

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT PURCHASING DEPARTMENT 411 North 8th/DRAWER 990 EDINBURG, TEXAS 78541

PH: (956) 289-2311 FX: (956) 383-7687

Request for COMPETITIVE SEALED PROPOSALS

This Proposal includes the following forms:

- Intent to Bid
- Vendor Check List
- Standard Terms & Conditions
- Felony Conviction Notification
- · Conflict of Interest Questionnaire
- Certification of Interested Parties Example
- Deviation Form
- Authorization for W-9/Direct Deposit
- Special Terms & Conditions
- ATTACHMENT: Proposal Forms

NO: 20-49

TITLE: MEMORIAL BOILER REPLACEMENT

CLOSING TIME/DATE:

Closing Time: 3:00 P.M.

Closing Date: February 14, 2020

BUYER:

ClauDina Longoria, Senior Buyer Phone: 956-289-2311, Ext.2135

Fax: 956-383-7687

Email: d.longoria@ecisd.us

DELIVER BIDS TO:

Edinburg CISD

Office of the Purchasing Coordinator

411 North 8th Ave, 2nd Floor

Edinburg, TX 78541

DATE WEBBED: January 31, 2020



*Do not deliver Bids/CSPs/RFPs/RFQs to other ECISD locations. All Bids/CSPs/RFPs/RFQs must be delivered to the delivery address above on or before the Bids/CSPs/RFP/RFQs closing time/date. Purchasing will not be responsible for late submittals as per Board Policy CH (LOCAL).

Vendor Certification

The undersigned, by his/her signature, represents the he/she is authorized to bind the bidder to fully comply with the terms and conditions on this bid, including all forms and attachments included herein, for the amount(s) shown on the accompanying bid form(s), if accepted within sixty (60) calendar days after bid opening. Note: Bidder is strongly encouraged to read the entire Solicitation prior to submitting. Failure to provide the above information in its entirety may be grounds for disqualification of response.

Firm Name:	Telephone 1-800
Address:	Or:
City:	Fax:
State: Zip:	Web Address:
	Email:
(Signature of Person Authorized to Sign Bid)	Date:
Printed Name: (Please print or type name above)	Title:
,	ent Discount% if Paid in Days, Net 30

INTENT TO BID

Fax, this **page only**, if solicitation was not faxed or e-mailed directly to your company. All other solicitation documents must be enclosed in a sealed envelope and mailed to the Purchasing Department.

This page is required if solicitation was downloaded without receiving an invitation by the District. Please complete and fax to 956-383-7687 immediately in order to be added to the vendor list and receive addendums or updates regarding this solicitation. It is the intent of the Purchasing Department to ensure that all interested vendors receive addendums or updates, but it will be the vendor's responsibility to check the Purchasing site periodically. If there are addendums posted on the site and your company has not been notified by fax or e-mail, it will be the vendor's responsibility to download from Purchasing site and make sure to include with their packet.

The Edinburg CISD Purchasing solicitations and addendums are available on line at www.ecisd.us.

NAME: _	
CITY: _	
FAX: _	
WER SITE:	

VENDOR CHECK LIST

1	. Signed Standard Terms & Conditions			Yes	No
2	. Signed Felony Conviction Notification			Yes	No
3	. Signed Conflict of Interest Questionna	re		Yes	No
4	. Signed Deviation Form			Yes	No
5	. Read and understood Special Terms	Conditions	_	Yes	No
6	. Filled out Bid Form			Yes	No
7	. Completed & submitted W9/Authoriza	ion for Direct Deposit Fo	rm	Yes	No
8	. Signed Certification of Interested Part	es (Form 1295)		Yes	No
9	. Completed & signed Vendor Check Li	st .		Yes	No
meet a	read all the specifications and general all specifications, conditions, and instructions and general gnature below confirms that our compared to our company.	ions of said solicitation, a	and will follow Distr	rict policy DE	BD (Local).
54 (1					
Comp	any Name				
Print/	ype Signature Name				
Autho	rized Signature	Date			
Officia	I Title				

STANDARD TERMS & CONDITIONS

(REVISED SEPTEMBER 2018)

PLEASE READ THE FOLLOWING CAREFULLY, AND RETURN THE SIGNATURE PAGE WITH YOUR BID OR PROPOSAL.

The following terms and conditions are requirements that are binding upon the vendor awarded the bid and they communicate the Edinburg School District's expectations in regard to the bidder's performance in connection with the district's purchase.

- Seller of Package Goods: Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently packed as follows:
 - a. Seller's name and address:
 - b. Consignee's name, address and purchase order or purchase release number and the supply agreement number if applicable;
 - c. Container number and total number of containers, e.g. box 1 of 4 boxes; and the number of the container bearing the packing slip.
 - d. Seller shall bear cost of packaging unless otherwise provided.
 - e. Goods shall be suitably packed to secure lowest transportation costs and to conform to requirements of common carriers and any applicable specifications.
 - f. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.
- Shipment under Reservation Prohibited: Seller is not authorized to ship the goods under reservation and no tender of a bill of lading will operate as a tender of goods.
- 3. **Title and Risk of Loss:** The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery.
- 4. **Delivery Terms and Transportation Charges:** F.O.B. Destination Freight Prepaid unless terms are specified otherwise in bid:
- 5. **No Placement of Defective Tender:** Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender provided, where the time for performance has not yet expired, the Seller may reasonably notify Buyer of his intention to cure and may then make a conforming tender within the contract time but not afterward.
- 6. Place of Delivery: The place of delivery shall be that set forth on the purchase order. Any change thereto shall be effected by modification as provided for in Clause 20, "Modifications," hereof. The terms of this agreement are "no arrival, no sale."
- 7. **Invoices:** Seller shall submit separate invoices, in duplicate, on each purchase order after each delivery. Invoices shall indicate the purchase order number, shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading, and the freight weight bill when applicable, should be attached to the invoice. Mail to:

Edinburg Consolidated Independent School District Attn.: Accounts Payable Department Drawer 990 Edinburg, Texas 78540-0990

- 8. **Payments:** The payment shall not be due until the above instruments are submitted after delivery. Suppliers should keep the Accounts Payable Department advised of any changes in your remittance addresses.
- 9. Taxes: Do not include Federal Excise, State or City Sales Tax. School District shall furnish tax exemption certificate, if required.
- Gratuities: The Buyer may, by written notice to the Seller, cancel this contract without liability to Seller if it is determined by Buyer that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Seller, or any agent, or representative of the Seller, to any officer or employee of the School District with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making or any determinations with respect to the performing of such a contract. In the event this contract is canceled by Buyer pursuant to this provision, Buyer shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.
- 11. **Special Tools and Test Equipment:** If the price stated on the face hereof includes the cost of any special tooling or special test equipment fabricated or required by Seller for the purpose of filling this order, such special tooling equipment and any process sheets related thereto shall become the property of the Buyer and to the extent feasible shall be identified by the Seller as such.
- 12. Warranty Price: The price to be paid by the Buyer shall be that contained in Seller's bid which Seller warrants to be no higher than Seller's current prices on orders by others for products of the kind and specification covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Seller breaches this warranty, the prices of the items shall be reduced to the Seller's current prices on orders by others, or in the alternative, Buyer may cancel this contract without liability to Seller for breach or Seller's actual expense. The Seller warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees of bona fide established commercial or selling agencies maintained by the Seller for the purpose of securing business. For breach or violation of this warranty, the Buyer shall have the right in addition to any other right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

- 13. **Warranty Products:** Seller warrants that the goods furnished will conform to the specifications, drawings and descriptions listed in the bid invitation and to the sample(s) furnished by Seller, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern. Seller shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the Buyer.
- 14. **Safety Warranty:** Seller warrants that the product sold to Buyer shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act (OSHA) of 1970. In the event the product does not conform to OSHA standards, Buyer may return the product for correction or replacement at the Seller's expense. In the event Seller fails to make the appropriate correction within 15 working days, correction made by Buyer will be at Seller's expense.
- No Warranty by Buyer against Infringements: As part of this contract for sale, Seller agrees to ascertain whether goods manufactured in accordance with the specifications attached to this agreement will give rise to the rightful claim of any third person by way of infringement or the like. Buyer makes no warranty that the production of goods according to the specification will not give rise to such a claim, and in no event shall Buyer be liable to Seller for indemnification in the event that Seller is sued on the grounds of infringement or the like. If Seller is of the opinion that an infringement or the like will result, the Seller will notify Buyer to this effect in writing within two weeks after the signing of this agreement. If Buyer does not receive notice and is subsequently held liable for the infringement or the like, Seller will hold Buyer harmless. If Seller in good faith ascertains that production of the goods in accordance with the specifications will result in infringement or the like, this contract shall be null and void except that Buyer will pay Seller the reasonable cost of his search as to infringements.
- Right of Inspection: Buyer shall have the right to inspect the goods at delivery before accepting them.
- 17. **Cancellation:** Buyer shall have the right to cancel for default all or any part of the undelivered portion of this order if Seller breaches any of the terms hereof including warranties of Seller or if the Seller becomes insolvent or commits acts of bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies, which Buyer may have in law or equity.
- 18. **Termination:** The performance of work under this order may be terminated in whole or in part by the Buyer in accordance with this provision. Termination of work there under shall be effected by the delivery to the Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of Buyer set forth in Clause 15, herein.
- Force Majeure: If by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and full particulars of Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term Force Majeure as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemy, orders of any kind of government of the United States or the State of Texas or any civil or military authority; insurrections; riots; epidemics; landslides; land sinkage; lighting; earthquake; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions, breakage or accidents to machinery, pipelines or canals, or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.
- Assignment Delegation: No right or interest in this contract shall be assigned or delegation of any obligation made by Seller without the written permission of the Buyer. Any attempted assignment or delegation by Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.
- 21. **Waiver:** No claim or right arising out of a breach of this contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved.
- 22. **Modifications:** This contract can be modified or rescinded only by a writing signed by both parties to the contract or their duly authorized agents.
- Interpretation Parole Evidence: This writing is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this agreement. Acceptance or acquiescence in a course of performance rendered under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control.
- 24. **Applicable Law:** This agreement shall be governed by the Uniform Commercial Code. Wherever the term "Uniform Commercial Code" is used, it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Texas effective and in force on the date of this agreement.
- 25. **Advertising:** Seller shall not advertise or publish, without Buyer's prior consent, the fact that Buyer has entered into this contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state or local government.

- 26. **Right to Assurance:** Whenever one party to this contract in good faith has reason to question the other party's intent to perform he/she may demand that the other party give written assurance of his/hers business intent to perform. In the event that a demand is made and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.
- 27. Venue: Both parties agree that venue for any litigation arising from this contract shall lie in Hidalgo County, Texas.
- 28. **Prohibition Against Personal Interest in Contracts:** Any board member which has any substantial interest, either direct or indirect, in any business entity seeking to contract with the district, shall, before any vote or decision on any matter involving the business entity, file an affidavit stating the nature and extent of interest and shall abstain from any participation in the matter. This is not required if the vote or decision will not have any special effect on the entity other than its effect on the public. However, if a majority of the governing body are also required to file, and do file similar affidavits, then the member is not required to abstain from further participation. Vernon's Texas Codes Annotated, Local Government Code. Chapter 171.
- 29. **Penalties for Non-Performance:** If, at any time, the contractor fails to fulfill or abide by the terms, conditions, or specifications of the contract, the Edinburg Consolidated Independent School District reserves the right to:
 - a. Purchase on the open market and charge the contractor the difference between contract and actual purchase price, or
 - b. Deduct such charges from existing invoice totals due at the time, or
 - c, Cancel the contract within thirty (30) days written notification of intent
- 30. Right to Investigate:
 - Capacity
 - b. Financial Information
 - c. Business Records (Federally Funded Contracts)
- 31. **Bidder Qualification:** Bidders not on the District's bid list, may be required to prove their qualifications concerning the following criteria:
 - a. Financial capabilities
 - b. Bonding status
 - c. Contractual history (references)
 - d. Ability to fulfill and abide by the terms and specifications

Lam not a delinquent taxpayer to the Edinburg CISD

- e. Quality and stability of product and sources
- 32. **District Bid Forms:** Bid proposal not submitted on District's bid forms will be rejected. Faxed or e-mail submittals will not be accepted. These forms of submittals will be destroyed or deleted and the vendor will be notified immediately.
- 33. Addendums: In the event that it becomes necessary to clarify or revise this solicitation, such clarification or revision will be by an addendum. Any addendum will be posted on the District's Purchasing Website. It will be the vendor's responsibility to check the site for any and all addendums. Any addendums to this solicitation shall become part of this solicitation. It is also at the Districts discretion to fax or email addendums as deemed necessary.
- 34. **Delinquent School Taxes:** The Edinburg CISD shall not do business with any individual or company that is delinquent in the payment of their school taxes. In accordance with law, the District shall not enter into a contract or other transaction with a person indebted to the District, nor shall the District award a contract to or enter into a transaction with an apparent low Contractor or successful proposer indebted to the District.

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1	am a delinquent taxpayer to Edinburg ISD (your bid may be disqualified if your debt is not cleared prior to	award.)

- "OR EQUAL" Products: Whenever an article or material is defined by describing a proprietary product or by using the name of a manufacturer, the term "or equal", if not inserted, shall be implied. The specified article or material shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired and shall not be construed as to exclude other manufactured products of comparable quality, design and efficiency. The District reserves the right to waive any or all technicalities, and shall be the sole judge in determining equality, technicalities and formalities. Bidders offering substitute items must indicate manufacturer's name and model number.
- Deviation(s) Any deviation(s) to the specification(s) shall be listed on a separate sheet(s) of paper and attached to the bid response form identifying the section number, component(s) with deviation(s) and a clearly defined explanation for the deviation(s). It is the bidder's responsibility to submit a bid that meets all mandatory specifications stated within. Because of the variations in manufacturer's construction, the bidder must compare their product bid with the required listed minimum specifications and identify any deviations. Failure to properly identify deviations may render the bidder's proposal non-responsive and not capable of consideration for award. Bidders should note that a descriptive brochure of the model bid may not be sufficient or acceptable as proper identification of deviations from the written specifications.
- 37. **Right to award:** The District reserves the right to award the bid in its entirety, partially, or reject it. The District reserves the right to buy any and/or all supplies from any vendor.
- 38. **Right to increase or decrease quantities:** The District reserves the right to increase or decrease the number of articles called for in any item of the specifications or to eliminate items entirely. Bidder's proposal will be adjusted in accordance with the unit price quoted therein.
- 39. **Renewal Option for Term Contracts:** There will be a renewal option to extend this term contracts, if applicable, for an additional one (1) year period if all parties agree to the renewal in writing and all bid prices, discounts, terms and conditions remain the same. In no instance shall this extension be considered automatic.

- 40. **Warranty & Guarantees:** Except as otherwise specified, the bidder warrants and guarantees all work against defects in materials, equipment or workmanship for one (1) year from the date of final acceptance. Upon receipt of written notice from the District of the discovery of any defects, the bidder shall remedy the defects and replace any property damaged there from occurring within the warranty and guarantee period.
- 41. **Evaluation Factors:** The bid award shall be based on the following evaluation factors:
 - a. the purchase price;

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- the reputation of the vendor and of the vendor's goods or services;
- c. the quality of the vendor's goods or services;
- d. the extent to which the goods or services meet the district's needs;
- e. the vendor's past relationship with the district;
- f. the total long-term cost to the district to acquire the vendor's goods or services
- Non-Collusive Bidding Certification: By submission of this bid or proposal, the bidder certifies that:
 - This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor;
 - b. This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids, or proposals for this project, to any other bidder, competitor or potential competitor;
 - c. No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal;
 - d. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties being applicable to the bidder as well as to the person signing in its behalf.
- 43. **EEOC Non-Discrimination Statement:** It is the policy of Edinburg CISD not to discriminate on the basis of sex, age, handicap, religion, race, color, or national origin in its educational programs.
- 44. **Conflict of Interest Disclosure:** Pursuant to Chapter 176, Texas Local Government Code, vendors doing or seeking to do business with Edinburg CISD must submit a Conflict of Interest disclosure form if they have a business relationship as defined by Section 176.001 (1-a) with a local government entity and meet the disclosure requirements of Section 176.006(a). A person commits an offense (Class C misdemeanor) if they knowingly violate Section 176.006, Local Government Code.
- 45. **Certificate of Interested Parties:** All Bids, CSPs, RFPs, RFQs prior to award or award of Contract by the School Board will require that the Texas Ethics Commission (TEC) Form 1295 Electronic (on line) Vendor filing procedure be completed by Vendor. All Vendors being recommended to the Board of Trustees for award or renewal of award on Agenda must register and obtain a TEC Certification for the specific award. This certification Form 1295 must be electronically submitted, printed and notarized. Notarized form must be submitted as a required form for this solicitation. There is no charge for this TEC online process.

Texas Ethics Commission (TEC) Form 1295 must be completed (by firm – on line "New Form 1295 Certificate of Interested Parties Electronic Filing Application" site at: https://www.ethics.state.tx.us/whatsnew/elf info form1295.htm). The TEC website includes Question/Answers and Video instructions.

	tion of Business Location – Texas Education Code 44.031 (b)(8). By signing below, Contractor certified the Contractor's or the tor's ultimate parent company or majority owner:
A.	Has its principal place of business in the State of Texas; ORB. Employs at least 500 persons in the State of Texas
C.	Principal Place of business is not in the State of Texas:(City,State)
	s) Name of Business: By signing below, Contractor certified the owner(s) name of the business submitting bid is/are: (Please print below. If not applicable, please indicate N/A.)
ovae U	storically Underutilized Business (HUB) - Texas Education Code 44.031(b)(6) or Small and Minority Firms, Women's Business
Enterpris	es and Labor Surplus Area Firm: Contractor certified the Bidder's company is HUB certified with the State of Texas.
	am an Active certified HUB vendor. HUB expiration date:
	mall and Minority Firms, Women's Business Enterprises and Labor Surplus Area Firms
	am neither.

49. **Criminal History Record Information Review of Certain Contract Employees:** By signing below, the Contractor agrees to comply with Section 22.0834. Criminal History Record Information Review of Certain Contract Employees, Texas Education Code if awarded a contract through this solicitation. The undersigned Contractor, if awarded a contract, shall obtain criminal history record information through the

criminal history clearinghouse as provided by Section 411.0845, Government Code relating to an employee or applicant who has or will have continuing duties related to the contracted services; and the employee or applicant has or will have direct contact with students. The contractor agrees to certify of the receipt of criminal history record information before or immediately after employing or securing the services of the employee or applicant that has or will have continuing duties related to the contracted services if the employee or applicant has or will have direct contact with students. The Contractor further agrees that if awarded a contract, shall assume all expenses associated with the criminal background check and shall immediately remove any employee or agent who was convicted of a felony, or misdemeanor involving moral turpitude, as defined by Texas law, from District property or the location where students are present.

None of my employees and any of the subcontractors has or will have continuing duties related to the contracted services; and has or will have direct contact with students. I further certify that my company has taken precautions or imposed conditions to ensure that my employees and any subcontractor will not have continuing duties related to the contracted services; and will not have direct contact with students throughout the term of the Contract.

OR

Some or all of my employees and/or my subcontractors will have continuing duties related to the contracted services; and will have direct contact with students. I further certify that:

- 1. I have obtained all required criminal history record information regarding all of my employees and/or my subcontractors. None of my employees and/or my subcontractors has any conviction or other criminal history information if a the time of the offense, the victim was under 18 or enrolled in a public school: (a) a felony offense under Title 5, Texas Penal Code; (b) an offense for which a defendant is required to register as a sex offender under Chapter 62, Texas Code of Criminal Procedures; or (c) an equivalent offense under federal law or the laws of another state. IF AVAILABLE, ATTACH A COPY OF YOUR FAST PASS RECEIPT.
- 2. If you received information that any of my employees and/or subcontractors subsequently has a reported criminal history, I will immediately remove the covered employee from contract duties and notify the District in writing immediately.
- 3. I will provide the District with the names and any other requested information regarding any of my employees and/or subcontractors so the District may obtain criminal history record information if awarded a contract.
- 4. If the District objects to the assignment of any of my employees and/or subcontractors, I agree to discontinue using the individual to provide services to the District.
- 50. Contract Provisions for contracts under Federal Awards: By submission of this bid, Contractor agrees to comply with the following provisions.
 - 50.1 Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulation Council (Councils) as authorized by 41 U.S.C.1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
 - 50.2 All contracts in excess of \$10,000 must address termination for cause and for convenience including the manner by which it will be effected and the basis for settlement.
 - Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."
 - 50.4 Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$12,000 must include a provision for compliance with the Davis-Bacon Act (40 U.S.C 3141-3144, and 3146-3148 as supplemented by Department of Labor regulations (29 CRF Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Finance and Assisted Construction"). In accordance with the statue, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145) as supplemented by Department of Labor regulations (20 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or sub-recipient must be prohibited from including, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The entity must repair all suspected or reported violation to the Federal awarding agency.
 - Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no

laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

- Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or sub recipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or sub recipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.
- 50.7 Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and sub grants of amounts in excess of \$150,000 must contain a provision that requires the award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- 50.8 Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- 50.9 Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the award.
- A an entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
- 51. Debarment and Suspension (Executive Orders 12549 and 12689): By signing below Contractor certified that neither it nor its principals are currently listed on the government-wide exclusions in SAM as debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Contractor further agrees to immediately notify the District if he/she is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- 52. Vendor must comply with H.B. No. 89 Chapter 2270. Prohibition on Contracts with Companies Boycotting Israel.

I, the undersigned authorize agent for the company named below, certify that the information concerning Section 1-52 listed above has been reviewed by me and the information furnished is true to the best of my knowledge. I further certify that I agree to comply with Sections 1-52 listed above.

Print/Type Signature Name	Official Title	
Authorized Signature	Date	

FELONY CONVICTION NOTIFICATION

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract."

I, the undersigned agent for the firm named below, certify that the information concerning notification of felony convictions has

been reviewed by me and the following information furnished is true to the best of my knowledge.

This Notice Is Not Required of a Publicly-Held Corporation

Ve	ndor's Name
Au	thorized Company Official's Name (Printed)
A.	My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.
	Signature of Company Official
В.	My firm is not owned nor operated by anyone who has been convicted of a felony:
	Signature of Company Official
C.	My firm is owned or operated by the following individual(s) who has/have been convicted of a felony
	Names of Felon(s)
	Details of Conviction(s)
	Signature of Company Official

	CONFLICT OF INTEREST QUESTIONNAIRE	FORM CIQ			
	For vendor or other person doing business with local governmental entity				
	This questionnaire reflects changes made to the law by the H.B. 1491 80th Leg., Regular Session.	OFFICE USE ONLY			
	This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).	Date Received			
	By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7 th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.				
	A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.				
1	Name of person doing business 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 1 of the year for which an activity described in Section 176.006 (a), Local Government Code, business day after the date the originally filed questionnaire becomes incomplete or inaccura	is pending and not later than the 7th			
3	Name of local government officer with whom filer has employment or business relationship.				
	Name of Officer	-			
	This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attached additional pages to this form CIQ as necessary.				
	A. Is the local government officer named in this section receiving or likely to receive taxable incommon the filer of the questionnaire?	ome, other than investment income,			
	Yes No				
	B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than inves	tment income,			
	Yes No				
	C. Is the filer of this questionnaire employed by a corporation or other business entity with res officer serves as an officer or director, or holds an ownership of 10 percent or more?	pect to which the local government			
	Yes No				
	 Describe each employment or business relationship with the local government officer name 	d in this section			
4					
	Signature of person doing business with the governmental entity	Date			

CERTIFICATION OF INTERESTED PARTIES – FORM 1295

Definitions and Instructions for Completing Form 1295

Edinburg Consolidated Independent School District is required to comply with House Bill 1295, which amended the Texas Government Code by adding Section 2252.908, Disclosure of Interested Parties. Section 2252.908 prohibits Edinburg CISD from entering into a contract resulting from a Bid, CSP, RFP, RFQ, Inter-local Cooperative Quote with a business entity unless the business entity submits a Disclosure of Interested Parties – Form 1295 to Edinburg CISD at the time the business entity submits the signed contract. The Texas Ethics Commission has adopted rules requiring the business entity to file Form 1295 electronically with the Texas Ethics Commission.

As a "business entity," vendors must electronically complete, print, manually fill out Unsworn Declaration portion and sign. Once form is completed, submit with your proposals or contracts even if no interested parties exist.

Proposers must file Certificate of Interested Parties – Form 1295 with the Texas Ethics Commission using the following online application: https://www.ethics.state.tx.us/whatsnew/elf info form1295.htm

- Proposers must use the filing application on the Texas Ethics Commission's website (see link above) to enter the required information on Form 1295.
- Proposers must print a copy of the completed form, which will include a certification of filing containing a unique certification number.
- The Form 1295 must be printed and then signed by an authorized agent of the business entity.
- The completed Form 1295 with the certification of filing must be filed with Edinburg Consolidated Independent School District by including a copy of the completed form with the proposal response.
- Edinburg CISD must acknowledge the receipt of the filed Form 1295 by notifying the Texas Ethics Commission of the receipt of the filed Form 1295 no later than the 30th day after the date the contract binds all parties to the contract.
- After Edinburg CISD acknowledges the Form 1295, the Texas Ethics Commission will post the completed Form 1295 to its
 website within seven (7) business days after receiving notice from Edinburg CISD.

Instructions to Vendors:

- 1. Read these instructions,
- 2. Go to the Ethics Commission Website https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm,
- 3. Register and complete Form 1295 online include the bid/proposal # and the contract/(Bid,CSP,RFQ,RFP name,
- 4. Print a copy of the submitted Form 1295 and sign it will have a certification # in the top right corner,
- Include a copy of the completed, signed Form 1295 with the proposal response.

Definitions:

- Interested Party: a person who:
 - 1) has controlling interest in a business entity with whom Edinburg CISD contracts; or
 - actively participates in facilitating a contract or negotiating the terms of a contract, including a broker, intermediary, adviser, or attorney for the business entity.
- Controlling Interest means:
 - an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent;
 - 2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or
 - 3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.
- Intermediary: a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, advisor, attorney, or representative of or agent for the business entity who:
 - 1) receives compensation from the business entity for the person's participation;
 - communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract;
 and
 - 3) is not an employee of the business entity.
- Business Entity: includes an entity through which business is conducted with a governmental entity or state agency, regardless
 of whether the entity is a for-profit or nonprofit entity.

Resources:

Form 1295 Frequently Asked Questions:

https://www.ethics.state.tx.us/whatsnew/FAQ Form1295.html

Instructional Video - First Time Business User:

- https://www.ethics.state.tx.us/filinginfo/videos/Form1295/FirstLogin-Business/Form1295Login-Business.html Instructional Video How to Create a Certificate:
 - https://www.ethics.state.tx.us/filinginfo/videos/Form1295/CreateCertificate/CreateCertificate.html

A person or business entity entering into a contract and/or agreement with ECISD is required by the new Government Code Statute 2252.908, to complete Form 1295 "Certificate of Interested Parties". This form must be submitted online at http://www.ethics.state.tx.us/whatsnew/elf info form1295.htm. Once the online submission has been processed and a claim number has been issued, the form must be printed with the claim number, Unsworn Declaration must be manually filled out and signed. Submit form along with this solicitation documents. IF Form 1295 is not submitted along with this solicitation documents, your response may be considered "non-responsive" and may be disqualified.

	CERTIFICATE OF INTERESTED PART	TIES		FORM	ı 1295
L		a a			1 of 1
	Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.		CEF	OFFICE USE	
1	Name of business entity filing form, and the city, state and count of business.	try of the business entity's place	Certif	ficate Number:	
	Vendor Name		Date	Filed:	
2	Name of governmental entity or state agency that is a party to the being filed.	e contract for which the form is	Date	Acknowledged:	
	Edinburg CISD			1.51	
3	Provide the identification number used by the governmental enti description of the services, goods, or other property to be provided	led under the contract.	y the co	ontract, and prov	ide a
L	Use District's Proposal # & Proposal Title located on cov	er page of solicitation		····	
4	Name of Interested Party	City, State, Country (place of busin	ness)	Nature of (check ap	
L	,	,	,	Controlling	Intermediary
L					
L					
L	Exa	mnla	2		
L					
L					
L					
L					***************************************
5	Check only if there is NO Interested Party.				
6	UNSWORN DECLARATION				
	My name is	, and my date of	birth is		······································
	My address is				
	(street)		state)	(zip code)	(country)
	I declare under penalty of perjury that the foregoing is true and correct	t.			
	Executed inCounty	y, State of, on the		day of(month)	, 20 (year)
		Signature of authorized agent of cor (Declarant)	ntracting	business entity	
Fo	rms provided by Texas Ethics Commission www.eth	nics state ty us		Vor	sion V1 0 3337

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DEVIATION FORM

(This form must be signed)

- 1. DEVIATION(S) Any deviations to the attached specifications shall be listed below, or on a separate sheet of paper, and attached to the bid response form identifying the section number, item number and a clearly defined explanation for the deviations.
- 2. It is the bidder's responsibility to submit a bid that meets all mandatory specifications stated within. Because of the variations in manufacturer's construction, the bidder must compare their product bid with the required listed minimum specifications and identify any deviations.
- 3. Failure to properly identify deviations may render the bidder's proposal non-responsive and not capable of consideration for award.
- 4. Bidders should note that a descriptive brochure of the model bid may not be sufficient or acceptable as proper identification of deviations from the written specifications.

NO - Deviations:	YES - Deviations: _			
List any deviations your	company is submitting belo	ow: (List on separate	page, if necessa	ary)
5				
		5	e e	
		=		
Company Name				
Print Name of Authorized C	ompany Official			
Signature of Authorized Cor	 npany Official			

Edinburg Consolidated Independent School District Substitute W-9 & Direct Deposit Authorization Form

Complete form if: 1. You are a U.S. entity (including a resident alien) 2. You are a vendor that provides goods or services to ECISD; AND 3. You will receive payment from the Edinburg Consolidated ISD	New Request	Update – Select from the following: Tax ID Legal Name Vendor Order Address Direct Deposit Contact Information Vendor Payment Address	
Individual/Company/Entity Legal Name (Must match TIN below):		DBA Name (IF Applicable):	
Taxpayer Identification Number (TIN)		OR	
Federal Tax ID Number (FID) -	75	SSN – Individual/Sole Proprietor	
Vendor Contact Information:			
Name: Title:		Phone: Fax:	
Vendor Type - Select5 only one of the following boxes	s:		
Individual/Sole Proprietorship C-Corporation S	6-Corporation	Partnership Trust/Estate Other: Explain	
Limited Liability Company (LLC). Enter the tax classification (C=	C corporation, S=S	S corporation, P=Partnership)	
Exempt payee code (if any) Exemption f	rom FATCA report	ting code (if any)	
Order Address:	Payment	t Remittance Address:	
	C	Check if Order Address is same as Payment Address	
Street/PO Box:	Street/PC	O Box:	
Second Line:	Second L	Line:	
City: State: Zip Code:	City:	State: Zip Code:	
Banking Information:			
In an effort to process your payment faster, we request that you compl setup. Attach a voided check or letter from your financial institution. Account Type: Checking Savings Bank Name:	Email for	or Direct Deposit Notification:	
Bank Address:	Account	nt Number:	
City: State: Zip Code:	Phone:		
W-9 Certification 1. The number shown on this form is my correct taxpayer identification n (or I am waiting for anumber to be issued to me), AND 2. I am not subject to backup withholding because: (a) I am exemp backup withholding, or (b) I have not been notified by the Internal Re Services (IRS) that I am subject to backup withholding as a result of a fai report all interest or dividends, or (c) the IRS has notified me that I am no subject to backup withholding, AND 3. I am a U.S. citizen or other U.S. person. Certification Instructions: You must cross out item 2 above if you have notified by the IRS that you are currently subject to backup withholding be you have failed to report all interest and dividends on your tax return. F estate transactions, item 2 does not apply. For mortgage interest acquisition or abandonment of secured property, cancellation of contributions, to an individual retirement arrangement (IRA), and gen payments other than interest and dividends, you are not required to si Certification, but you must provide your correct TIN. Signature: Date:	umber I authorizinitiate dii above, ar Texas ar understar longer 1. It is minorize be been acause or real apaid, debt, gerally, gn the I above, ar Texas ar understar 2. It is minorize and that 8 aronal from a venotification Signature.	ny responsibility to provide accurate and current banking information of direct deposits will be by e-mail; and it is my responsible a valid e-mail address. my responsibility to verify payment has been credited to my acceptable acceptable. ECISD assumes no liability for overdrafts for any reasons. The authorization will remain in effect until; (a) a written request is revendor officer to change or terminate direct deposit agreement on is sent by my bank that the account is no longer valid. The acceptable is my responsibility for overdrafts for any reasons. Date:	dicated ce with ules. I ation. bility to ccount,
Print Name/Title:	Print Nan	me/Title:	
Send completed form to: ECISD requestor or: Mail to: Edinburg Consolidated Independent School District, ATTN: Acco OR; Fax: 956-383-4354. Any Questions on this form, call 956-289-2300	ounts Payable, PO ext. 2074		sd.us,
Finance Office Use Only: Updated Record on:	Updated by:	Bank Code: Vendor #:	

SPECIAL TERMS & CONDITIONS

- INTENTION: It is the intention of the Board of Trustees of the Edinburg Consolidated Independent School District to receive proposals from interested vendors to select vendor(s) offering the best value for MEMORIAL BOILER REPLACEMENT.
- 2. **CONTACT**: Please call ClauDina Longoria at 956-289-2311, ext. 2135 or e-mail to d.longoria@ecisd.us if you have any questions regarding this bid.
- 3. **CONTRACT SERVICE PERIOD**: This is a one-time purchase.
- EEOC NON-DISCRIMINATION STATEMENT: It is the policy of Edinburg CISD not to discriminate on the basis of sex, age, handicap, religion, race, color, or national origin in its educational programs.
- 5. **PAYMENT INFORMATION**: Payments will be made on the District's regular payment schedule.
- 6. **TERMS**: Net 30 unless otherwise noted as an exception.
- 7. **ADDENDUMS:** It will be the vendor's responsibility to check the Purchasing Website for any addendums or additional information. ECISD website is www.ecisd.us. Click on Departments, then Purchasing. Once at the Purchasing site, locate the calendar list in middle and click on title of the solicitation. If you do not see it on the list, click the month button on top and you will see complete month with all solicitations the District is currently seeking out. Any questions, please contact the Purchasing office and we will assist you.
- 8. **DELIVERY INFORMATION:** The successful bidders will be given reasonable length of time for delivery, however, purchase orders over thirty (30) days old are considered unreasonable. The Edinburg CISD reserves the right to review the bidder's delivery performance and to re-award to the next lowest vendor, if delivery is unsatisfactory.

9. INSURANCE REQUREMENTS:

- a. General Liability
- b. Workmen's Compensation
- c. Property Liability
- 10. **SCOPE OF WORK**: ECISD is seeking to purchase 1 boiler. **This is for the purchase of the boiler only. Do not include pricing for installation.**

11. START UP/COMMISSIONING

- a. Price for start-up should be included in cost. Certified technicians should perform start up and necessary setting adjustments for units to run under designed loading conditions.
- b. Technician will perform commissioning and report.

SPECIFICATIONS

Please see the attached pages for the actual specifications on the areas listed below:

SECTION	TITLE	PAGES
23 02 00	Basic Materials & Methods	1 – 16
23 05 29	Hangers and Support for Piping and Equipment – HVAC	1 – 6
23 07 13	Duct Insulation	1 – 5
23 37 13	Air Distribution Devices	1 - 4

Edinburg Consolidated Independent School District CSP 20-49, MEMORIAL BOILER REPLACEMENT PROPOSAL FORM

ITEM					
#	DESCRIPTION	ΔTΥ	UNIT COST	TOTAL COST	BRAND/MODEL
-	MEMORIAL BOILER REPLACEMENT 1 Include start-up cost, technician to perform start up and necessary setting adjustments for units to run under designed loading conditions, specify manufacturer's warranty.	-			
2	TRAINING Any necessary training to ECISD technicians and should be provided by Manufacturer's certified technician/personnel, specify numbers allocated hours for training.				
		OPTONS			No the little of

1 YEAR ADDITIONAL WARRANTY Parts & Labor

က

BOILER SCHEDULE	
MARK	B-1
:UEL	GAS
NPUT MBH	4000
SUTPUT MBH	3400
SPM	264
:WT/LWT (F)	
AAX.PRESSURE DROP (FT. HD.)	
TUE SIZE	12
MANUFACTURER	RAYPAK
AODEL NUMBER	BR-MVB-H7-4003
VOTES:	
 BOILER MUST MEET LATEST LOW Nox REQUIREMENTS FOR TEXAS. 	EMENTS FOR TEXAS.

SECTION 23 02 00 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The requirements of the General Conditions and Supplementary Conditions apply to all Work herein.
- B. The Contract Drawings indicate the extent and general arrangement of the systems. If any departure from the Contract Drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore, shall be submitted to the Architect for approval as soon as practicable. No such departures shall be made without the prior written approval of the Architect.
- C. Notwithstanding any reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, such reference shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect, expressed in writing, is equal to that specified.

1.02 SCOPE OF WORK

- A. The Work included under this Contract consists of the furnishing and installation of all equipment and material necessary and required to form the complete and functioning systems in all of its various phases, all as shown on the accompanying Drawings and/or described in these Specifications. The contractor shall review all pertinent drawings, including those of other contracts prior to commencement of Work.
- B. This Division requires the furnishing and installing of all items Specified herein, indicated on the Drawings or reasonably inferred as necessary for safe and proper operation; including every article, device or accessory (whether or not specifically called for by item) reasonably necessary to facilitate each system's functioning as indicated by the design and the equipment specified. Elements of the work include, but are not limited to, materials, labor, supervision, transportation, storage, equipment, utilities, all required permits, licenses and inspections. All work performed under this Section shall be in accordance with the Project Manual, Drawings and Specifications and is subject to the terms and conditions of the Contract.
- C. The approximate locations of Mechanical (HVAC) items are indicated on the Drawings. These Drawings are not intended to give complete and accurate details in regard to location of outlets, apparatus, etc. Exact locations are to be determined by actual measurements at the building, and will in all cases be subject to the Review of the Owner or Engineer, who reserves the right to make any reasonable changes in the locations indicated without additional cost to the Owner.
- D. Items specifically mentioned in the Specifications but not shown on the Drawings and/or items shown on Drawings but not specifically mentioned in the Specifications shall be installed by the Contractor under the appropriate section of work as if they were both specified and shown.
- E. All discrepancies between the Contract Documents and actual job-site conditions shall be reported to the Owner or Engineer so that they will be resolved prior to the bidding, where this cannot be done at least 7 working days prior to bid; the greater or more costly of the discrepancy shall be bid. All labor and materials required to perform the work described shall be included as part of this Contract.
- F. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and fully operating system in cooperation with other trades.
- G. It is the intent of the above "Scope" to give the Contractor a general outline of the extent of the Work involved; however, it is not intended to include each and every item required for the Work. Anything omitted from the "Scope" but shown on the Drawings, or specified later, or necessary for a complete

- and functioning heating, ventilating and air conditioning system shall be considered a part of the overall "Scope".
- H. The Contractor shall rough-in fixtures and equipment furnished by others from rough-in and placement drawings furnished by others. The Contractor shall make final connection to fixtures and equipment furnished by others.

1.03 SCHEMATIC NATURE OF CONTRACT DOCUMENTS

- A. The contract documents are schematic in nature in that they are only to establish scope and a minimum level of quality. They are not to be used as actual working construction drawings. The actual working construction drawings shall be the approved shop drawings.
- B. All duct or pipe or equipment locations as indicated on the documents do not indicate every transition, offset, or exact location. All transitions, offsets clearances and exact locations shall be established by actual field measurements, coordination with the structural, architectural and reflected ceiling plans, and other trades. Submit shop drawings for approval.
- C. All transitions, offsets and relocations as required by actual field conditions shall be performed by the contractor at no additional cost to the owner.
- D. Additional coordination with electrical contractor may be required to allow adequate clearances of electrical equipment, fixtures and associated appurtenances. Contractor to notify Architect and Engineer of unresolved clearances, conflicts or equipment locations.

1.04 SITE VISIT AND FAMILIARIZATION

- A. Before submitting a bid, it will be necessary for each Contractor whose work is involved to visit the site and ascertain for himself the conditions to be met therein in installing his work and make due provision for same in his bid. It will be assumed that this Contractor in submitting his bid has visited the premises and that his bid covers all work necessary to properly install the equipment shown. Failure on the part of the Contractor to comply with this requirement shall not be considered justification for the omission or faulty installation of any work covered by these Specifications and Drawings.
- B. Understand the existing utilities from which services will be supplied; verify locations of utility services, and determine requirements for connections.
- C. Determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1.05 WORK SPECIFIED IN OTHER SECTIONS

- A. Finish painting is specified. Prime and protective painting are included in the work of this Division.
- B. Owner and General Contractor furnished equipment shall be properly connected to Mechanical (HVAC) systems.
- C. Furnishing and installing all required Mechanical (HVAC) equipment control relays and electrical interlock devices, conduit, wire and J-boxes are included in the Work of this Division.

1.06 PERMITS, TESTS, INSPECTIONS

A. Arrange and pay for all permits, fees, tests, and all inspections as required by governmental authorities.

1.07 DATE OF FINAL ACCEPTANCE

A. The date of final acceptance shall be the date of owner occupancy, or the date all punch list items have been completed or final payment has been received. Refer to Division One for additional

requirements.

B. The date of final acceptance shall be documented in writing and signed by the architect, owner and contractor.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.
- B. Deliver products to the project at such time as the project is ready to receive the equipment, pipe or duct properly protected from incidental damage and weather damage.
- C. Damaged equipment, duct or pipe shall be promptly removed from the site and new, undamaged equipment, pipe and duct shall be installed in its place promptly with no additional charge to the Owner.

1.09 NOISE AND VIBRATION

- A. The heating, ventilating and air conditioning systems, and the component parts there of, shall be guaranteed to operate without objectionable noise and vibration.
- B. Provide foundations, supports and isolators as specified or indicated, properly adjusted to prevent transmission of vibration to the Building structure, piping and other items.
- C. Carefully fabricate ductwork and fittings with smooth interior finish to prevent turbulence and generation or regeneration of noise.
- D. All equipment shall be selected to operate with minimum of noise and vibration. If, in the opinion of the Architect, objectionable noise or vibration is produced or transmitted to or through the building structure by equipment, piping, ducts or other parts of the Work, the Contractor shall rectify such conditions without extra cost to the Owner.

1.10 APPLICABLE CODES

- A. Obtain all required permits and inspections for all work required by the Contract Documents and pay all required fees in connection thereof.
- B. Arrange with the serving utility companies for the connection of all required utilities and pay all charges, meter charges, connection fees and inspection fees, ifrequired.
- C. Comply with all applicable codes, specifications, local ordinances, industry standards, utility company regulations and the applicable requirements which includes and is not limited to the following nationally accepted codes and standards:
 - 1. Air Moving & Conditioning Association, AMCA.
 - 2. American Standards Association, ASA.
 - 3. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., ASHRAE.
 - 4. American Society of Mechanical Engineers, ASME.
 - 5. American Society of Plumbing Engineers, ASPE.
 - 6. American Society of Testing Materials, ASTM.
 - 7. American Water Works Association, AWWA.
 - 8. National Bureau of Standards, NBS.
 - 9. National Fire Protection Association, NFPA.
 - Sheet Metal & Air Conditioning Contractors' National Association, SMACNA.
 - 11. Underwriters' Laboratories, Inc., UL.
 - International Energy Conservation Code, IECC.
 - 13. International Fire Code.

- International Gas Code.
- D. Where differences existing between the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the listed nationally accepted codes and standards, the more stringent or costly application shall govern. Promptly notify the Engineer in writing of all differences.
- E. When directed in writing by the Engineer, remove all work installed that does not comply with the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the above listed nationally accepted codes and standards, correct the deficiencies, and complete the work at no additional cost to the Owner.

1.11 DEFINITIONS AND SYMBOLS

- A. General Explanation: A substantial amount of construction and Specification language constitutes definitions for terms found in other Contract Documents, including Drawings which must be recognized as diagrammatic and schematic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this article, unless defined otherwise in Division 1.
- B. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for work to the extent not stated more explicitly in another provision of the Contract Documents.
- C. Indicated: The term "Indicated" is a cross-reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications and to similar means of recording requirements in Contract Documents. Where such terms as "Shown", "Noted", Scheduled", "Specified" and "Detailed" are used in lieu of "Indicated", it is for the purpose of helping the reader locate cross-reference material, and no limitation of location is intended except as specifically shown.
- D. Directed: Where not otherwise explained, terms such as "Directed", "Requested", "Accepted", and "Permitted" mean by the Architect or Engineer. However, no such implied meaning will be interpreted to extend the Architect's or Engineer's responsibility into the Contractor's area of construction supervision.
- E. Reviewed: Where used in conjunction with the Engineer's response to submittals, requests for information, applications, inquiries, reports and claims by the Contractor the meaning of the term "Reviewed" will be held to limitations of Architect's and Engineer's responsibilities and duties as specified in the General and Supplemental Conditions. In no case will "Reviewed" by Engineer be interpreted as a release of the Contractor from responsibility to fulfill the terms and requirements of the Contract Documents.
- F. Furnish: Except as otherwise defined in greater detail, the term "Furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- G. Install: Except as otherwise defined in greater detail, the term "Install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance.
- H. Provide: Except as otherwise defined in greater detail, the term "Provide" is used to mean "Furnish and Install", complete and ready for intended use, as applicable in each instance.
- Installer: Entity (person or firm) engaged by the Contractor or its subcontractor or Sub-contractor for performance of a particular unit of work at the project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance. It is a general requirement that such entities

(Installers) be expert in the operations they are engaged to perform.

- J. Imperative Language: Used generally in Specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or when so noted by other identified installers or entities.
- K. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended as minimum quality level or quantity of work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable tolerance limits. In complying with requirements, indicated or scheduled numeric values are either minimums or maximums as noted or as appropriate for the context of the requirements. Refer instances of uncertainty to Owner or Engineer via a request for information (RFI) for decision before proceeding.
- L. Abbreviations and Symbols: The language of Specifications and other Contract Documents including Drawings is of an abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self explanatory nature have been included in text of Specifications and Drawings. Specific abbreviations and symbols have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of Specification requirements with notations on Drawings and in Schedules. These are frequently defined in Section at first instance of use or on a Legend and Symbol Drawing. Trade and industry association names and titles of generally recognized industry standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of Contract Documents so indicate. Except as otherwise indicated, graphic symbols and abbreviations used on Drawings and in Specifications are those recognized in construction industry for indicated purposes. Where not otherwise noted symbols and abbreviations are defined by 1993 ASHRAE Fundamentals Handbook, chapter 34 "Abbreviations and Symbols", ASME and ASPE published standards.

1.12 DRAWINGS AND SPECIFICATIONS

- A. These Specifications are intended to supplement the Drawings and it will not be the province of the Specifications to mention any part of the work which the Drawings are competent to fully explain in every particular and such omission is not to relieve the Contractor from carrying out portions indicated on the Drawings only.
- B. Should items be required by these Specifications and not indicated on the Drawings, they are to be supplied even if of such nature that they could have been indicated thereon. In case of disagreement between Drawings and Specifications, or within either Drawings or Specifications, the better quality or greater quantity of work shall be estimated and the matter referred to the Architect or Engineer for review with a request for information and clarification at least 7 working days prior to bid opening date for issuance of an addendum.
- C. The listing of product manufacturers, materials and methods in the various sections of the Specifications, and indicated on the Drawings, is intended to establish a standard of quality only. It is not the intention of the Owner or Engineer to discriminate against any product, material or method that is equal to the standards as indicated and/or specified, nor is it intended to preclude open, competitive bidding. The fact that a specific manufacturer is listed as an acceptable manufacturer should not be interpreted to mean that the manufacturers' standard product will meet the requirements of the project design, Drawings, Specifications and space constraints.
- D. The Architect or Engineer and Owner shall be the sole judge of quality and equivalence of equipment, materials and methods.
- E. Products by other reliable manufacturers, other materials, and other methods, will be accepted as outlined, provided they have equal capacity, construction, and performance. However, under no circumstances shall any substitution by made without the written permission of the Architect or Engineer and Owner. Request for prior approval must be made in writing 10 days prior to the bid date

without fail.

- F. Wherever a definite product, material or method is specified and there is not a statement that another product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method is the only one that shall be used without prior approval.
- G. Wherever a definite material or manufacturer's product is specified and the Specification states that products of similar design and equal construction from the specified list of manufacturers may be substituted, it is the intention of the Owner or Engineer that products of manufacturers that are specified are the only products that will be acceptableand that products of other manufacturers will not be considered for substitution without approval.
- H. Wherever a definite product, material or method is specified and there is a statement that "OR EQUAL" product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method or an "OR EQUAL" product, material or method may be used if it complies with the specifications and is submitted for review to the Engineer as outline herein.
- I. Where permission to use substituted or alternative equipment on the project is granted by the Owner or Engineer in writing, it shall be the responsibility of the Contractor or Subcontractor involved to verify that the equipment will fit in the space available which includes allowances for all required Code and maintenance clearances, and to coordinate all equipment structural support, plumbing and electrical requirements and provisions with the Mechanical (HVAC) Design Documents and all other trades, including Division 26.
- J. Changes in architectural, structural, electrical, mechanical, and plumbing requirements for the substitution shall be the responsibility of the bidder wishing to make the substitution. This shall include the cost of redesign by the affected designer(s). Any additional cost incurred by affected subcontractors shall be the responsibility of this bidder and not the owner.
- K. If any request for a substitution of product, material or method is rejected, the Contractor will automatically be required to furnish the product, material or method named in the Specifications. Repetitive requests for substitutions will not be considered.
- L. The Owner or Engineer will investigate all requests for substitutions when submitted in accordance with above and if accepted, will issue a letter allowing the substitutions.
- M. Where equipment other than that used in the design as specified or shown on the Drawings is substituted (either from an approved manufacturers list or by submittal review), it shall be the responsibility of the substituting Contractor to coordinate space requirements, building provisions and connection requirements with his trades and all other trades and pay all additional costs to other trades, the Owner, the Architect or Engineer, if any, due to the substitutions.

1.13 SUBMITTALS

A. Coordinate with Division 1 for submittal timetable requirements, unless noted otherwise within thirty (30) days after the Contract is awarded the Contractor shall submit a minimum of eight (8) complete bound sets of shop drawings and complete data covering each item of equipment or material. The first submittal of each item requiring a submittal must be received by the Architect or Engineer within the above thirty day period. The Architect or Engineer shall not be responsible for any delays or costs incurred due to excessive shop drawing review time for submittals received after the thirty (30) day time limit. The Architect and Engineer will retain one (1) copy each of all shop drawings for their files. Where full size drawings are involved, submit one (1) print and one (1) reproducible sepia or mylar in lieu of eight (8) sets. All literature pertaining to an item subject to Shop Drawing submittal shall be submitted at one time. A submittal shall not contain information from more than one Specification section, but may have a section subdivided into items or equipment as listed in each section. The Contractor may elect to submit each item or type of equipment separately. Each submittal shall include the following items enclosed in a suitable binder:

- A cover sheet with the names and addresses of the Project, Architect, MEP Engineer, General Contractor and the Subcontractor making the submittal. The cover sheet shall also contain the section number covering the item or items submitted and the item nomenclature or description.
- 2. An index page with a listing of all data included in the Submittal.
- 3. A list of variations page with a listing all variations, including unfurnished or additional required accessories, items or other features, between the submitted equipment and the specified equipment. If there are no variations, then this page shall state "NO VARIATIONS". Where variations affect the work of other Contractors, then the Contractor shall certify on this page that these variations have been fully coordinated with the affected Contractors and that all expenses associated with the variations will be paid by the submitting Contractor. This page will be signed by the submitting Contractor.
- 4. Equipment information including manufacturer's name and designation, size, performance and capacity data as applicable. All applicable Listings, Labels, Approvals and Standards shall be clearly indicated.
- 5. Dimensional data and scaled drawings as applicable to show that the submitted equipment will fit the space available with all required Code and maintenance clearances clearly indicated and labeled at a minimum scale of 1/4" = 1'-0", as required to demonstrate that the alternate or substituted product will fit in the space available.
- 6. Identification of each item of material or equipment matching that indicated on the Drawings.
- 7. Sufficient pictorial, descriptive and diagrammatic data on each item to show its conformance with the Drawings and Specifications. Any options or special requirements or accessories shall be so indicated. All applicable information shall be clearly indicated with arrows or another approved method.
- 8. Additional information as required in other Sections of this Division.
- Certification by the General Contractor and Subcontractor that the material submitted is in accordance with the Drawings and Specifications, signed and dated in long hand. Submittals that do not comply with the above requirements shall be returned to the Contractor and shall be marked "REVISE AND RESUBMIT".
- B. Refer to Division 1 for additional information on shop drawings and submittals.
- C. Equipment and materials submittals and shop drawings will be reviewed for compliance with design concept only. It will be assumed that the submitting Contractor has verified that all items submitted can be installed in the space allotted. Review of shop drawings and submittals shall not be considered as a verification or guarantee of measurements or building conditions.
- D. Where shop drawings and submittals are marked "REVIEWED", the review of the submittal does not indicate that submittals have been checked in detail nor does it in any way relieve the Contractor from his responsibility to furnish material and perform work as required by the Contract Documents.
- E. Shop drawings shall be reviewed and returned to the Contractor with one of the following categories indicated:
 - 1. REVIEWED: Contractor need take no further submittal action, shall include this submittal in the O&M manual and may order the equipment submitted on.
 - 2. REVIEWED AS NOTED: Contractor shall submit a letter verifying that required exceptions to the submittal have been received and complied with including additional accessories or coordination action as noted, and shall include this submittal and compliance letter in the O&M manual. The contractor may order the equipment submitted on at the time of the returned submittal providing the Contractor complies with the exceptions noted.
 - 3. NOT APPROVED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is not approved, the Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or drawings. Contractor shall not order equipment that is not approved. Repetitive requests for substitutions will not be considered.
 - 4. REVISE AND RESUBMIT: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked revise and resubmit, the

Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or provide as noted on previous shop drawings. Contractor shall not order equipment marked revise and resubmit. Repetitive requests for substitutions will not be considered.

- 5. CONTRACTOR'S CERTIFICATION REQUIRED: Contractor shall resubmit submittal on material, equipment or method of installation. The Contractor's stamp is required stating the submittal meets all conditions of the contract documents. The stamp shall be signed by the General Contractor. The submittal will not be reviewed if the stamp is not placed and signed on all shop drawings.
- 6. MANUFACTURER NOT AS SPECIFIED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked manufacturer not as specified, the Contractor will automatically be required to furnish the product, material or method named in the specifications. Contractor shall not order equipment where submittal is marked manufacturer not as specified. Repetitive requests for substitutions will not be considered.
- F. Materials and equipment which are purchased or installed without shop drawing review shall be at the risk of the Contractor and the cost for removal and replacement of such materials and equipment and related work which is judged unsatisfactory by the Owner or Engineer for any reason shall be at the expense of the Contractor. The responsible Contractor shall remove the material and equipment noted above and replace with specified equipment or material at his own expense when directed in writing by the Architect or Engineer.
- G. Shop Drawing Submittals shall be complete and checked prior to submission to the Engineer for review.
- H. Submittals are required for, but not limited to, the following items:
 - 1. Pipe Material and Specialties.
 - 2. Pipe Fabrication Drawings.
 - Basic Materials.
 - Variable Air Volume Boxes.
 - 5. Air Handling Units.
 - 6. Cooling Towers.
 - 7. Chillers.
 - 8. Air Cooled Condensing Units.
 - 9. Water Treatment.
 - 10. Expansion Compensation.
 - 11. Variable Frequency Drives.
 - 12. Noise and Vibration Controls.
 - 13. HVAC Pipe and Duct Insulation.
 - 14. Hydronic Valves.
 - 15. Hydronic Piping and Accessories.
 - 16. Hydronic Pumps.
 - 17. Roof-Top A/C Units.
 - Heating Water Boiler.
 - 19. Portable Pipe Hanger and Equipment Supports.
 - 20. Duct Specialties.
 - 21. Duct Fabrication Drawings.
 - 22. Air Distribution Devices.
 - 23. Fan Coil Units.
 - 24. Filters.
 - 25. Fans.
 - 26. Fire Dampers and Fire Smoke Dampers.
 - 27. Temperature Controls and Control Sequences.
 - 28. Test, Adjust and Balance Reports.
 - 29. Testing, Adjusting and Balancing Contractor Qualifications.
 - Coordination Drawings.

I. Refer to other Division 23 sections for additional shop drawing requirements. Provide samples of actual materials and/or equipment to be used on the Project upon request of the Owner or Engineer.

1.14 COORDINATION DRAWINGS

- A. Prepare coordination drawings to a scale of 1/4"=1'-0" or larger; detailing major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:
 - 1. Indicate the proposed locations of pipe, duct, equipment, and other materials. Include the following:
 - a. Wall and type locations.
 - b. Clearances for installing and maintaining insulation.
 - c. Locations of light fixtures and sprinkler heads.
 - d. Clearances for servicing and maintaining equipment, including tube removal, filter removal, and space for equipment disassembly required for periodic maintenance.
 - e. Equipment connections and support details.
 - f. Exterior wall and foundation penetrations.
 - g. Routing of storm and sanitary sewer piping.
 - h. Fire-rated wall and floor penetrations.
 - i. Sizes and location of required concrete pads and bases.
 - i. Valve stem movement.
 - Structural floor, wall and roof opening sizes and details.
 - 2. Indicate scheduling, sequencing, movement, and positioning of large equipment into the building during construction.
 - 3. Prepare floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.
 - 4. Prepare reflected ceiling plans to coordinate and integrate installations, air distribution devices, light fixtures, communication systems components, and other ceiling-mounted items.
- B. This Contractor shall be responsible for coordination of all items that will affect the installation of the work of this Division. This coordination shall include, but not be limited to: voltage, ampacity, capacity, electrical and piping connections, space requirements, sequence of construction, building requirements and special conditions.
- C. By submitting shop drawings on the project, this Contractor is indicating that all necessary coordination has been completed and that the systems, products and equipment submitted can be installed in the building and will operate as specified and intended, in full coordination with all other Contractors and Subcontractors.

1.15 RECORD DOCUMENTS

- A. Prepare record documents in accordance with the requirements in Special Project Requirements, in addition to the requirements specified in Division 23, indicate the following installed conditions:
 - 1. Duct mains and branches, size and location, for both exterior and interior; locations of dampers, fire dampers, duct access panels, and other control devices; filters, fuel fired heaters, fan coils, condensing units, and roof-top A/C units requiring periodic maintenance or repair.
 - 2. Mains and branches of piping systems, with valves and control devices located and numbered, concealed unions located, and with items requiring maintenance located (i.e., traps, strainers, expansion compensators, tanks, etc.). Valve location diagrams, complete with valve tag chart. Indicate actual inverts and horizontal locations of underground piping.
 - 3. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
 - 4. Approved substitutions, Contract Modifications, and actual equipment and materials installed.
 - 5. Contract Modifications, actual equipment and materials installed.

- B. Engage the services of a Land Surveyor or Professional Engineer registered in the state in which the project is located as specified herein to record the locations and invert elevations of underground installations.
- C. The Contractor shall maintain a set of clearly marked black line record "AS-BUILT" prints on the job site on which he shall mark all work details, alterations to meet site conditions and changes made by "Change Order" notices. These shall be kept available for inspection by the Owner, Architect or Engineer at all times.
- D. Refer to Division 1 for additional requirements concerning record drawings. If the Contractor does not keep an accurate set of as-built drawings, the pay request may be altered or delayed at the request of the Architect. Mark the drawings with a colored pencil. Delivery of as-built prints and reproducibles is a condition of final acceptance.
- E. The record prints shall be updated on a daily basis and shall indicate accurate dimensions for all buried or concealed work, precise locations of all concealed pipe or duct, locations of all concealed valves, controls and devices and any deviations from the work shown on the Construction Documents which are required for coordination. All dimensions shall include at least two dimensions to permanent structure points.
- F. Submit three prints of the tracings for approval. Make corrections to tracings as directed and delivered "Auto Positive Tracings" to the architect. "As-Built" drawings shall be furnished in addition to shop drawings.
- G. When the option described in paragraph F., above is not exercised then upon completion of the work, the Contractor shall transfer all marks from the submit a set of clear concise set of reproducible record "AS-BUILT" drawings and shall submit the reproducible drawings with corrections made by a competent draftsman and three (3) sets of black line prints to the Architect or Engineer for review prior to scheduling the final inspection at the completion of the work. The reproducible record "AS-BUILT" drawings shall have the Engineers Name and Seal removed or blanked out and shall be clearly marked and signed on each sheet as follows:

1.16 OPERATING MANUALS

- A. Prepare maintenance manuals in accordance with Division 1 and in addition to the requirements specified in Division 1, include the following information for equipment items:
 - Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
 - 2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
 - 3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
 - 4. Servicing instructions and lubrication charts and schedules.

1.17 CERTIFICATIONS AND TEST REPORTS

- A. Submit a detailed schedule for completion and testing of each system indicating scheduled dates for completion of system installation and outlining tests to be performed and schedule date for each test. This detailed completion and test schedule shall be submittal at least 90 days before the projected Project completion date.
- B. Test result reporting forms shall be submitted for review no later than the date of the detailed schedule submitted.
- C. Submit 4 copies of all certifications and test reports to the Architect or Engineer for review adequately in advance of completion of the Work to allow for remedial action as required to correct deficiencies discovered in equipment and systems.
- D. Certifications and test reports to be submitted shall include, but not be limited to those items outlined in Section of Division 23.

1.18 MAINTENANCE MANUALS

- A. Coordinate with Division 1 for maintenance manual requirements, unless noted otherwise bind together in "D ring type" binders by National model no. 79-883 or equal, binders shall be large enough to allow ¼" of spare capacity. Three (3) sets of all approved shop drawing submittals, fabrication drawings, bulletins, maintenance instructions, operating instructions and parts exploded views and lists for each and every piece of equipment furnished under this Specification. All sections shall be typed and indexed into sections and labeled for easy reference and shall utilize the individual specification section numbers shown in the Mechanical Specifications as an organization guideline. Bulletins containing information about equipment that is not installed on the project shall be properly marked up or stripped and reassembled. All pertinent information required by the Owner for proper operation and maintenance of equipment supplied by Division 23 shall be clearly and legibly set forth in memoranda that shall, likewise, be bound with bulletins.
- B. Prepare maintenance manuals in accordance with Special Project Conditions, in addition to the requirements specified in Division 23, include the following information for equipment items:
 - Identifying names, name tags designations and locations for all equipment.
 - 2. Valve tag lists with valve number, type, color coding, location and function.
 - Reviewed shop drawing submittals with exceptions noted compliance letter.
 - 4. Fabrication drawings.
 - 5. Equipment and device bulletins and data sheets clearly highlighted to show equipment installed on the project and including performance curves and data as applicable, i.e., description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and model numbers of replacement parts.
 - 6. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
 - 7. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions, servicing instructions and lubrication charts and schedules.
 - 8. Equipment and motor name plate data.
 - 9. Wiring diagrams.
 - 10. Exploded parts views and parts lists for all equipment and devices.
 - 11. Color coding charts for all painted equipment and conduit.
 - 12. Location and listing of all spare parts and special keys and tools furnished to the Owner.
 - 13. Furnish recommended lubrication schedule for all required lubrication points with listing of type and approximate amount of lubricant required.
- C. Refer to Division 1 for additional information on Operating and Maintenance Manuals.

D. Operating and Maintenance Manuals shall be turned over to the Owner or Engineer a minimum of 14 working days prior to the beginning of the operator training period.

1.19 OPERATOR TRAINING

- A. The Contractor shall furnish the services of factory trained specialists to instruct the Owner's operating personnel. The Owner's operator training shall include 12 hours of on site training in three 4 hour shifts.
- B. Before proceeding with the instruction of Owner Personnel, prepare a typed outline in triplicate, listing the subjects that will be covered in this instruction, and submit the outline for review by the Owner. At the conclusion of the instruction period obtain the signature of each person being instructed on each copy of the reviewed outline to signify that he has a proper understanding of the operation and maintenance of the systems and resubmit the signed outlines.
- C. Refer to other Division 23 Sections for additional Operator Training requirements.

1.20 FINAL COMPLETION

- A. At the completion of the work, all equipment and systems shall be tested and faulty equipment and material shall be repaired or replaced. Refer to Sections of Division 23 for additional requirements.
- B. Clean and adjust all air distribution devices and replace all air filters immediately prior to final acceptance.
- C. Touch up and/or refinish all scratched equipment and devices immediately prior to final acceptance.

1.21 CONTRACTOR'S GUARANTEE

- A. Use of the HVAC systems to provide temporary service during construction period will not be allowed without permission from the Owner in writing and if granted shall not be cause warranty period to start, except as defined below.
- B. Contractor shall guarantee to keep the entire installation in repair and perfect working order for a period of one year after its completion and final acceptance, and shall furnish free of additional cost to the Owner all materials and labor necessary to comply with the above guarantee throughout the year beginning from the date of issue of Substantial Completion, Beneficial Occupancy by the Owner or the Certificate of Final Payment as agreed upon by all parties.
- C. This guarantee shall not include cleaning or changing filters except as required by testing, adjusting and balancing.
- D. All air conditioning compressors shall have parts and labor guarantees for a period of not less than 5 years beyond the date of final acceptance.
- E. Refer to Sections in Division 23 for additional guarantee or warranty requirements.

1.22 TRANSFER OF ELECTRONIC FILES

- A. Project documents are not intended or represented to be suitable for reuse by Architect/Owner or others on extensions of this project or on any other project. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Architect/Owner's risk and without liability or legal exposure to Engineer or its consultants from all claims, damages, losses and expense, including attorney's fees arising out of or resulting thereof.
- B. Because data stored in electric media format can deteriorate or be modified inadvertently, or otherwise without authorization of the data's creator, the party receiving the electronic files agrees that it will

perform acceptance tests or procedures within sixty (60) days of receipt, after which time the receiving party shall be deemed to have accepted the data thus transferred to be acceptable. Any errors detected within the sixty (60) day acceptance period will be corrected by the party delivering the electronic files. Engineer is not responsible for maintaining documents stored in electronic media format after acceptance by the Architect/Owner.

- C. When transferring documents in electronic media format, Engineer makes no representations as to the long term compatibility, usability or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by Engineer at the beginning of the Project.
- D. Any reuse or modifications will be Contractor's sole risk and without liability or legal exposure to Architect, Engineer or any consultant.
- E. The Texas Board of Architectural Examiners (TBAE) has stated that it is in violation of Texas law for persons other than the Architect of record to revise the Architectural drawings without the Architect's written consent.

It is agreed that "MEP" hard copy or computer-generated documents will not be issued to any other party except directly to the Architect/Owner. The contract documents are contractually copyrighted and cannot be used for any other project or purpose except as specifically indicated in AIA B-141 Standard Form of Agreement Between Architect and Owner.

If the client, Architect/Owner, or developer of the project requires electronic media for "record purposes", then an AutoCAD based compact disc ("CD") will be prepared. The "CD" will be submitted with all title block references intact and will be formatted in a "plot" format to permit the end user to only view and plot the drawings. Revisions will not be permitted in this configuration.

F. At the Architect/Owner's request, Engineer will prepare one "CD" of electronic media to assist the contractor in the preparation of submittals. The Engineer will prepare and submit the "CD" to the Architect/Owner for distribution to the contractor. All copies of the "CD" will be reproduced for a cost of reproduction fee of Five Hundred Dollars (\$500.00) per "CD".

The "CD" will be prepared and all title blocks, names and dates will be removed. The "CD" will be prepared in a ".dwg" format to permit the end user to revise the drawings.

G. This Five Hundred Dollars (\$500.00) per "CD" cost of reproduction will be paid directly from the Contractor to the Engineer. The "CD" will be prepared only after receipt of the Five Hundred Dollars (\$500.00). The Five Hundred Dollars (\$500.00) per "CD" cost of reproduction is to only recover the cost of the manhours necessary to reproduce the documents. It is not a contractual agreement between the Contractor and Engineer to provide any engineering services, nor any other service.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide materials and equipment manufactured by a domestic United States manufacturer.
- B. Access Doors: Provide access doors as required for access to equipment, valves, controls, cleanouts and other apparatus where concealed. Access doors shall have concealed hinges and screw driver cam locks.
- C. All access panels located in wet areas such as restrooms, locker rooms, shower rooms, kitchen and any other wet areas shall be constructed of stainless steel.
- D. Access Doors: shall be as follows:
 - Plastic Surfaces: Milcor Style K.

- Ceramic Tile Surface: Milcor Style M.
- 3. Drywall Surfaces: Milcor Style DW.
- 4. Install panels only in locations approved by the Architect.

PART 3 - EXECUTION

3.01 ROUGH-IN

- A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected via reviewed submittals.
- B. Refer to equipment specifications in Divisions 2 through 48 for additional rough-in requirements.

3.02 MECHANICAL INSTALLATIONS

- A. General: Sequence, coordinate, and integrate the various elements of mechanical systems, materials, and equipment. Comply with the following requirements:
 - Coordinate mechanical systems, equipment, and materials installation with other building components.
 - Verify all dimensions by field measurements.
 - 3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for mechanical installations.
 - 4. Coordinate the installation of required supporting devices and sleeves to be set in poured-inplace concrete and other structural components, as they are constructed.
 - 5. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
 - 6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
 - 7. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
 - 8. Install systems, materials, and equipment to conform with architectural action markings on submittal, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, resolve conflicts and route proposed solution to the Architect for review.
 - 9. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
 - 10. Install mechanical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location and label.
 - 11. Install access panel or doors where units are concealed behind finished surfaces. Access panels and doors are specified.
 - 12. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified slope.
 - 13. Provide roof curbs for all roof mounted equipment. Coordinate with roof construction for pitched roof. Provide roof curb to match roof slope. Refer to architectural drawings and details.
 - 14. The equipment to be furnished under this Specification shall be essentially the standard product of the manufacturer. Where two or more units of the same class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be the product of the same manufacturer.
 - 15. The architectural and structural features of the building and the space limitations shall be considered in selection of all equipment. No equipment shall be furnished which will not suit the arrangement and space limitations indicated.
 - 16. Lubrication: Prior to start-up, check and properly lubricate all bearings as recommended by

- the manufacturer.
- 17. Where the word "Concealed" is used in these Specifications in connection with insulating, painting, piping, ducts, etc., it shall be understood to mean hidden from sight as in chases, furred spaces or suspended ceilings. "Exposed" shall be understood to mean the opposite of concealed.
- 18. Identification of Mechanical Equipment:
 - a. Mechanical equipment shall be identified by means of nameplates permanently attached to the equipment. Nameplates shall be engraved laminated plastic or etched metal. Shop drawings shall include dimensions and lettering format for approval. Attachments shall be with escutcheon pins, self-tapping screws, or machine screws.
 - b. Tags shall be attached to all valves, including control valves, with nonferrous chain. Tags shall be brass and at least 1-1/2 inches in diameter. Nameplate and tag symbols shall correspond to the identification symbols on the temperature control submittal and the "as- built" drawings.

3.03 CUTTING AND PATCHING

- A. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.
- B. Perform cutting, fitting, and patching of mechanical equipment and materials required to:
 - 1. Uncover Work to provide for installation of ill-timed Work.
 - Remove and replace defective Work.
 - 3. Remove and replace Work not conforming to requirements of the Contract Documents.
 - Remove samples of installed Work as specified for testing.
 - 5. Install equipment and materials in existing structures.
 - 6. Upon written instructions from the Engineer, uncover and restore Work to provide for Engineer/Owner's observation of concealed Work, without additional cost to the Owner.
 - 7. Patch existing finished surfaces and building components using new materials matching existing materials and experienced Installers. Patch finished surfaces and building components using new materials specified for the original installation and experienced Installers; refer to the materials and methods required for the surface and building components being patched; Refer to Section "DEFINITIONS" for definition of "Installer."
- C. Cut, remove and legally dispose of selected mechanical equipment, components, and materials as indicated, including but not limited to removal of mechanical piping, mechanical ducts and HVAC units, and other mechanical items made obsolete by the new Work.
- D. Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed.
- E. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.

3.04 WORK SEQUENCE, TIMING, COORDINATION WITH OWNER

- A. The Owner will cooperate with the Contractor, however, the following provisions must be observed:
 - A meeting will be held at the project site, prior to any construction, between the Owner's Representative, the General Contractor, the Sub-Contractors and the Engineer to discuss Contractor's employee parking space, access, storage of equipment or materials, and use of the Owner's facilities or utilities. The Owner's decisions regarding such matters shall be final.
 - 2. During the construction of this project, normal facility activities will continue in existing buildings until renovated areas are completed. Plumbing, fire protection, lighting, electrical, communications, heating, air conditioning, and ventilation systems will have to be maintained in service within the occupied spaces of the existing building.

- A. In the preparation of these documents every effort has been made to show the approximate locations of, and connections to the existing piping, duct, equipment and other apparatus related to this phase of the work. However, this Contractor shall be responsible for verifying all of the above information. This Contractor shall visit the existing site to inspect the facilities and related areas. This Contractor shall inspect and verify all details and requirements of all the Contract Documents, prior to the submission of a proposal. All discrepancies between the Contract Documents and actual job-site conditions shall be resolved by his contractor, who shall produce drawings that shall be submitted to the Architect/Engineer for review. All labor and materials required to perform the work described shall be apart of this Contract.
- B. All equipment and/or systems noted on the Drawings "To Remain" shall be inspected and tested on site to certify its working condition. A written report on the condition of all equipment to remain, including a copy of the test results and recommended remedial actions and costs shall be made by this Contractor to the Architect/Engineer for review.
- C. All equipment and/or systems noted on the Drawings "To Be Removed" shall be removed including, associated pipe and duct pipe and duct hangers and/or line supports. Where duct or pipe is to be capped for future or end of line use, it shall be properly tagged with its function or service appropriately identified. Where existing equipment is to be removed or relocated and has an electric motor or connection, the Electrical Contractor shall disconnect motor or connection, remove wiring to a safe point and this Contractor shall remove or relocate motor or connection along with the equipment.
- D. During the construction and remodeling, portions of the Project shall remain in service. Construction equipment, material tools, extension cords, etc., shall be arranged so as to present minimum hazard or interruption to the occupants of the building. None of the construction work shall interfere with the proper operation of the existing facility or be so conducted as to cause harm or danger to persons on the premises. All fire exits, stairs or corridors required for proper access, circulation or exit shall remain clear of equipment, materials or debris. The General Contractor shall maintain barricades, other separations in corridors and other spaces where work is conducted.
- E. Certain work during the demolition phase of construction may require overtime or night time shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time at least seventy-two (72) hours in advance in writing.
- F. Any salvageable equipment as determined by the Owner, shall be delivered to the Owner, and placed in storage at the location of his choice. All other debris shall be removed from the site immediately.
- G. Equipment, piping or other potential hazards to the working occupants of the building shall not be left overnight outside of the designated working or construction area.
- H. Make every effort to minimize damage to the existing building and the owner's property. Repair, patch or replace as required any damage that might occur as a result of work at the site. Care shall be taken to minimize interference with the Owner's activities during construction and to keep construction disrupted areas to a minimum. Corporate with the Owner and other trades in scheduling and performance of the work.
- I. Include in the contract price all rerouting of existing pipe, duct, etc., and the reconnecting of the existing equipment as necessitated by field conditions to allow the installation of the new systems regardless of whether or not such rerouting, reconnecting or relocating is shown on the drawings. Furnish all temporary pipe, duct, controls, etc., as required to maintain heating, cooling, and ventilation services for the existing areas with a minimum of interruption.
- J. All existing pipe, duct, materials, equipment, controls and appurtenances not included in the remodel or alteration areas are to remain in place.
- K. Pipe, duct, equipment and controls serving mechanical and owner's equipment, etc., which is to remain but which is served by pipe, duct, equipment and controls that are disturbed by the remodeling work, shall be reconnected in such a manner as to leave this equipment in proper operating condition.

- L. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and operating system in cooperation with other trades with a minimum of disruption or downtime.
- M. Refer to Architectural "Demolition and/or Alteration" plans for actual location of walls, ceiling, etc., being removed and/or remodeled.

END OF SECTION

SECTION 23 03 00 - MECHANICAL DEMOLITION FOR REMODELING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- Mechanical demolition.
- B. The drawings do not show all demolition work required. The contractor shall make himself familiar with the required scope of work to accomplish the work required by these documents. All demolition work implied or required shall be included in the scope of this contract.
- C. Outages of services as required by the new installation will be permitted but only at a time approved by the Owner. The contractor shall allow the Owner 2 weeks in order to schedule required outages. The time allowed for outages will not be during normal working hours unless otherwise approved by the Owner. All costs of outages, including overtime charges, shall be included in the contract amount.

1.02 RELATED SECTIONS

A. Section 02 40 00 - Demolition and Structure Moving.

1.03 WORK SEQUENCE, TIMING, COORDINATION WITH OWNER

- A. The Owner will corporate with the Contractor, however, the following provisions must be observed:
 - 1. During the construction of this project, normal facility activities will continue in existing buildings until new buildings or renovated areas are completed. Plumbing, fire protection, lighting, electrical, communications, heating, air conditioning, and ventilation systems will have to be maintained in service within the occupied spaces of the existing building.
 - 2. A meeting will be held at the project site, prior to any construction, between the Owner's Representative, the General Contractor, the Sub-Contractors and the Engineer to discuss Contractor's employee parking space, access, storage of equipment or materials, and use of the Owner's facilities or utilities. The Owner's decisions regarding such matters shall be final.

1.04 DEMOLITION AND WORK WITHIN EXISTING BUILDINGS

- A. In the preparation of these documents every effort has been made to show the approximate locations of, and connections to the existing piping, duct, equipment and other apparatus related to this phase of the work. However, this Contractor shall be responsible for verifying all of the above information. This Contractor shall visit the existing site to inspect the facilities and related areas. This Contractor shall inspect and verify all details and requirements of all the Contract Documents, prior to the submission of a proposal. All discrepancies between the Contract Documents and actual job-site conditions shall be resolved by his contractor, who shall produce drawings which shall be submitted to the Architect/Engineer for review. All labor and materials required to perform the work described shall be apart of this Contract.
- B. All equipment and/or systems noted on the Drawings "To Remain" shall be inspected and tested on site to certify its working condition. A written report on the condition of all equipment to remain, including a copy of the test results and recommended remedial actions and costs shall be made by this Contractor to the Architect/Engineer for review.
- C. All equipment and/or systems noted on the Drawings "To Be Removed" should be removed including, associated pipe and duct pipe and duct hangers and/or line supports. Where duct or pipe is to be capped for future or end of line use, it shall be properly tagged with its function or service appropriately identified. Where existing equipment is to be removed or relocated and has an electric motor or

- connection, the Electrical Contractor shall disconnect motor or connection, remove wiring to a safe point and this Contractor shall remove or relocate motor or connection along with the equipment.
- D. During the construction and remodeling, portions of the Project shall remain in service. Construction equipment, material tools, extension cords, etc., shall be arranged so as to present minimum hazard or interruption to the occupants of the building. None of the construction work shall interfere with the proper operation of the existing facility or be so conducted as to cause harm or danger to persons on the premises. All fire exits, stairs or corridors required for proper access, circulation or exit shall remain clear of equipment, materials or debris. The General Contractor shall maintain barricades, other separations in corridors and other spaces where work is conducted.
- E. Certain work during the demolition and construction phases of construction may require overtime or night time shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time with the Project Administrator at least seventy-two (72) hours in advance in writing.
- F. Any salvageable equipment as determined by the Owner, shall be delivered to the Owner, and placed in storage at the location of his choice. All other debris shall be removed from the site immediately.
- Equipment, piping or other potential hazards to the occupants of the building shall not be left overnight G. outside of the designated working or construction area.
- H. Make every effort to minimize damage to the existing building and the owner's property. Repair, patch or replace as required any damage which might occur as a result of work at the site. Care shall be taken to minimize interference with the Owner's activities during construction and to keep construction disrupted areas to a minimum. Corporate with the Owner and other trades in scheduling and performance of the work.
- ١. Include in the contract price all rerouting of existing pipe, duct, etc., and the reconnecting of the existing equipment as necessitated by field conditions to allow the installation of the new systems regardless of whether or not such rerouting, reconnecting or relocating is shown on the drawings. Furnish all temporary pipe, duct, controls, etc., as required to maintain heating, cooling, and ventilation services for the existing areas with a minimum of interruption.
- J. All existing pipe, duct, materials, equipment, controls and appurtenances not included in the remodel or alteration areas are to remain in place.
- K. Pipe, duct, equipment and controls serving mechanical and owner's equipment, etc., which is to remain but which is served by pipe, duct, equipment and controls that are disturbed by the remodeling work, shall be reconnected in such a manner as to leave this equipment in proper operating condition.
- No portion of the fire protection systems shall be turned off, modified or changed in any way without L. the express knowledge and written permission of the Owner's representative in order to protect systems that shall remain in service.
- It is the intention of this Section of the Specifications to outline minimum requirements to furnish the M. Owner with a turn-key and operating system in cooperation with other trades with a minimum of disruption or downtime.
- N. Refer to Architectural "Demolition and/or Alteration" plans for actual location of walls, ceiling, etc., being removed and/or remodeled.

PART 2 - PRODUCTS

MATERIALS AND EQUIPMENT 2.01

Α. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Field verify measurements and piping arrangements are as shown on Drawings.
- B. Verify that abandoned piping and equipment serve only abandoned facilities.
- C. Demolition Drawings are based on casual field observation and existing record documents. Report discrepancies to Owner before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

- A. Disconnect mechanical systems in walls, floors, and ceilings scheduled for removal.
- B. Coordinate utility service outages with Utility Company.
- C. Provide temporary connections to maintain existing systems in service during construction. When work must be performed on energized equipment, use personnel experienced in such operations.
- D. Existing Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from Owner at least 24 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.
- E. Existing Fire Alarm System: Maintain existing system in service until new system is accepted. Disable system only to make switchovers and connections. Notify Owner and local fire service at least 24 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

3.03 DEMOLITION AND EXTENSION OF EXISTING MECHANICAL WORK

- A. Demolish and extend existing mechanical work under provisions of Division 02 and this Section.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- Remove abandoned piping to source of supply.
- D. Remove exposed abandoned piping systems, including abandoned systems above accessible ceiling finishes. Cut systems flush with walls and floors, and patch surfaces.
- E. Repair adjacent construction and finishes damaged during demolition and extension work.
- F. Maintain access to existing installations which remain active. Modify installation or provide access panels as appropriate.
- G. Extend existing installations using materials and methods compatible with existing installations, or as specified.

3.04 CLEANING AND REPAIR

Clean and repair existing materials and equipment which remain or are to be reused.

3.05 INSTALLATION

Install relocated materials and equipment under the provisions of Division 02.

- A. The contractor shall modify, remove, and/or relocate all materials and items so indicated on the drawings or required by the installation of new facilities. All removals and/or dismantling shall be conducted in a manner as to produce maximum salvage. Salvage materials shall remain the property of the Owner, and shall be delivered to such destination as directed by the Owner. Materials and/or items scheduled for relocation and which are damaged during dismantling or reassembly operations shall be repaired and restored to good operative condition. The contractor may, at his discretion and upon the approval of the Owner, substitute new materials and/or items of like design and quality in lieu of materials and/or items to be relocated.
- B. All items which are to be relocated shall be carefully removed in reverse to original assembly or placement and protected until relocated. The contractor shall clean and repair and provide all new materials, fittings, and appurtenances required to complete the relocations and to restore to good operative order. All relocations shall be performed by workmen skilled in the work and in accordance with standard practice of the trades involved.
- C. When items scheduled for relocation are found to be in damaged condition before work has been started on dismantling, the contractor shall call the attention of the Owner to such items and receive further instructions before removal. Items damaged in repositioning operations are the contractor's responsibility and shall be repaired or replaced by the contractor as approved by the Owner, at no additional cost to the Owner.
- D. Service lines and wiring to items to be removed, salvaged, or relocated shall be removed to points indicated on the drawings, specified, or acceptable to the Owner. Service lines and wiring not scheduled for reuse shall be removed to the points at which reuse is to be continued or service is to remain. Such services shall be sealed, capped, or otherwise tied-off or disconnected in a safe manner acceptable to the Owner. All disconnections or connections into the existing facilities shall be done in such a manner as to result in minimum interruption of services to adjacent occupied areas. Services to existing areas or facilities which must remain in operation during the construction period shall not be interrupted without prior specific approval of the Owner as hereinbefore specified.
- E. Certain work during the demolition phase of construction may require overtime or nighttime shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time with the Owner's Representative at least 72 hours in advance.
- F. Make every effort to minimize damage to the existing building and the Owner's property. Repair, patch, or replace as required any damage which might occur as a result of work at the site. Care shall be taken to minimize interference with the Owner's activities during construction. Cooperate with the Owner and other trades in scheduling and performance of the work.
- G. Include in the contract price all rerouting of existing conduits, wiring, outlet boxes, fixtures, etc., and the reconnecting of existing fixtures as necessitated by field conditions to allow the installation of the new systems. Furnish all temporary conduit, wiring, boxes, etc., as required to maintain lighting and power service for the existing areas with a minimum of interruption. Remove wire and conduit back to nearest accessible active junction box and extend to existing homeruns as required.
- H. The contractor shall be responsible for loss or damage to the existing facilities caused by him and his workmen, and shall be responsible for repairing such loss or damage. The contractor shall send proper notices, make necessary arrangements, and perform other services required for the care, protection and in-service maintenance of all electrical services for the new and existing facilities. The contractor shall erect temporary barricades, with necessary safety devices, as required to protect personnel from injury, removing all such temporary protection upon completion of the work.
- I. Where existing construction is removed to provide working and extension access to existing utilities, contractor shall remove doors, piping, conduit, outlet boxes, wiring, light fixtures, air conditioning ductwork and equipment, etc., to provide this access and shall reinstall same upon completion of work

in the areas affected.

J. Where partitions, walls, floors, or ceilings of existing construction are being removed, all contractors shall remove and reinstall in locations approved by the Architect all devices required for the operation of the various systems installed in the existing construction.

END OF SECTION

DIVISION 23 52 33.13

FINNED WATER-TUBE BOILERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes gas-fired, copper finned-tube hydronic heating boilers
- B. Related Sections
 - 1. Building Services Piping Division 23 21 00
 - 2. Breeching, Chimneys, and Stacks (Venting) Division 23 51 00
 - 3. HVAC Instrumentation and Controls Division 23 09 00
 - 4. Electrical Division 23 09 33

1.2 REFERENCES

- A. ANSI Z21.13/CSA 4.9
- B. ASME, Section IV
- C. 2006 UMC, Section 1107.6
- D. ANSI/ASHRAE 15-2010, Section 8.13.6
- E. National Fuel Gas Code, NFPA 54/ANSI Z223.1
- F. AHRI
- G. NEC
- H. ASME CSD-1, 2012 (if required)

1.3 SUBMITTALS

- A. Product data sheet (including dimensions, rated capacities, shipping weights, accessories) B. Wiring diagram
- C. Warranty information
- D. Installation and operating instructions

1.4 QUALITY ASSURANCE

A. Regulatory Requirements 1. ANSI

Z21.13/CSA4.9

- 2. Local and national air quality regulations for low NOx (less than 30 PPM NOx emissions) boilers
- B. Certifications
 - 1. CSA
 - 2. AHRI
 - 3. CEC
 - 4. ASME, Section IV, H Stamp and National Board Listed
 - 5. Ultra Low NOx (BAAQMD Reg. 9, Rule 7 Approved)
 - 6. CSA Certified AB1953 & VLA 193 Low Lead Compliant

1.5 WARRANTY

- A. Limited one-year warranty from date of installation
- B. Limited twenty-five-year thermal shock warranty
- C. Limited ten-year closed-system heat exchanger warranty

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Raypak, Inc.

- Contact: 2151 Eastman Ave., Oxnard, CA 93030; Telephone: (805) 278-5300; Fax: (800) 872-9725; Web site: www.raypak.com
- 2. Product: MVB® copper finned-tube hydronic boiler(s)
- 3. Other manufacturers must be submitted to engineer for review 10 days prior to bid date.

2.2 BOILERS

1. General

- 1. The boiler(s) shall be fired with NAT gas at a rated input of 4000 BTU/hr.
- 2. The boiler(s) shall be CSA tested and certified with a minimum thermal efficiency of 85 percent at full fire (up to 88.4% at part load).
- 3. The boiler(s) shall be ASME inspected and stamped and National Board registered for 160 PSIG working pressure and 250°F maximum allowable temperature, complete with a Manufacturer's Data Report.
- 4. The boiler(s) shall have a floor loading of 124 lbs. /square foot or less.

2. Heat Exchanger

- The heat exchanger shall be of a single-bank, vertical multi-pass design and shall completely enclose the combustion chamber for maximum efficiency. The tubes shall be set vertically and shall be rolled into a powder coated, ASME boiler quality, carbon steel tube sheet.
- 2. The heat exchanger shall be sealed to 160 PSIG rated bronze headers with high temp silicone "O" rings.
- 3. The low water volume heat exchanger shall be explosion-proof on the water side and shall carry a twenty-five-year warranty against thermal shock.
- 4. The headers shall be secured to the tube sheet by stud bolts with flange nuts to permit inspection and maintenance without removal of external piping connections. A heavy gauge stainless steel slotted heat exchanger wrap shall ensure proper combustion gas flowacross the copper-finned tubes.
- 5. The boiler(s) shall be capable of operating at inlet water temperatures as low as 120°F without harmful condensation.
- 6. The boiler(s) flue connection, combustion air opening, gas connection, water connections and electrical connections shall be located on the rear.
- 7. The heat exchanger shall have accessible boiler drain valves with hose bibs to drain the water section of the heat exchanger.

3. Burners

- 1. The combustion chamber shall be of the sealed combustion type employing the Raypak high temperature radially fired knit burner, mounted in a vertical orientation.
- 2. The burner must be capable of firing at both a complete blue flame with maximum gas and air input as well as firing infrared when gas and air are reduced. The burner must be capable of firing at 100% of rated input when supplied with 4.0" WC of inlet gas pressure, so as to maintain service under heavy demand conditions; no exceptions.
- 3. The burner shall use a combustion air blower to precisely control the fuel/air mixture for maximum efficiency throughout the entire range of modulation. The combustion air blower shall operate for a prepurge period before burner ignition and a post-purge period after burner operation to clear the combustion chamber.
- 4. The blower shall infinitely vary its output in response to a Pulse Width Modulation (PWM) signal supplied directly from the Versa IC® modulating temperature controller, thereby

electronically and precisely adjusting the volume of air and gas supplied for combustion. Minimum fire shall be 14 percent of rated input (natural gas).

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- 4. Ignition Control System
 - 1. The boiler(s) shall be equipped with a 100 percent safety shutdown.
 - 2. The ignition shall be Hot Surface Ignition type with full flame rectification by remote sensing separate from the ignition source, with a three-try-for-ignition sequence, to ensure consistent operation.
 - 3. The igniter will be located to the side of the heat exchanger to protect the device from condensation during start-up.
 - 4. The ignition control module shall include an LED that indicates fifteen (15) individual diagnostic flash codes and transmits any fault codes to the LCD display.
 - 5. An external viewing port shall be provided, permitting visual observation of burner operation.
 - 5. Gas Train
 - 1. The boiler(s) shall have a firing/leak test valve and pressure test valve as required by CSD-1.
 - 2. The boiler(s) shall have dual-seated main gas valve.
 - Gas control trains shall have a redundant safety shut-off feature, main gas regulation, shut- off cock and plugged pressure tapping to meet the requirements of ANSI Z21.13/CSA 4.9.4. High gas pressure safety switch
 - 6. Boiler Control
 - 1. The following safety controls shall be provided:
 - a. High limit control with manual reset
 - b. Flow switch, mounted and wired
 - c. 125 PSIG ASME pressure relief valve, piped by the installer to an approved drain
 - d. Temperature and pressure gauge (shipped loose)
 - 2. The boiler(s) shall be equipped with the Versa IC® modulating temperature controller with LCD display that incorporates an adjustable energy-saving pump control relay and freeze protection and is factory mounted and wired to improve system efficiency; six water sensors included (system sensor is loose).
 - 7. Firing Mode: Provide electronic modulating control of the gas input to the boiler.
 - 8. Boiler Diagnostics
 - 1. Provide external LED panel displaying the following boiler status/faults:
 - a. Power on Green
 - b. Call for heat Amber
 - c. Burner firing Blue
 - d. Service Red
 - 2. Provide monitoring of all safeties, internal/external interlocks with fault display by a 3-1/2 in. LCD display:
 - a. System status
 - b. Ignition failure
 - c. Condensate blockage
 - d. Blower speed error
 - e. Low 24VAC
 - f. Manual reset high limit
 - g. Auto reset high limit
 - h. Blocked vent
 - i. High gas pressure switch (standard)

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- j. Controller alarm
- k. Flow switch fault
- I. Sensor failure
 - 1. Inlet sensor (open or short)
 - 2. Outlet sensor (open or short)
 - 3. System sensor (open or short)
 - 4. Air sensor (open or short)
 - 5. Indirect DHW sensor (open or short)
 - 6. Indirect DHW tank sensor (open or short)
 - 7. Cold water protection sensor (open or short)
- m. Internal control fault
- n. ID card fault
- o. Cascade communications error
- p. Auto reset high limit (optional)
- q. Low water cut-off (optional)
- r. Low gas pressure switch (optional)
- s. Cold Water Start/Cold Water Run (optional)
- I. Combustion Chamber: The combustion chamber wrapper shall be sealed to reduce standby radiation losses, reducing jacket losses and increasing unit efficiency.
- J. Cabinet
- The corrosion-resistant galvanized steel jackets shall be finished with a baked-on PolyTuf epoxy powder coat, suitable for outdoor installation, applied prior to assembly for complete coverage, and shall incorporate louvers in the outer panels to divert air past heated surfaces.
- 2. The boiler(s), if located on a combustible floor, shall not require a separate combustible floor base.
- 3. The boiler(s) shall connect both the combustion air and flue products through the back of the unit.
- 4. The boiler shall have as standard an internal, high capacity combustion air filter rated to MERV 8 (>95% arrestance)
- 5. The boiler(s) shall connect both the combustion air and flue products through the back of the unit.
- K. Boiler Pump Refer to Equipment Schedule

2.3 BOILER OPERATING CONTROLS

- 1. Each boiler shall have the ability to receive a 0 to 10 VDC signal from the Central Energy Management and Direct Digital Control System (EMCS) to vary the setpoint control or firing rate. Each boiler shall have an alarm contact for connection to the central EMCS system.
- 2. Each boiler shall be equipped with Modbus communications compatibility with up to 146 points of data available.
 - a. B-85 Gateway BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP (optional)
 - b. B-86 Gateway LonWorks
- 3. Boiler(s) shall feature an integrated Versa IC® modulating digital controller, mounted and wired.
- 4. The control shall have the ability to provide cascade control of up to 4 boilers as a single system via 2-wire communication.
- 5. System sensor shall be shipped loose for field installation by installing contractor. Inlet/Outlet sensors are factory-installed.

2.4 DIRECT VENT

- 1. Boilers(s) shall meet safety standards for direct vent equipment as noted by the 2006 Uniform Mechanical Code, section 1107.6, and ASHRAE 15-1994, section 8.13.6.
- 2. Boiler shall be capable of combined combustion air duct and vent lengths not to exceed 200 equivalent feet.

2.5 SOURCE QUALITY CONTROL

- 1. The boiler(s) shall be completely assembled, wired, and fire-tested prior to shipment from the factory.
- 2. The boiler(s) shall be furnished with the sales order, ASME Manufacturer's Data Report, inspection sheet, wiring diagram, rating plate and Installation and Operating Manual.

PART 3 - EXECUTION

3.1 INSTALLATION

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- A. Must comply with:
 - 1. Local, state, provincial, and national codes, laws, regulations and ordinances
 - 2. National Fuel Gas Code, NFPA 54/ANSI Z223.1 latest edition
 - 3. National Electrical Code, ANSI/NFPA 70 latest edition
 - 4. Standard for Controls and Safety Devices for Automatically Fired Boilers, ANSI/ASME CSD-1, when required
 - 5. Canada only: CAN/CSA B149 Installation Code and CSA C22.1 CEC Part I
 - 6. Manufacturer's installation instructions, including required service clearances and venting guidelines
- B. Manufacturer's representative to verify proper and complete installation.

3.2 START-UP

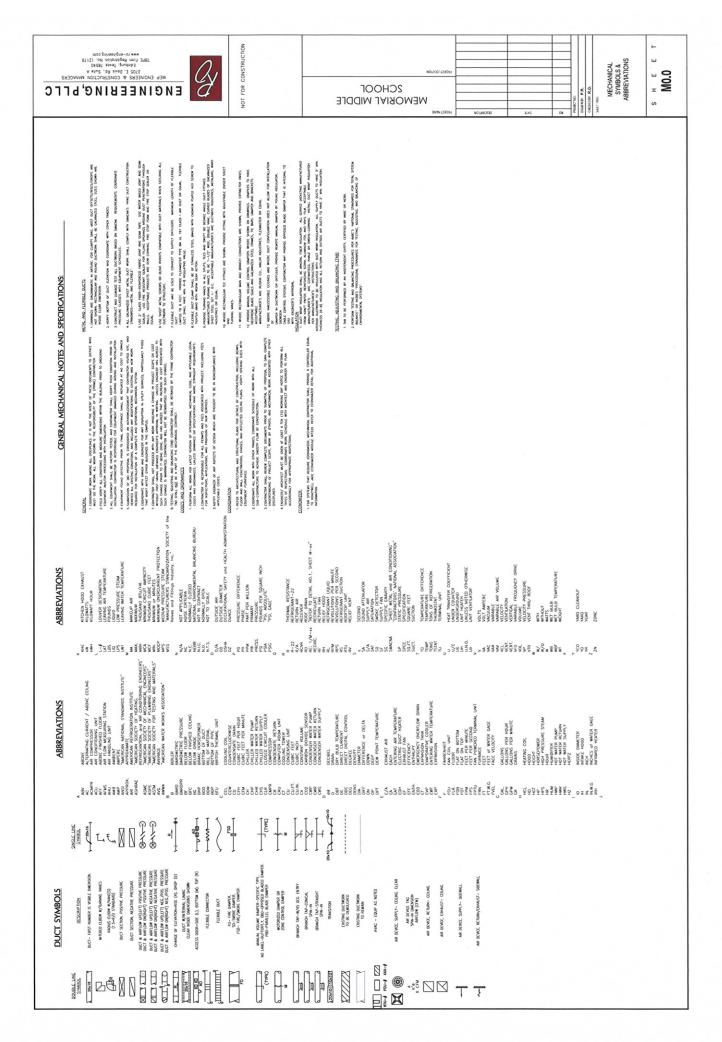
- A. Shall be performed by Raypak factory-trained personnel.
- B. Test during operation and adjust if necessary:
 - 1. Safeties (2.2)
 - 2. Operating Controls (2.3)
 - 3. Static and full load gas supply pressure
 - 4. Gas manifold and blower air pressure
 - 5. Combustion analysis
- C. Submit copy of start-up report to Architect and Engineer.

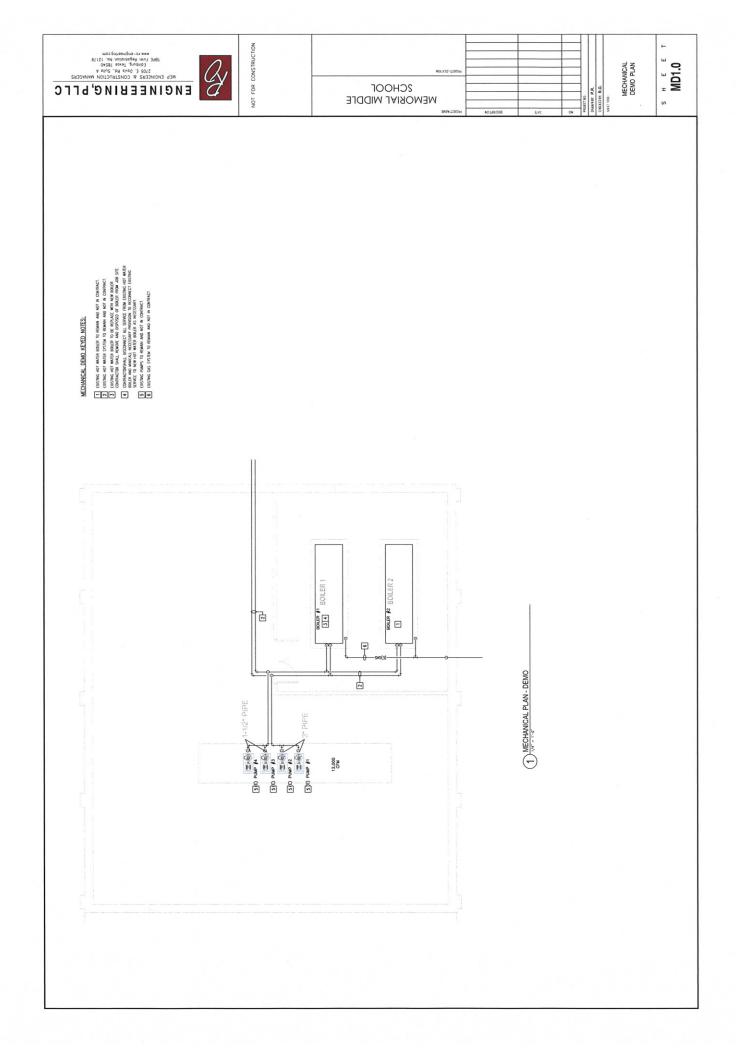
3.3 TRAINING

- A. Provide factory-authorized service representative to train maintenance personnel on procedures and schedules related to start-up, shut-down, troubleshooting, servicing, and preventive maintenance.
- B. Schedule training at least seven days in advance.

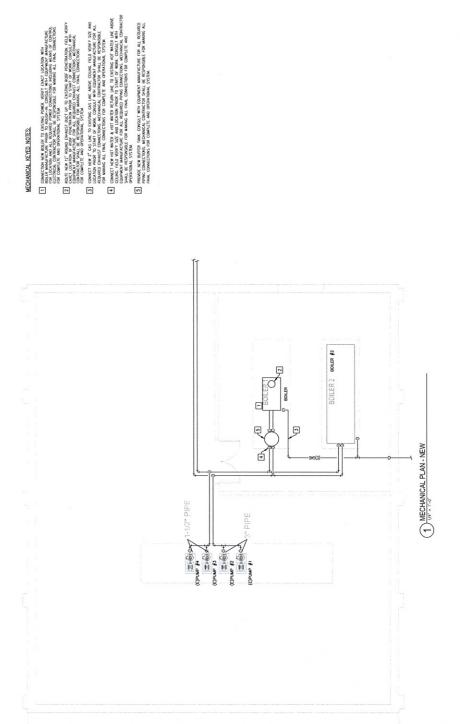
END OF SECTION

Division 23 52 33.13 - 5









MECHANICAL KEYED NOTES:

BOILER SCHEDULE		
MARK	B-1	
FUEL	GAS	
INPUT MBH	4000	
OUTPUT MBH	3400	
GPM	264	
EWT/LWT (*F)		
MAX. PRESSURE DROP (FT. HD.)		
FLUE SIZE	12	
MANUFACTURER	RAYPAK	
MODEL NUMBER	BR-MVB-H7-4003	
NOTES		

NOTES. 1 BOILER MUST MEET LATEST LOW NOx REQUIREMENTS FOR TEXAS.