor to modify any software license, regardless of supplier, as desired by the end user. The contractor shall not install any "brand-specific" software, applications, or utilities on Niagara Framework-based devices. All hardware and field-level devices installed shall not be limited in their ability to communicate with a specific brand of Niagara Framework JACE. They shall also be constructed in a modular fashion to permit the next generation and support components to be installed, in replacement of or in parallel with existing components. All controllers must be able to be programmed within the Niagara Workbench. At the completion of the project, the owner shall be given all existing platform and station login credentials to include; super user (admin) user names; passwords and passphrases.
- F. The BAS contractor shall review and study all drawings and the entire specification to become familiar with the equipment and system operation and to verify the quantities and types of controllers and devices to be provided.
- G. All interlock, control and power wiring and installation of control devices associated with the equipment described in this specification, and sequence of operations, shall be provided under this Contract.
- H. The integration of the controls into the Owners software will be handled by the County's integrator.
- I. Provide services and manpower necessary for commissioning of system in coordination with the Owner's Representative and Owner's Integrator.
- J. All work performed under this section of the specifications will comply with all codes, laws and governing bodies. If the drawings and/or specifications are in conflict with governing codes, the Contractor shall submit a proposal with appropriate modifications to the project to meet code restrictions. If this specification and associated drawings exceed governing code requirements, the specification will govern. The Controls Contractor shall obtain and pay for all necessary construction permits and licenses associated with this scope of work.

1.3 QUALITY ASSURANCE

- A. Building Automation System (BAS) shall be manufactured, tested and installed in accordance with the following standards:
 - 1. National Electrical Manufacturers Association (NEMA).
 - 2. Underwriters Laboratories (UL).
 - 3. BACnet Testing Laboratories (BTL).
 - 4. National Fire Protection Association (NFPA).
- B. BAS System Supplier:
 - 1. A firm having 5 years of successful installation, configuration and integration experience with projects utilizing equipment similar in type and scope to that required for this Project.
 - 2. Certified for configuration of building management systems of Section 23 09 00 - Instrumentation and Control for HVAC Direct Digital Control System for HVAC by the manufacturer's representative.
 - 3. Provide specified products of types and sized required from manufacturers whose products have been in satisfactory use in similar service for a minimum of 8 years.
 - 4. Be the system supplier for Section 23 09 00 - Instrumentation and Control for HVAC Direct Digital Control System for HVAC.
- C. Installer Qualifications: Automatic control system manufacturer's authorized representative who is trained and approved for installation of system components required for this Project.
- D. Upon completion of the installation, the Contractor shall thoroughly inspect, check, adjust, calibrate, and make ready for use all devices/sensors comprising the control system and certify that they are installed in accordance with "Record" Drawings.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- F. Data Communications Protocol: Certify that each proposed Controls system component complies with ASHRAE Standard 135 for each protocol.
- G. Controls system component testing: Comply with ASHRAE 135.1 and all addenda for all controllers.
- H. All controllers used to control or monitor equipment and/or field devices shall be tested, compliant with and carry the mark of the BACnet Testing Laboratories (BTL):
 - 1. Building Controllers.
 - 2. Advanced Application Controllers.
 - 3. Application Specific Controllers.
- I. Quality Management Program
 - 1. Designate a competent and experienced employee to provide BAS Project Management. The designated Project Manager shall be full time on this project and be empowered to make financial, technical, scheduling and related decisions on behalf of the BMS Contractor. At minimum, the Project Manager shall:
 - a. Serve as the point of contact for the Construction Team.
 - b. Manage the scheduling of the work to ensure that adequate materials, labor and other resources are available when needed.
 - c. Lead and be involved in the coordination efforts with other trades.
 - d. Be responsible for the work and actions of the BAS workforce on site.
- J. As evidence and assurance of the Contractor's ability to support the project's Commissioning efforts, the Contractor must have successfully completed three commissioned projects totaling at least the value of this contract, as a minimum.

1.4 SUBMITTALS

- A. Provide submittals as required in Section 23 00 10, "Submittal Process".

- B. Product Data: For all products listed in Part 2 below provide detailed manufacturer product data, technical literature indicating dimensions, finishes, material, weights, performance characteristics, electrical characteristics, capacities, loads, required clearances, method of field assembly, components, and location and size of each field connection. Include manufacturer's technical literature for each control device. Indicate finishes for materials, and installation and startup instructions for each type of product indicated.
 - 1. Control System Software: Include technical data for operating system software, operator interface, color graphics, and other third-party applications including all software licensing agreements.
 - 2. Controlled Systems: Instrumentation list with element name, type of device, manufacturer, model number, and product data. Include written description of sequence of operation including schematic control diagram.
- C. Shop Drawings:
 - 1. Bill of materials of equipment indicating quantity, manufacturer, and model number.
 - 2. Wiring Diagrams: Power, signal, and control wiring.
 - 3. Conductor numbering or color code schedules.
 - 4. Details of control panel faces, including controls, instruments, and labeling.
 - 5. Schedule of identification labels for controllers and devices.
 - 6. Controlled Systems:
 - a. Schematic diagrams of each controlled system with control points labeled and control elements graphically shown, with wiring.
 - b. Scaled drawings showing mounting, routing, and wiring of elements including bases and special construction.
 - c. Written description of sequence of operation including schematic diagram.
 - d. Points list.
 - 7. Submit hard and soft copies in file format compatible with AutoCAD 2012.
- D. Data Communications Protocol Certificates: Certify that each proposed control system component complies with ASHRAE Standard 135 for each protocol.
- E. Software and Firmware Operational Documentation: Include the following:
 - 1. Software operating and upgrade manuals.
 - 2. Program Software Backup required to reinstall and configure system in the event of a catastrophic failure: On CD, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.
 - 5. Software license required by and installed for operator workstations and control systems.
- F. Software Upgrade Kit: For Owner to use in modifying software to suit future systems revisions or monitoring and control revisions.
- G. Field quality-control test report forms.
- H. Contract Closeout Documentation:
 - 1. Operation and Maintenance Data: Include emergency, operation, and maintenance manuals.
 - a. Maintenance instructions and lists of spare parts for each type of control device.
 - b. Interconnection wiring diagrams with identified and numbered system components and devices.
 - c. Keyboard illustrations and step-by-step procedures indexed for each operator function.
 - d. Inspection period, cleaning methods, cleaning materials recommended, and calibration tolerances.
 - e. Calibration records and list of set points.
 - 2. Training provided by BAS installer.

1.5 WARRANTY

- A. Controls Contractor shall guarantee all system components and installations to be free from defects for one (1) year from the date of acceptance as determined by the Owner. Any defects found during this period shall be repaired and/or replaced at no cost to the Owner. The Controls Contractor shall provide maximum of 24-hour response time for trouble calls or maintenance.
- B. Controls Contractor shall provide all corrective software modifications or updates available from the software manufacturer during warranty service periods. All user documentation shall be updated on user and manufacturer backup software disks.

1.6 SPECIAL TOOLS AND SPARE PARTS

- A. Contractor will provide a recommended spare parts list with the following information.
 - 1. Contact Information: Closest parts stocking location to the Owner.
 - 2. Identify Critical Spare Parts: Parts being associated with long lead times and/or those critical to system operation.
 - 3. Maintenance Spares: Identified as being parts required to regularly perform scheduled maintenance on furnished equipment. Spares include, but not limited to, consumable spares required to be exchanged during scheduled maintenance periods.
- B. Spare Parts: Provided for each type and size of unit installed.
 - 1. Provide minimum spare parts recommended by manufacturers.
 - 2. Provide 1 set of each type of power and control fuse installed within equipment.
 - 3. Properly marked and packaged for long term storage.
 - 4. Printed circuit boards: Provided in separate anti-static containers.
- C. Special Tools: Specific tools, not normally found in an electrician's toolbox, required to remove, and install spare parts must be furnished.
- D. Provide PC-based computer configuration software, or mobile device App tool, and a minimum of one communication interface cable for each type of cable required to connect the computer/device to devices specified for configuration and programming.
- E. Provide Cloud-based SAAS configuration software and Cloud based Engineering platform required to connect and design devices specified for configuration and programming.
- F. Electronic configuration files, in a media format acceptable by the Owner (e.g. CD, USB stick, etc.), updated to an as-installed and commissioned state.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design – Honeywell Controls
- B. Installers shall be factory authorized for installation of Honeywell Controls

2.2 MANAGEMENT LEVEL CONTROLLERS

- A. Basis of Design: Honeywell JACE 8000 Controller: Compact, embedded Niagara Framework based controller and server platform. Connects multiple diverse devices and sub-systems. Requires additional core software and service maintenance licenses.
 - 1. Model JACE-8000-US: Unlicensed controller, 2 RS-485 ports, 2 10/100 MB Ethernet ports, USB backup and restore, Wi-Fi connectivity (US).
 - 2. Model JACE-8000-WW: Unlicensed controller, 2 RS-485 ports, 2 10/100 MB Ethernet ports, USB backup and restore, Wi-Fi connectivity (configurable Wi-Fi country code for worldwide use).
 - 3. Internet connectivity and web-serving capability.
 - 4. Integrated control, supervision, data logging, alarming, scheduling, and network management.
 - 5. Stream data and rich graphical displays to web browsers via ethernet or wireless LAN, or over the internet.

6. Licensing Model: Standard drivers with optional IO and field bus expansion modules for flexibility and expandability.
7. Optimized for the Niagara 4 platform. In large and multi-building applications, use Niagara 4 Supervisors with JACE 8000 controllers to aggregate information, including alarms and data: historical and real-time, creating a single, unified application.
8. Standards Compliance and Certifications:
 - a. UL 916.
 - b. CE EN 61326-1.
 - c. RCM.
 - d. FCC Part 15 Subpart B, Class B.
 - e. FCC Part 15 Subpart C.
 - f. C-UL listed to Canadian Standards Association (CSA) C22.2 No. 205-M1983.
 - g. "Signal Equipment:"
 - 1) 1999/5/EC R&TTE Directive.
 - 2) CCC.
 - 3) SRRC.
 - 4) RSS.
 - 5) RoHS.
9. Environmental:
 - a. Operating temperature: Minus 4 to 140 degrees F (Minus 20 to 60 degrees C).
 - b. Storage temperature: Minus 40 to 185 degrees F (Minus 40 to 85 degrees C).
 - c. Humidity: 5 to 95 percent, non-condensing.
 - d. Shipping and vibration: ASTM D4169, Assurance Level II.
 - e. MTTF: 10 plus years.
10. Technical Specifications:
 - a. TI AM3352: 1000 MHz Arm Cortex-A8 1GB DDR3 SDRAM.
 - b. Removable micro-SD card with 4GB flash total storage/2GB user storage.
 - c. Wi-Fi (Client or WAP).
 - 1) IEEE802.11a/b/g/n.
 - 2) IEEE802.11n HT20 at 2.4GHz.
 - 3) IEEE802.11n HT20/HT40 at 5GHz.
11. Configurable radio (Off, WAP, or Client) WPAPSK/WPA2PSK supported.
 - a. USB Type A Connector: Back-up and restore support.
 - b. Two isolated RS-485 with selectable bias and termination.
 - c. Two 10/100MB Ethernet ports.
 - d. Secure boot.
 - e. Supply Requirements: 24 VAC rated at 24 VA minimum, or 24 VDC rated at 1A.
 - f. Power: 24 W minimum.
 - g. Runs NiagaraA: 3.8u1 and later.
 - h. Runs Niagara 4: 4.1 and later.
 - i. Niagara Analytics 1.1 requires NiagaraAX 3.8u1 or later update builds.
 - j. Niagara Analytics 2.0 requires Niagara 4.2 and later.
 - k. Real-time clock.
 - l. No battery.

2.3 PROGRAMMABLE FIELD EQUIPMENT CONTROLLER (FEC)

- A. Description: BACnet programmable VAV/Unitary controller
- B. Basis of Design: Honeywell Spyder.
- C. The FEC controllers are BACnet MS/TP network devices designed to control HVAC equipment. Each FEC controller is programmable and configurable through software.

- D. The FEC BACnet controllers shall have the BACnet Programmable Feature to be licensed in the WEBpro workbench tool and the WEBS AX JACE Controller for programming and downloading
- E. The FEC shall include an integral real-time clock and support time-based tasks which enables these field controllers to monitor and control:
 - 1. Schedules
 - 2. Calendars
 - 3. Alarms
 - 4. Trends
- F. The FEC can operate as a stand-alone controller in applications that do not require a networked supervisory device or for network applications where it is preferred to have the scheduling, alarming, and/or trending performed locally in the field controllers.

2.4 ELECTRONIC SENSORS

- A. Description: Vibration and corrosion resistant; for wall, immersion, or duct mounting as required.
- B. Thermistor, Temperature Sensors and Transmitters:
 - 1. Sensor Types: Provide one of the following:
 - a. 100 ohm (+/-0.12%) platinum resistance temperature detectors having a coefficient of resistivity of 0.00385 ohms/ohm/°C. Provide RTD temperature transducers with of 4-20 mA output signal variations of less than 0.2% of full scale output for supply voltage variations +/-10% and integral and accessible zero and span adjustment.
 - b. 10,000 ohm thermistor having an accuracy of .5°F at calibration point of 75°F may be used for room temperature only.
 - 2. Accuracy: Plus or minus 0.5°F (0.3°C) at calibration point.
 - 3. Wire: Twisted, shielded-pair cable.
 - 4. Insertion Elements: Single point in center of duct or coil face area, use where not affected by temperature stratification or where airflow cross sectional area is smaller than 9 sq. ft.
 - 5. Averaging Elements: Twice the diagonal length of coil or duct. Use where prone to temperature stratification or where airflow cross sectional area is larger than 10 sq. ft.
 - 6. Insertion Elements for Liquids: Brass or stainless-steel socket with minimum insertion length of 2-1/2 inches or 75% of pipe inside diameter, whichever is less.
 - 7. Room Thermostats: Off-white enclosure capable of being mounted on a standard single gang electrical back box. Provide each with:
 - a. Local display of current space temperature.
 - b. Local setpoint adjustment (+/- 5 deg F) and temporary override button, both of which can be overridden by BAS at OWS.
 - c. RJ45 connection for connection to PDU.
 - 8. Outside-Air Sensors: Watertight inlet fitting, shielded from direct sunlight.
- C. RTDs and Transmitters:
 - 1. Accuracy: Plus or minus 0.2 percent at calibration point.
 - 2. Wire: Twisted, shielded-pair cable.
 - 3. Insertion Elements in Ducts: Single point; use where not affected by temperature stratification or where ducts are smaller than 9 sq. ft.
 - 4. Averaging Elements in Ducts: Use where prone to temperature stratification or where ducts are larger than 9 sq. ft; length as required.
 - 5. Insertion Elements for Liquids: Brass socket with minimum insertion length of 2-1/2 inches.
 - 6. Room Sensor Cover Construction: Off-white enclosure capable of being mounted on a standard single gang electrical back box.

- D. Pressure Transmitters/Transducers:
 - 1. Static-Pressure Transmitter: Non-directional sensor with suitable range for expected input, and temperature compensated. Accuracy of 2 percent of full scale with repeatability of 0.5 percent. Linear output of 4 to 20 mA.
 - a. Building Static-Pressure Range: 0- to 0.25-inch wg.
 - b. Duct Static-Pressure Range: 0- to 5-inch wg.
 - 2. Water Pressure Transducers: Stainless-steel diaphragm construction, suitable for service; minimum 150-psig . operating pressure; linear output 4 to 20 mA.
 - 3. Water Differential-Pressure Transducers: Stainless-steel diaphragm construction, suitable for service; minimum 150-psig operating pressure and tested to 300-psig; linear output 4 to 20 mA.
 - 4. Differential-Pressure Switch (Air or Water): Snap acting, with pilot-duty rating and with suitable scale range and differential.
 - 5. Pressure Transmitters: Direct acting for gas, liquid, or steam service; range suitable for system; linear output 4 to 20 mA.

2.5 STATUS SENSORS

- A. Low Limit Temperature Switch: Minimum 20 ft. element for freeze protection. Serpentine across the face of the coil and of sufficient length or number for three passes across the width of the coil it is protecting. Connect in series with other safety devices to de-energize fans serviced when a drop in temperature below setpoint is detected.
- B. Voltage Transmitter (100- to 600-V ac): Comply with ISA 50.00.01, single-loop, self-powered transmitter, adjustable, with suitable range and 1 percent full-scale accuracy.
- C. Power Monitor: 3-phase type with disconnect/shorting switch assembly, listed voltage and current transformers, with pulse kilowatt hour output and 4- to 20-mA kW output, with maximum 2 percent error at 1.0 power factor and 2.5 percent error at 0.5 power factor.
- D. Current Switches: Self-powered, solid-state with adjustable trip current, selected to match current and system output requirements.
- E. Electronic Valve/Damper Position Indicator: Visual scale indicating percent of travel and 2- to 10-V dc, feedback signal.
- F. Water-Flow Switches: Bellows-actuated mercury or snap-acting type with pilot-duty rating, stainless-steel or bronze paddle, with appropriate range and differential adjustment, in NEMA 250, Type 1 enclosure.

2.6 ACTUATORS

- A. Electric Motors: Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
 - 1. Comply with requirements in Division 23 Section "Common Motor Requirements for HVAC Equipment".
 - 2. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.
 - 3. Nonspring-Return Motors for Valves Larger Than NPS 2-1/2: Size for running torque of 150 in. x lbf and breakaway torque of 300 in. x lbf.
 - 4. Spring-Return Motors for Valves Larger Than NPS 2-1/2: Size for running and breakaway torque of 150 in. x lbf .
 - 5. Nonspring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running torque of 150 in. x lbf and breakaway torque of 300 in. x lbf.
 - 6. Spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running and breakaway torque of 150 in. x lbf.

- B. Electronic Actuators shall be of 0 10 VDC type. Direct-coupled type designed for minimum 60,000 full-stroke cycles at rated torque. The minimum actuator impedance shall be 800 ohms even when more than one actuator is connected in parallel. Spring return shall be required for two-position (NO/NC) control sequence or for steam valve control. Non-spring return actuators shall be used for all modulating sequence of control. They shall conform to all requirements of sequence descriptions specified or scheduled. Main mechanical equipment actuators shall have a manual position dial to allow manual positioning of valve in absence of control power.
1. Valves: Size for torque required for valve close off at maximum pump differential pressure.
 2. Dampers: Size for running torque calculated as follows:
 - a. Opposed-Blade Damper with Edge Seals: 5 inch-lb/sq. ft. of damper.
 - b. Opposed-Blade Damper without Edge Seals: 3 inch-lb/sq. ft. of damper.
 - c. Parallel-Blade Damper with Edge Seals: 7 inch-lb/sq. ft. of damper.
 - d. Parallel-Blade Damper without Edge Seals: 4 inch-lb/sq. ft of damper.
 - e. Dampers with 2- to 3-Inch wg of Pressure Drop or Face Velocities of 1000 to 2500 fpm: Increase running torque by 1.5.
 - f. Dampers with 3- to 4-Inch wg of Pressure Drop or Face Velocities of 2500 to 3000 fpm: Increase running torque by 2.0.
 - g. Nonspring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running torque of 150 in. x lbf and breakaway torque of 300 in. x lbf.
 - h. Spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running and breakaway torque of 150 in. x lbf.
 3. Coupling: V-bolt and V-shaped, toothed cradle.
 4. Overload Protection: Electronic overload or digital rotation-sensing circuitry.
 5. Fail-Safe Operation: Mechanical, spring-return mechanism. Provide external, manual gear release on nonspring-return actuators.
 6. Power Requirements (Two-Position Spring Return): 24-Vac.
 7. Power Requirements (Modulating): Maximum 10 VA at 24-V ac or 8 W at 24-V dc.
 8. Proportional Signal: 2- to 10-V dc or 4 to 20 mA, and 2- to 10-V dc position feedback signal with damper position indicator indicating percent of travel.
 9. Temperature Rating: Minus 0 degrees to plus 122 deg F.
 10. Actuator Housing: Molded or die-cast zinc or aluminum.
 11. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Division 23 Section "Common Motor Requirements for HVAC."
 12. Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
 - a. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.
- C. Actuators for VAV Terminal Box Controllers shall be 24V floating point, 0-10Vdc, modulating and their position shall be readable in percentage open at the OWS.
- D. Actuators for smoke dampers shall be 24V floating point, 0-10Vdc, modulating and their position shall be readable as open or closed via end switch at the OWS.
- E. Actuators shall be Honeywell.

2.7 CONTROL CABLE

- A. Control cable shall be shielded.
- B. Control wire penetrating a plenum shall be plenum rated with a 25/50 smoke rating
- C. Control wiring ran through a vertical shaft more than 2 floors shall be installed in a continuous raceway and a pull box at each floor.

PART 3 - EXECUTION

3.1 DELIVERY, STORAGE, AND HANDLING

- A. Factory-Mounted Components: Where control devices specified in this Section are indicated to be factory mounted on equipment in other Sections, arrange for shipping of control devices to equipment manufacturer. Upon delivery the equipment manufacturer shall inspect shipment for visual damages. The Controls Contractor shall replace any damaged control equipment at no cost to the Owner.
- B. Provide factory shipping containers for each piece of equipment. Provide factory applied plastic end caps on each length of pipe and tube. Maintain cartons and end caps through shipping, storage and handling as required to prevent equipment and pipe-end damage, and to eliminate dirt and moisture from equipment and inside of pipe and tube. Where possible store equipment and materials inside and protected from weather. When necessary, to store outside, elevate well above grade and enclose with durable water-proof wrapping.

3.2 EXAMINATION

- A. Verify that power supply is available to all controllers, and electric actuators.

3.3 COORDINATION

- A. Coordinate location of temperature sensors, humidistats, and other exposed control sensors with plans and room finish details before installation.

3.4 INSTALLATION

- A. Install software in control units. Implement all features of programs to specified requirements and as appropriate to achieve sequence of operations.
- B. Connect and configure equipment and software to achieve sequence of operations specified.
- C. Mount all wall thermostats, and other exposed control sensors on dedicated electrical backboxes.
- D. Install averaging elements in ducts and plenums in crossing or zigzag pattern.
- E. Install damper motors on outside of duct in warm areas, not in locations exposed to outdoor temperatures.

3.5 ELECTRICAL WIRING AND CONNECTION INSTALLATION

- A. Install systems and materials in accordance with manufacturer's instructions, rough-in drawings and equipment details.
- B. The term "control wiring" is defined to include providing of wire, conduit, and miscellaneous material as required for mounting and connecting electric or electronic control devices.
- C. Install all control wiring in conduit for electric/electronic control systems. Conceal wiring, except in mechanical rooms and areas where other conduit and piping are exposed. UL plenum rated cable shall be allowed above accessible lift out ceilings, in air plenums and in other areas as approved by Architect and local and NEC codes.
- D. Stub conduit to above lift out ceilings. Plastic bushing shall be installed where the wiring exits the conduit to prevent damage.
- E. Properly support and run in a neat workmanlike manner all wiring and conduit. Run parallel to or at a right angle to building structure.
- F. Number-code or color-code conductors, excluding those used for individual zone controls, appropriately for future identification and servicing of control system.
- G. This section shall provide all line voltage power wiring required because of substitution of equipment specified in this section.
- H. Install line voltage wiring in rigid conduit.
- I. Install signal and communication cable according to following:
 - 1. Bundle and harness multi-conductor instrument cable in place of single cables where several cables follow a common path.

2. Fasten flexible conductors, bridging cabinets and doors, along hinge side; protect against abrasion. Tie and support conductors.
3. Number-code or color-code conductors for future identification and service of control system, except local individual room control cables.
4. Install wire and cable with sufficient slack and flexible connections to allow for vibration of piping and equipment.
- J. Connect manual-reset limit controls independent of manual-control switch positions. Automatic duct heater resets may be connected in interlock circuit of power controllers.
- K. Connect hand-off-auto selector switches to override automatic interlock controls when switch is in hand position.
- L. Unless indicated otherwise, mount room sensors (i.e. thermostats and sensors for room control) immediately inside of door adjacent to light switch.
 1. Where a light switch is not located immediately inside of door, mount sensor within room where it is best suited to sense true space conditions for proper operation and controllability of equipment serving the room.
 2. Unless indicated otherwise mount sensor at 48 IN above finished floor or as indicated on the Drawings.
- M. Identification:
 1. Provide laminated plastic nameplates for control panels. Other equipment devices furnished, including sensors, switches, valves, gages, actuators and all other item furnished under this section shall be identified with plastic embossed labels adhered to the device. Each nameplate shall identify the function, such as "mixed air low limit" or "cold deck temperature sensor" Laminated plastic shall be one-eighth inch thick whiter with black center core. Nameplates shall be a minimum of 1 inch by 3 inch with minimum one quarter inch high engraved block lettering. Nameplates for devices smaller than 1 inch by 3 inch shall be attached by a nonferrous metal chain. Submit a schedule of proposed wording of each nameplate with hardware submittal.
 2. Instrumentation and Control Diagrams: Provide framed drawings including the sequence of controls and verbal description in laminated plastic showing complete diagrams for all equipment furnished and interfaces to all existing equipment, at each respective equipment location. Condensed operating instructions explaining preventive maintenance procedures methods of checking the system for normal safe operation and procedures for safely starting and stopping the system manually shall be prepared in typed form, framed as specified for the diagrams and posted beside the diagrams. Proposed diagrams, instructions and other sheets shall be submitted prior to posting.

3.6 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including connections. Report results in writing.
- B. Perform the following field tests and inspections and prepare test reports:
 1. Operational Test: After electrical circuitry has been energized, start units to confirm proper unit operation. Remove and replace malfunctioning units and retest.
 2. Test and adjust controls and safeties.
 3. Test each point through its full operating range to verify that safety and operating control set points are as required.
 4. Test each control loop to verify stable mode of operation and compliance with sequence of operation. Adjust PID actions.
 5. Test each system for compliance with sequence of operation.
 6. Test software and hardware interlocks.

- C. Controls Verification:
 - 1. Verify that instruments are installed before calibration, testing, and loop checks.
 - 2. Check instruments for proper location and accessibility.
 - 3. Check instrument installation for direction of flow, elevation, orientation, insertion depth, and other applicable considerations.
 - 4. Check flow instruments. Inspect tag number and line and bore size, and verify that inlet side is identified and that meters are installed correctly.
 - 5. Check pressure instruments, piping slope, installation of valve manifold, and self-contained pressure regulators.
 - 6. Check temperature instruments and material and length of sensing elements.
 - 7. Check control valves. Verify that they are operating in the correct direction.
 - 8. Check dampers. Verify that proper blade alignment, either parallel or opposed, has been provided.
 - 9. Check control system as follows:
 - a. Verify that controller power supply is from emergency power supply, if applicable.
 - b. Verify that wires at control panels are tagged with their service designation and approved tagging system.
 - c. Verify that spare I/O capacity has been provided.
 - d. Verify that controllers are protected from power supply surges.
- D. Replace damaged or malfunctioning controls and equipment and repeat testing procedures.

3.7 ADJUSTING

- A. Calibrating and Adjusting:
 - 1. Calibrate instruments.
 - 2. Make three-point calibration test for both linearity and accuracy for each analog instrument.
 - 3. Calibrate equipment and procedures using manufacturer's written recommendations and instruction manuals. Use test equipment with accuracy at least double that of instrument being calibrated.
 - 4. Control System Inputs and Outputs:
 - a. Check digital inputs using jumper wire.
 - b. Check digital outputs using ohmmeter to test for contact making or breaking.
 - c. Check resistance temperature inputs at 0, 50, and 100 percent of span using a precision-resistant source.
 - 5. Flow:
 - a. Set differential pressure flow transmitters for 0 and 100 percent values with 3-point calibration accomplished at 50, 90, and 100 percent of span.
 - b. Manually operate flow switches to verify that they make or break contact.
 - 6. Pressure:
 - a. Calibrate pressure transmitters at 0, 50, and 100 percent of span.
 - b. Calibrate pressure switches to make or break contacts, with adjustable differential set at minimum.
 - 7. Temperature:
 - a. Calibrate resistance temperature transmitters at 0, 50, and 100 percent of span using a precision-resistance source.
 - b. Calibrate temperature switches to make or break contacts.
 - 8. Stroke and adjust control valves and dampers without positioners, following the manufacturer's recommended procedure, so that valve or damper is 100 percent open and closed.
 - 9. Stroke and adjust control valves and dampers with positioners, following manufacturer's recommended procedure, so that valve and damper is 0, 50, and 100 percent closed.
 - 10. Provide diagnostic and test instruments for calibration and adjustment of system.

11. Provide written description of procedures and equipment for calibrating each type of instrument. Submit procedures review and approval before initiating startup procedures.
 - B. Adjust initial temperature and humidity set points.
- 3.8 DEMONSTRATION & TRAINING
- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain HVAC instrumentation and controls. Refer to Division 01 Section "Demonstration and Training."
 - B. Upon system acceptance provide a minimum of five (5), six (6) hour general classroom training sessions for three (3) of the Owner's personnel in the operation, programming, troubleshooting and maintenance of the control system. Training sessions shall be videotaped by the BAS contractor and tapes/digital files turned over to the Owner at completion of training along with a log book to document follow training issues.
 1. Training to occur at manufacturer's local training facility.
 2. Travel, room and board at Owner's expense.
 3. Class size to be limited to five (5) operators at a time.

END OF SECTION