



**CONTRACT DOCUMENTS
AND
SPECIFICATIONS**

DIVISION OF GENERAL SERVICES

FOR

FAMILY CARE BOILER PROJECT

Bid No. 77-2018

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PART 1

ADVERTISEMENT FOR BIDS

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ADVERTISEMENT FOR BIDS

1. INVITATION

Sealed proposals for the following work will be received by the Lexington-Fayette Urban County Government (LFUCG) until 2:00 p.m., local time, **June 14, 2018**, for furnishing all labor and/or materials and performing all work as set forth by this advertisement, conditions (general and special), IonWave Q&A, specifications, and/or the drawings prepared by Technical Horizons for Lexington-Fayette Urban County Government, Department of General Services. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be publicly opened and read aloud.

2. DESCRIPTION OF WORK

Consisting of the construction and/or furnishing of items as listed in the Bid Schedule beginning on page P-6, Part III, Form of Proposal, of this document, for the replacement of the boiler at the Family Care Center, 1135 Harry Sykes Way, Lexington-Fayette County, Kentucky.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Specifications, Plans, and Bid Documents may be examined at the following places:

LFUCG
Division of Central Purchasing
200 East Main Street, Third Floor, Rm 338
Lexington, Kentucky 40507
(859) 258-3320

LFUCG
Department of General Services
200 East Main Street, 4th Floor
Lexington, Kentucky

4. METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a **Lump Sum** for total Project. The Bidder must include a price for all bid items to be considered. Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Instruction to Bidders and Special Conditions.

Sealed bids shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and the Project Name. Bids are to remain sealed until official Bid closure time.

Mailed bids/proposals should be sent to the Director, Division of Central Purchasing, 200 East Main Street, Lexington, KY 40507.

5. METHOD OF AWARD

The Contract, if awarded, will be to the lowest, qualified responsible bidder for the total project whose qualifications indicate the award will be in the best interest of the OWNER and whose bid/proposal complies with all the prescribed requirements. No Notice of Award will be given until the OWNER has concluded such investigation as deemed necessary to establish the responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

6. BID WITHDRAWAL

No bidder may withdraw his bid for a period of sixty (60) calendar days after the closing date for receipt of bids. Errors and omissions will not be cause for withdrawal of bid without forfeit of bid bond. Bids may be withdrawn in person prior to the closing date of receipt of bids.

7. BID SECURITY

If the bid is \$50,000 or greater, bid shall be accompanied by a certified /cashier's check or bid bond payable to the Lexington-Fayette Urban County Government in an amount not less than Five Percent (5%) of the base bid. Bid bond shall be executed by a Surety Company authorized to do business in the Commonwealth of Kentucky and countersigned by a licensed Kentucky Resident Agent, representing the Surety Company. Bid Bonds are not required for bids under \$50,000. A certified check or cashier's check is also acceptable forms of bid security.

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids to the Lexington-Fayette Urban County Government, Division of Purchasing, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. Bids shall be submitted in a sealed envelope not later than 2:00 p.m. local

time, **June 14, 2018**. Sealed proposals shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and Project Name to be opened at 2:00 p.m. local time **June 14, 2018**. Bids are to remain sealed until official Bid closure time. Bids received after the scheduled closing time for receipt of bids will not be considered and will be returned unopened.

9. RIGHT TO REJECT

The Lexington-Fayette Urban County Government reserves the right to reject any and all bids and to waive all informalities and/or technicalities where the best interest of the Lexington-Fayette Urban County Government may be served.

10. NOTIFICATION TO THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT FOR AFFIRMATIVE ACTION PLAN AND CURRENT WORKFORCE

The successful bidder must submit with their bid the following items to the Lexington-Fayette Urban County Government:

1. Affirmative Action Plan for his/her firm.
2. Current Workforce Analysis Form.

Failure to submit these items as required herein may result in disqualification of the Bidder from the award of the contract.

All submissions should be directed to:

Lexington-Fayette Urban County Government
Division of Purchasing
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507

11. NOTICE CONCERNING MWDBE and Veteran GOALS

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs, and set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-Owned Small Businesses. The goals for the utilization of Disadvantaged Business Enterprises and Veteran-Owned Small Businesses as subcontractors are recommended goals. Contractor(s) who fail to meet such goals will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to

accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprise and Veteran-Owned Small Businesses as Subcontractors contact:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
859-258-3323
smiller@lexingtonky.gov

12. PRE-BID MEETING

A non-mandatory pre-bid meeting will be held at 11:00 AM local time on May 31, 2018 at 1135 Harry Sykes Way, Lexington, KY.

END OF SECTION

PART II
INFORMATION FOR BIDDERS

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PART II
INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

The Lexington-Fayette Urban County Government (herein called the OWNER) invites bids from firms on the project described in the Advertisement for Bids. The OWNER will receive bids at the Division of Purchasing, at the time and in the manner set forth in the Advertisement for Bids, and the Bids will then be publicly opened and read aloud. The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual time and date of the bid opening, but OWNER may, in its sole discretion, release any bid and return the Bid Security prior to that date.

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

2. PREPARATION OF BID

Each bid must be submitted on the prescribed Form of Proposal. All blank spaces for the bid prices must be filled in, either in ink or typewritten, for both unit prices and extensions. Totals for each bid item must be added to show the total amount of the bid. Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, their address, the name of the project, the invitation number and time and date for which the bid is submitted. Bids must be addressed to the Director of Purchasing, Lexington-Fayette Urban County Government, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

3. SUBCONTRACTS

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the OWNER. All proposed subcontractors must be identified on the Form of Proposal. Prior to the award of Contract, the OWNER or the OWNER'S representative will advise the CONTRACTOR of the acceptance and approval thereof or of any action necessary to be taken. Should any Subcontractor be rejected by the OWNER, the CONTRACTOR shall present a new name and/or firm to the OWNER at no change in the Contract Price.

4. QUALIFICATION OF BIDDER

The OWNER may make such investigations as the OWNER deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein. Conditional bids will not be accepted.

In evaluating Bids, OWNER shall consider the qualifications of the BIDDERS, whether or not the Bids comply with the prescribed requirements, and alternatives and unit prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. It is OWNER'S intent to accept alternatives, if requested by the bid forms, in the order in which they are listed in the Bid Form but OWNER may accept or decline them in any order or combination. The contract, if awarded, will be awarded to the lowest, qualified, responsible BIDDER based upon OWNER'S evaluation which indicates that the award will be in the best interest of OWNER and the general public.

In the event there is any question as to the bidder's qualifications and ability to complete the work, a final determination will be made in accordance with a fair evaluation by the Urban County Government of the above listed elements.

- A. If the OWNER requires filling out a detailed financial statement, the bidder may provide its current certified financial statement(s) for the required time interval.
- B. Corporate firms are required to be registered and in good standing with the requirements and provisions of the Office of the Secretary of State, Commonwealth of Kentucky.
- C. Documents Required of CONTRACTOR - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.
- D. Optional OWNER Requirements - The OWNER, at its discretion, may require the BIDDER/CONTRACTOR to provide: (1) a current detailed financial statement for a period including up to 3 prior years; (2) financial security or insurance in amounts and kinds acceptable to the OWNER to meet the financial responsibility requirements for the CONTRACTOR to indemnify the OWNER. (3) Additional information and/or DBE work force data, as well as DBE participation data.

Each bidder agrees to waive any claim it has or may have against the Owner, the Consultant, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

5. BID SECURITY

- A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the bid. Such bid bond will be returned to the unsuccessful bidder(s) only upon written request to the Director of Central Purchasing within seven (7) days of opening of bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under \$50,000.
- B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his bid.

7. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER and to fully complete the Project within the time as specified in the Contract. Bidder must agree also to pay **\$250.00** per day as liquidated damages, or the sum as specified in the Contract for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- A. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site(s) to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work, (c) consider Federal, State and Local laws and regulations that may affect cost, progress, performance or furnishing of the work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Consultant of all conflicts, errors or discrepancies in the Contract Documents.
- B. Bidders should examine the requirements of section 4 of the General Conditions for information pertaining to subsurface conditions, underground structures, underground facilities, and availability of lands, easements, and rights-of-way. The completeness of data, presented in the Contract Documents, pertaining to subsurface conditions, underground structures, and underground facilities for the purposes of bidding or construction is not assured. The Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and

studies and obtain any additional information and data which pertain to the physical conditions (surface and subsurface) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request in advance, OWNER will provide access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

- C. The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this paragraph 8; that without exception the Bid is premised upon furnishing and performing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Director of Central Purchasing, who in turn will have an Addendum issued for the Lexington-Fayette Urban County Government, and to be given consideration must be received prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications. Acknowledgement of the receipt of addenda must be included with all submitted bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. SECURITY FOR FAITHFUL PERFORMANCE

- A. Simultaneously with his delivery of the executed Contracts, the CONTRACTOR shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the OWNER and authorized to do business in the Commonwealth of Kentucky.
- B. All bonds required by this Contract and laws of this State shall be placed with agents licensed in the State of Kentucky. When the premium is paid for such coverage's, the full commission shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

- C. **Contractor shall use standard Performance and Payment Bond forms such as documents provided with this contract book or AIA form A312-1984 (or later). Each document will be for 100% of the Contract Bid Amount.**

11. POWER OF ATTORNEY

Attorney-in-fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

12. TAXES AND WORKMEN'S COMPENSATION

The CONTRACTOR and subcontractor will be required to accept liability for payment of all payroll taxes, sales and use tax, and all other taxes or deductions required by local, state or federal law, such as old age pension, social security, or annuities measured by wages. Each shall carry Workmen's Compensation Insurance to the full amounts as required by Statutes and shall include the cost of all foregoing items in the proposal. The CONTRACTOR will not otherwise be reimbursed or compensated for such tax payments. The CONTRACTOR is urged to ascertain at his own risk his actual tax liability in connection with the execution or performance of his Contract.

13. LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the contract, the same as though herein written out in full.

14. EROSION AND SEDIMENT CONTROL AND PERMITS

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall also comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits as described in Part 4 General Conditions Paragraph 5.17.

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

Federal wage rates and regulations, if required for this Project, will be as described in the Special Conditions and appendices.

16. AFFIRMATIVE ACTION PLAN

The successful Bidder must submit with their bid, the following items to the Urban County Government:

1. Affirmative Action Plan of the firm

2. Current Work Force Analysis Form
3. Good Faith Effort Documentation
4. List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract

A Work Force Analysis Form shall be submitted for each Contract. Failure to submit these items as required herein may result in disqualification of the Bidder from award of the Contract.

All submissions should be directed to:

Director, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Third Floor
Lexington, KY 40507

17. CONTRACT TIME

The number of calendar days within which the Work is to be substantially completed and ready for final payment (the Contract Time) is set forth in the Form of Proposal and the Agreement.

18. SUBSTITUTE OR "OR-EQUAL" ITEMS

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by the CONTRACTOR if acceptable to the CONSULTANT and OWNER, application for such acceptance will not be considered by the CONSULTANT and OWNER until after the effective date of the Agreement. The procedure for submission of any such application by the CONTRACTOR and consideration by the CONSULTANT and OWNER is set forth in the General Conditions.

19. ALTERNATE BIDS

Bidders shall submit alternate bids/proposals only if and when such alternate bids/proposals have been specifically requested in an Invitation for Bids. If alternate bids/proposals are requested in an Invitation for Bids, the form of submission of such alternate bid and the conditions under which such alternate bids will be considered for award of a contract will be established in the Invitation.

Any Bidder who submits a bid incorporating an alternate proposal when alternate bids/proposals have not been requested in the Invitation for Bids shall have his/her bid rejected as non-responsive.

Any Bidder who submits a bid incorporating two (2) or more prices for an item or groups of items (unless such method of pricing is requested in the Invitation for Bids), or which imposes conditions for acceptance other than those established in the Invitation for Bids, shall have their bid rejected as non-responsive.

20. SIGNING OF AGREEMENT

When OWNER gives a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds, Certificate of Insurance, and Power of Attorney. The OWNER will deliver one fully signed counterpart to CONTRACTOR at such time as it has been signed by the Mayor.

21. ASSISTANCE TO BE OFFERED TO DISADVANTAGED BUSINESS ENTERPRISE (MWDDBE) CONTRACTORS AND VETERAN OWNED SMALL BUSINESSES

A. Outreach for MWDDBE(s) and Veteran Owned Small Businesses (VOSB)

The Lexington-Fayette Urban County Government (LFUCG) maintains a database of MWDDBE contractors and Veteran Owned Small Businesses. When a LFUCG construction project is advertised for bidding, notices are sent to companies registered at <https://lexingtonky.ionwave.net>. The notices describe the project and indicate the deadline for submitting bids.

If you wish to be added to the LFUCG MWDDBE contractor database, please contact:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

B. Bid Bond Assistance for MWDBE(s)

For those MWDBE contractors who wish to bid on LFUCG project, bid bond assistance is available. This bid bond assistance is in the form of a "Letter of Certification" which is accepted by the LFUCG's Division of Purchasing, in lieu of a bid bond. The "Letter of Certification" must be included in the bid package when it is submitted to the Division of Purchasing. The "Letter of Certification" will reference the specific project for which the bid is being submitted, and the time and date on which the bid is due. Bid bond assistance must be requested from the Lexington-Fayette Urban County Government's Division of Central Purchasing.

C. Eligibility for Bid Bond Assistance for MWDBE(s)

In order to be eligible for any Bid bonding assistance, a MWDBE construction company must be owned or controlled at the level of 51% or more by a member or members of a minority group or females. Prior to receiving assistance, a statement providing evidence of ownership and control of the company by a member or members of a minority group or females must be signed by the Owner or corporate officer and by an attorney or accountant submitted to:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

D. MWDBE and Veteran Subcontractors

The LFUCG will, upon request, assist prime contractors in the procurement of eligible DBE subcontractors in an effort to achieve a 10% minimum MWDBE and a 3% minimum Veteran goal.

For a list of eligible subcontractors, please contact:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

22. LFUCG NON-APPROPRIATION CLAUSE

Contractor acknowledges that the LFUCG is a governmental entity, and the contract validity is based upon the availability of public funding under the authority of its statutory mandate.

In the event that public funds are unavailable and not appropriated for the performance of the LFUCG's obligations under this contract, then this contract shall automatically expire without penalty to the LFUCG thirty (30) days after written notice to Contractor of the unavailability and non-appropriation of public funds. It is expressly agreed that the LFUCG shall not activate this non-appropriation provision for its convenience or to circumvent the requirements of this contract, but only as an emergency fiscal measure during a substantial fiscal crisis, which affects generally its governmental operations.

In the event of a change in the LFUCG's statutory authority, mandate and mandated functions, by state and federal legislative or regulatory action, which adversely affects the LFUCG's authority to continue its obligations under this contract, then this contract shall automatically terminate without penalty to the LFUCG upon written notice to Contractor of such limitation or change in the LFUCG's legal authority.

END OF SECTION

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PART III

Invitation to Bid No. 77-2018

Family Care Boiler Project

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: _____

The following Form of Proposal shall be followed exactly in submitting a proposal for this Work.

This Proposal Submitted by _____

(Name and Address of Bidding Contractor)

(Hereinafter called "Bidder"), organized and existing under the laws of the State of _____, doing business as _____
"a corporation," "a partnership", or an "individual" as applicable.

To: Lexington-Fayette Urban County Government
(Hereinafter called "OWNER")
Office of the Director of Purchasing
200 East Main Street, 3rd Floor
Lexington, KY 40507

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for **Family Care Boiler Project** having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part. The OWNER will issue work orders for work to be performed under this Contract.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Insert above the number and the date of any Addendum issued and received. If none has been issued and received, the word "NONE" should be inserted.

2. **LEGAL STATUS OF BIDDER**

Bidder _____

Date _____

* 1. A corporation duly organized and doing business under the laws of the State of _____, for whom _____, bearing the official title of _____, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

* 2. A Partnership, all of the members of which, with addresses are: (Designate general partners as such)

* 3. An individual, whose signature is affixed to this Bid/Proposal (please print name)

*(The Bidder shall fill out the appropriate form and strike out the other two.)

3. **BIDDERS AFFIDAVIT**

Comes the Affiant, _____, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is _____ and he/she is the individual submitting the bid or is the authorized representative of _____, the entity submitting the bid (hereinafter referred to as "Bidder").
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as the "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.
Further, Affiant sayeth naught.

(Affiant)

STATE OF _____

COUNTY OF _____

The foregoing instrument was subscribed, sworn to and acknowledged before me by _____ on this the _____ day of _____, 20_____.

My Commission expires: _____

NOTARY PUBLIC, STATE AT LARGE

4. BID SCHEDULE – SCHEDULE OF VALUES

The Bidder agrees to perform all the Work described in the Specifications and shown on the Plans for the following proposed lump sum and/or unit prices, if applicable, which shall include the furnishing of all labor, materials, supplies, equipment and/or vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Contractor and any Subcontractor involved, within the time set forth herein. If unit prices are applicable, Bidder must make the extensions and additions showing the total amount of bid.

Form of proposal must include unit bid prices written in words, unit price written in numbers and total amount bid (unit price x quantity) per line item OR bid may be considered non-responsive. In case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.

If a discrepancy between the unit price and the item total exists, the unit price prevails except:

If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

If the unit price and the item total are illegible or are omitted, the bid may be determined nonresponsive. If a lump sum total price is illegible or is omitted, the bid may be determined nonresponsive.

For a lump sum based bid, the item total is the bid amount the Division uses for bid comparison.

The LFUCG's decision on the bid amount is final.

Item No.	Description w/Unit Bid Price Written in Words	Unit	Total Bid Amount
1.	Furnish all materials and perform all the work described in the Specifications and/or shown on the Drawings for boiler replacement at the Family Care Center for _____ Dollars _____ Cents	LS	\$ _____

Submitted by:

Firm

Address

City, State & Zip

***Bid must be signed:
(original signature)***

Signature of Authorized Company Representative – Title

Representative/s Name (Typed or Printed)

Area Code – Phone – Extension

Fax #

E-Mail Address

OFFICIAL ADDRESS:

_____ (Seal if Bid is by Corporation)

By signing this form you agree to ALL terms, conditions, and associated forms in this bid package

5. STATEMENT OF BIDDER'S QUALIFICATIONS

The following statement of the Bidder's qualifications is required to be filled in, executed, and submitted with the Proposal:

- 1. Name of Bidder: _____
- 2. Permanent Place of Business: _____
- 3. When Organized: _____
- 4. Where Incorporated: _____
- 5. Construction Plant and Equipment Available for this Project:

(Attach Separate Sheet If Necessary)

- 6. Financial Condition:

If specifically requested by the OWNER, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the OWNER'S Division of Central Purchasing within seven (7) calendar days following the bid opening.

- 7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

_____ (Surety)

Signed: _____ (Representative of Surety)

- 8. The following is a list of similar projects performed by the Bidder: (Attach separate sheet if necessary).

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. The Bidder has now under contract and bonded the following projects:

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. List Key Bidder Personnel who will work on this Project.

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

11. DBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS</u> <u>(LIST)</u>	<u>PROJECT</u> <u>(SPECIFIC TYPE)</u>	<u>DBE</u>	<u>% of WORK</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(USE ADDITIONAL SHEETS IF NECESSARY)

12. We acknowledge that, if we are the apparent low Bidder, we may be required to submit to the OWNER within 7 calendar days following the Bid Opening, a sworn statement regarding all current work on hand and under contract, and a statement on the OWNER'S form of the experience of our officers, office management and field management personnel. Additionally, if requested by the OWNER, we will within 7 days following the request submit audited financial statements and loss history for insurance claims for the 3 most recent years (or a lesser period stipulated by the OWNER).

6. LIST OF PROPOSED SUBCONTRACTORS

The following list of proposed subcontractors is required by the OWNER to be executed, completed and submitted with the BIDDER'S FORM OF PROPOSAL. All subcontractors are subject to approval of the Lexington-Fayette Urban County Government. Failure to submit this list completely filled out may be cause for rejection of bid.

<u>BRANCH OF WORK - LIST EACH MAJOR ITEM</u> Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.	<u>SUBCONTRACTOR</u>	<u>DBE</u> <u>Yes/No</u>	<u>% of Work</u>
1. _____	Name: _____	_____	_____
	Address: _____		
2. _____	Name: _____	_____	_____
	Address: _____		
3. _____	Name: _____	_____	_____
	Address: _____		
4. _____	Name: _____	_____	_____
	Address: _____		
5. _____	Name: _____	_____	_____
	Address: _____		
6. _____	Name: _____	_____	_____
	Address: _____		
7. _____	Name: _____	_____	_____
	Address: _____		

(Attach additional sheet(s) if necessary.)

**7. Lexington-Fayette Urban County Government
MWDBE PARTICIPATION GOALS**

A. GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
 - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.

- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
 - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
 - b. Included documentation of advertising in the above publications with the bidders good faith efforts package

- c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event
- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- h. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- i. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.



MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA
Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

Certified Disadvantaged Business Enterprise (DBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as define by 49 CFR subpart 26.

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/ Pacific Islander, Hispanic Islander, Native American/ Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

Certified Women Business Enterprise (WBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

Certified Veteran-Owned Small Business (VOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

Certified Service Disabled Veteran Owned Small Business (SDVOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in (<https://lexingtonky.ionwave.net>)

Business	Contact	Email Address	Phone
LFUCG	Sherita Miller	smiller@lexingtonky.gov	859-258-3323
Commerce Lexington – Minority Business Development	Tyrone Tyra	ttyra@commercelexington.com	859-226-1625
Tri-State Minority Supplier Diversity Council	Susan Marston	smarston@tsmsdc.com	502-365-9762
Small Business Development Council	Shawn Rogers UK SBDC	shawn.rogers@uky.edu	859-257-7666
Community Ventures Corporation	Phyllis Alcorn	palcorn@cvky.org	859-231-0054
KY Transportation Cabinet (KYTC)	Melvin Bynes	Melvin.bynes2@ky.gov	502-564-3601
KYTC Pre-Qualification	Sheila Eagle	Sheila.Eagle@ky.gov	502-782-4815
Ohio River Valley Women’s Business Council (WBENC)	Sheila Mixon	smixon@orvwbc.org	513-487-6537
Kentucky MWBE Certification Program	Yvette Smith, Kentucky Finance Cabinet	Yvette.Smith@ky.gov	502-564-8099
National Women Business Owner’s Council (NWBOC)	Janet Harris-Lange	janet@nwbo.org	800-675-5066
Small Business Administration	Robert Coffey	robertcoffey@sba.gov	502-582-5971
LaVoz de Kentucky	Andres Cruz	lavozydeky@yahoo.com	859-621-2106
The Key News Journal	Patrice Muhammad	production@keynewsjournal.com	859-685-8488



LFUCG MWDBE PARTICIPATION FORM
 Bid/RFP/Quote Reference # _____

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

 Company

 Company Representative

 Date

 Title



LFUCG MWDBE SUBSTITUTION FORM
Bid/RFP/Quote Reference # _____

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



MWDBE QUOTE SUMMARY FORM
 Bid/RFP/Quote Reference # _____

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

 Company

 Company Representative

 Date

 Title



LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # _____

Total Contract Amount Awarded to Prime Contractor for this Project _____

Project Name/ Contract #	Work Period/ From: _____ To: _____
Company Name:	Address:
Federal Tax ID:	Contact Person: _____

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # _____

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

_____ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work

items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

_____ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Date

Company Representative

Title

8. **AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION, NON-CONFLICT OF INTEREST**

I hereby swear (or affirm) under the penalty for false swearing:

1. That I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);
2. That the attached bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding or planned common course of action, with any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition;
3. That the contents of the bid or bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished, with the bid or bids, and will not be communicated to any such person, prior to the official opening of the bid or bids;
4. That the Bidder is legally entitled to enter into the contracts with the Lexington-Fayette Urban County Government, and is not in violation of any prohibited conflict of interest;
5. (Applicable to corporation only) That as a foreign corporation, we are registered with the Secretary of State, Commonwealth of Kentucky, and authorized to do business in the State _____ or, that as a domestic corporation, we are in good standing with the Secretary of State, Commonwealth of Kentucky _____. Check the statement applicable.
6. This offer is for 60 calendar days from the date this bid is opened. In submitting the above, it is expressly agreed that, upon proper acceptance by the Lexington-Fayette Urban County Government of any or all items bid above, a contract shall thereby be created with respect to the items accepted.
7. That I have fully informed myself regarding the accuracy of the statements made in this statement.
8. That I certify that Subcontractors have not and will not be awarded to any firm(s) that have been debarred from noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

* Include all officers, office management's, Affirmative Action officials, and field management personnel. (Attach separate sheets if necessary.)

10. EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- * Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- * Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- * Section 503 of the Rehabilitation Act of 1973 States:
The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.
- * Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- * Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:
The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is

the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped, and aged persons.

Signature

Name of Business

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

The Kentucky equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any count, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) *The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) *The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) *The contract will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) *The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities – Information required

- (1) *For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) *Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor – Hiring of minority contractor or subcontractor

- (1) *If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) *If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 – 45.640.*
- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

11. **EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY**

It is the policy of _____

to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.

12. WORKFORCE ANALYSIS FORM

Name of Organization: _____

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft																	
Service/Maintenance																	
Total:																	

Prepared by: _____
(Name and Title)

Date: ____ / ____ / ____

Revised 2015-Dec-15

13. EVIDENCE OF INSURABILITY

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT CONSTRUCTION PROJECT
(Use separate form for each Agency or Brokerage agreeing to provide coverage)

Names Insured: _____ Employee ID: _____

Address: _____ Phone: _____

Project to be insured: _____

In lieu of obtaining certificates of insurance at this time, the undersigned agrees to provide the above Named Insured with the minimum coverage listed below. These are outlined in the Insurance and Risk Management of Part V (Special Conditions), including all requirements, and conditions:

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's Code	Rating
SC-3, Section 2, Part 4.1 – see provisions	CGI	\$1,000,000 per occ. And \$2,000,000 aggregate	\$			
SC-3, Section 2, Part 4.1 – see provisions	AUTO	\$2,000,000/per occ.	\$			
SC-3, Section 2, Part 4.1 – see provisions	WC	Statutory w/endorsement as noted	\$			

Section 2 includes required provisions, statements regarding insurance requirements, and the undersigned agrees to abide by all provisions for the coverage's checked above unless stated otherwise when submitting.

Agency or Brokerage _____ Name of Authorized Representative _____

Street Address _____ Title _____

City _____ State _____ Zip _____ Authorized Signature _____

Telephone Number _____ Date _____

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of authorized representative of insurer.

IMPORTANT: Contract may not be awarded if a completed and signed copy of this form for all coverage's listed above is not provided with the bid.

14. DEBARRED FIRMS

PROJECT NAME: _____

BID NUMBER: _____

**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY**

All prime Contractors shall certify that Subcontractors have not and will not be awarded to any firms that has been debarred for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

All bidders shall complete the attached certification in duplicate and submit both copies to the Owner with the bid proposal. The Owner (grantee) shall transmit one copy to the Lexington-Fayette Urban County Government, Division of Community Development, within fourteen (14) days after bid opening.

The undersigned hereby certifies that the firm of _____ has not and will not award a subcontract, in connection with any contract award to it as the result of this bid, to any firm that has been debarred for noncompliance with the Federal labor Standards, Title VI of the civil Rights Act of 1964, Executive Order 11246 as amended or any Federal Law.

Name of Firm Submitting Bid

Signature of Authorized Official

Title

Date

15. DEBARMENT CERTIFICATION

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;
 - a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
 - c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: _____

Project: _____

Printed Name and Title of Authorized Representative: _____

Signature: _____

Date: _____

END OF SECTION

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GENERAL CONDITIONS
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END OF SECTION

PART IV

GENERAL CONDITIONS

1. DEFINITIONS

Wherever used in these General Conditions or the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.1 Addenda

Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bid Documents or the Contract Documents.

1.2 Agreement

The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 Application for Payment

The form accepted by CONSULTANT which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

1.4 Bid

The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.5 Bidder

An individual, partnership, or corporation, who submit a Bid for a prime contract with the OWNER, for the Work described in the proposed Contract Documents.

1.6 Bonds

Bid, performance and payment bonds and other instruments of security.

1.7 Calendar Day

A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

1.8 Change Order

A document recommended by CONSULTANT, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

- 1.9 Contract Documents**
The Advertisement for Bidders, Information for Bidders, Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Special Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements.
- 1.10 Contract Unit Price**
The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement. Unit Prices are to be firm for the term of this Contract.
- 1.11 Contract Time**
The number of consecutive calendar days between the date of issuance of the Notice to Proceed and the contract completion date.
- 1.12 CONTRACTOR**
The person, firm or corporation with whom OWNER has entered into the Agreement.
- 1.13 Defective**
An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to CONSULTANT'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER).
- 1.14 Drawings**
The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by CONSULTANT and are referred to in the Contract Documents.
- 1.15 Effective Date of the Agreement**
The date indicated in the Agreement on which it becomes effective.
- 1.16 CONSULTANT**
The Lexington-Fayette Urban County Government or its authorized representative.
- 1.17 Field Order**
A documented order issued by CONSULTANT which orders minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Time.

- 1.18 Giving Notice**
Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.
- 1.19 Laws and Regulations**
Laws, rules, regulations, ordinances, codes and/or orders.
- 1.20 Notice of Award**
The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.
- 1.21 Notice to Proceed**
A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.
- 1.22 OWNER**
The Lexington-Fayette Urban County Government.
- 1.23 Partial Utilization**
Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.
- 1.24 Project**
The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.
- 1.25 Inspector**
The authorized representative who is assigned to the site or any part thereof.
- 1.26 Shop Drawings**
All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.
- 1.27 Specifications**
Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and

workmanship as applied to the Work and certain administrative details applicable thereto.

1.28 Standard Specifications

The "Standard Specifications for Road and Bridge Construction", Transportation Cabinet, Department of Highways, Commonwealth of Kentucky, current edition. MUTCD shall refer to the "Manual of Uniform Traffic Control Devices.

1.29 Subcontractor

An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.30 Special Conditions

The part of the Contract Documents which amends or supplements these General Conditions.

1.31 Supplier

A manufacturer, fabricator, supplier, distributor, materialman or vendor.

1.32 Underground Facilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.33 Unit Price Work

Not applicable

1.34 Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

1.35 Time Period

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

When the CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER, such Bonds, Insurance Certificate, and Power of Attorney as CONTRACTOR may be required to furnish.

2.2 Copies of Documents

Owner shall furnish to CONTRACTOR up to three copies (unless otherwise specified in the Special Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

2.3 Commencement of Contract Time; Notice to Proceed

The Contract Time will commence to run on the day specified in the Notice to Proceed.

2.4 Starting the Project

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

2.5 Before Starting Construction

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to CONSULTANT any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from CONSULTANT before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

2.6 Submittal of Schedules

Within ten days after the effective date of the Agreement (unless otherwise specified) CONTRACTOR shall submit to CONSULTANT for review:

2.6.1 an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into costs per labor and materials by specification

section to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission. Schedule of values shall be submitted on AIA G702/703 forms, or approved equal.

2.7 Preconstruction Conference

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, CONSULTANT, EEO-Affirmative Action Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; (5) The establishment of procedures for effectively implementing the LFUCG's 10% minimum DBE goals; and (6) Requirement for Mechanic's Lien on Partial Applications for Payment.

2.8 Finalizing Schedules

At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, CONSULTANT and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to CONSULTANT as providing orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on CONSULTANT responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility thereof. The finalized schedule of Shop Drawing submissions will be acceptable to CONSULTANT as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to CONSULTANT as to form and substance.

3. CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE

3.1 General

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 Intent

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used

to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or CONSULTANT, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to CONSULTANT, or any of CONSULTANT'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by CONSULTANT as provided in paragraph 8.4.

3.3 Conflicts

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to CONSULTANT in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from CONSULTANT; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order:

1. Agreement
2. Field and Change Orders
3. Addenda
4. Special Conditions
5. Instruction to Bidders
6. General Conditions
7. Specifications and Drawings

Figure dimension on drawings shall govern over scale dimensions and detailed Drawings shall govern over general Drawings.

3.4 Amending and Supplementing Contract Documents

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by means of a Change Order or a Field Order. Contract Price and Contract Time may only be changed by a Change Order.

3.5 Reuse of Documents

Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of CONSULTANT; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and CONSULTANT and specific written verification or adaptation by CONSULTANT.

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11. CONSULTANT shall determine if the claim is legitimate or not. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Physical Conditions

4.2.1 Explorations and Reports

Reference is made to the Special Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by CONSULTANT in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures

Reference is made to the Special Conditions for identification of those drawings of physical conditions in or relating to existing surface and

subsurface structures (except Underground Facilities referred to in paragraph 4.3 which are at or contiguous to the site that have been utilized by CONSULTANT in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical conditions uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing and WORK in connection therewith (except in an emergency) notify OWNER and CONSULTANT in writing about the inaccuracy or difference.

4.2.4 CONSULTANT'S Review

CONSULTANT will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CONTRACTOR of CONSULTANT'S findings and conclusions.

4.2.5 Possible Document Change

If CONSULTANT concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change I the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments

In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference.

4.3 Physical Conditions-Underground Facilities

4.3.1 Shown or Indicated

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is

based on information and data furnished to OWNER or CONSULTANT by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

4.3.1.1 OWNER and CONSULTANT shall not be responsible for the accuracy or completeness of any such information or data; and,

4.2.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated

If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and CONSULTANT. CONSULTANT will promptly review the underground facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such underground facility. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of.

4.4 Reference Points

OWNER shall provide engineering surveys to establish reference points for construction which in CONSULTANT'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to CONSULTANT whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by a Registered Land Surveyor.

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the CONSULTANT and the general public. CONTRACTOR shall keep at the Project Site during the progress of the Work a competent project manager/superintendent and all necessary assistants, all of whom shall be satisfactory to OWNER. OWNER reserves the right to reject CONTRACTOR'S construction superintendent and project management personnel if they are unsatisfactory to OWNER and upon such rejection CONTRACTOR shall designate and provide competent successors. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and CONSULTANT except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.3 Labor

CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. OWNER reserves the right to require CONTRACTOR to remove from the Project any of it's personnel, or subcontractor's personnel for violating LFUCG Policies, Rules or Regulations. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to CONSULTANT.

5.4 Start-Up and Completion of Work

Unless otherwise specified, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

5.5 Materials and Equipment

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by CONSULTANT, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to CONSULTANT, or any of CONSULTANT'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

5.5.1 Not Clearly Specified or Indicated

In all instances where materials specified are obtainable in different sizes, weights, trade grades, qualities or finishes, etc., whose weights, trade grades, qualities or finishes, etc., are not clearly specified or indicated on the Drawings, the CONTRACTOR shall notify the CONSULTANT of all such instances at least five (5) days in advance of receiving the proposals. The CONSULTANT will then determine which size, weight, trade grade, quality, finish, etc., is required.

5.5.2 Coordination of Work

The CONTRACTOR shall see that for his own Work and for the work of each subcontractor, proper templates and patterns necessary for the coordination of the various parts of the Work are prepared. The CONTRACTOR shall furnish or require the Subcontractor to furnish such duplicates as will enable the Subcontractors to fit together and execute fully their respective portions of the Work.

5.6 Adjusting Progress Schedule

CONTRACTOR shall submit to CONSULTANT for acceptance (to the extent indicated in paragraph 2.8) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the Contract Documents applicable thereto.

5.7 Substitutes or "Or-Equal" Items

5.7.1 General

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/CONSULTANT if sufficient information is submitted by CONTRACTOR to allow OWNER/CONSULTANT to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/CONSULTANT will include the following. Requests for review of substitute items of material and equipment will not be accepted by OWNER/CONSULTANT from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/CONSULTANT for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/CONSULTANT in evaluating the proposed substitute. OWNER/CONSULTANT may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/CONSULTANT, if CONTRACTOR submits sufficient information to allow OWNER/CONSULTANT to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by OWNER/CONSULTANT will be

similar to that provided in paragraph 5.7.1 as applied by OWNER/CONSULTANT.

5.7.3 OWNER/CONSULTANT'S Approval

OWNER/CONSULTANT will be allowed a reasonable time within which to evaluate each proposed substitute. OWNER/CONSULTANT will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without OWNER/CONSULTANT'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. OWNER/CONSULTANT will record time required by OWNER/CONSULTANT and OWNER/CONSULTANT'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not OWNER/CONSULTANT accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of OWNER/CONSULTANT and OWNER/CONSULTANT'S consultants for evaluating each proposed substitute.

5.8 Subcontractors, Suppliers, and Others

5.8.1 Acceptable to CONSULTANT

CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and CONSULTANT as indicated in paragraph 5.8.2), whether initially or as a substitute, against whom OWNER or CONSULTANT may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.8.2 Objection After Due Investigation

If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and CONSULTANT and if CONTRACTOR has submitted a list thereof, OWNER'S or CONSULTANT'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or CONSULTANT of any such Subcontractor, Supplier or other

person or organization shall constitute a waiver of any right of OWNER or CONSULTANT to reject defective Work.

5.8.3 Contractor Responsible for Acts of Subcontractors

The CONTRACTOR shall perform on the site, and with its own organization, work equivalent to at least fifty (50) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the Urban County project manager determines that the reduction would be to the advantage of the Urban County Government.

The CONTRACTOR shall, at the time he submits his proposal for the Contract, notify the OWNER in writing of the names of Subcontractors proposed for the Work. He shall not employ any Subcontractor without the prior written approval of the OWNER.

CONTRACTOR shall be fully responsible to OWNER and CONSULTANT for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or CONSULTANT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or CONSULTANT to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

5.8.4 Division of Specifications

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

5.8.5 Agreement Between Contractor and Subcontractors

All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and CONSULTANT.

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as to the project scope, nature, intention, design, or construction

method to any third party or parties without the explicit written consent of the OWNER.

Any third party requesting such information shall be referred to the OWNER or his representative.

Should there be any change from the original intent of the project as a result of any statement or comment by the contractor, his employees or subcontractors, contractor shall be held liable for any change in the scope, nature, design, or construction method and shall bear the full cost for the previously mentioned changes.

5.9 Patent Fees and Royalties

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

5.10 Permits

Unless otherwise provided in the Special conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

5.11 Laws and Regulations

5.11.1 CONTRACTOR to Comply

CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor CONSULTANT shall be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations.

5.11.2 Specifications and Drawings at Variance

If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give CONSULTANT prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws, or Regulations, and without such notice to CONSULTANT, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.12 Taxes

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.13 Use of Premises

5.13.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such

land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or CONSULTANT by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and CONSULTANT harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or CONSULTANT to the extent based on a claim arising out of CONTRACTOR'S performance of the Work.

5.13.2 Clean UP

During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.13.1 Loading of Structures

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

5.14 **Record Drawings**

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to CONSULTANT for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to CONSULTANT for OWNER.

5.15 **Shop Drawings and Samples**

5.15.1 Shop Drawing Submittals

After checking and verifying all field measurements and after complying

with applicable procedures specified, CONTRACTOR shall submit to CONSULTANT for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8), or for other appropriate action if so indicated in the Special Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as CONSULTANT may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable CONSULTANT to review the information as required.

5.15.2 Sample Submittals

CONTRACTOR shall also submit to CONSULTANT for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.15.3 Review by CONTRACTOR

Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.15.4 Notice of Variation

At the time of each submission, CONTRACTOR shall give CONSULTANT specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to CONSULTANT for review and approval of each such variation.

5.15.5 CONSULTANT'S Approval

CONSULTANT will review and approve with reasonable promptness Shop Drawings and samples, but CONSULTANT'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or

procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by CONSULTANT, and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by CONSULTANT on previous submittals.

5.15.6 Responsibility for Errors and Omissions

CONSULTANT'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called CONSULTANT'S attention to each such variation at the time of submission as required by paragraph 5.15.4 and CONSULTANT has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by CONSULTANT relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.15.3.

5.15.7 Cost of Related Work

Where a Shop or sample is required by the Specifications, any related Work performed prior to CONSULTANT'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

5.16 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolutions of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

5.17 Erosion and Sediment Control

5.17.1 General Environmental Requirements

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits.

Any fines or penalties resulting from the failure to comply with the terms of the federal, state or local permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

5.17.2 Stormwater Pollution Prevention

A. The CONTRACTOR shall exercise due care to prevent or minimize any damage to any stream or wetland from pollution by debris, sediment or other material. The operation of equipment and/or materials in a jurisdictional wetland is expressly prohibited. Water that has been used for washing or processing, or that contains oils, sediments or other pollutants shall not be discharged from the job site. Such waters shall be collected and properly disposed of by the CONTRACTOR in accordance with applicable local, state and federal law.

B. The CONTRACTOR is solely responsible for securing all required state and local permits associated with stormwater discharges from the project including, but not necessarily limited to the KY Notice of Intent to Disturb (NOI) for Coverage of Storm Water Discharges Associated with Construction Activities under the KPDES Storm Water General Permit KYR100000 and the LFUCG, Land Disturbance Permit. Permit application preparation and all required documentation are the responsibility of the CONTRACTOR. The CONTRACTOR is solely responsible for maintaining compliance with the stormwater pollution prevention plan or erosion and sediment control plan and ensuring the following:

- a. That the Stormwater Pollution Prevention Plan (SWPPP) or erosion control plan is current and available for review on site;
- b. That any and all stormwater inspection reports required by the permit are conducted by qualified personnel and are available for review onsite; and
- c. That all best management practices (BMPs) are adequately maintained and effective at controlling erosion and preventing sediment from leaving the site.

C. The CONTRACTOR shall provide the necessary equipment and personnel to perform any and all emergency measures that may be required to contain any spillage or leakage and to remove materials, soils or liquids that become contaminated. The collected spill material shall be properly disposed at the CONTRACTOR's expense.

D. Upon completion of the work and with the concurrence of the OWNER, the CONTRACTOR must file a Notice of Termination (NOT) of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity with the appropriate local and state authorities.

E. Any fines or penalties resulting from the failure to comply with the terms of the state or local stormwater permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

6. OTHER WORK

6.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if such performance will involve additional expense to CONTRACTOR or requires additional time, a Change Order to the Contract will be negotiated.

6.2 Other Contractors or Utility Owners

CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of CONSULTANT and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

6.3 Delays Caused by Others

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to CONSULTANT in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

6.4 Coordination

If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Special Conditions, and the specific matters to be covered by such authority and

responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Special Conditions.

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through CONSULTANT.

7.2 Data and Payments

OWNER shall furnish the data required of OWNER under the Contract Documents promptly after they are due.

7.3 Lands, Easements, and Surveys

OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by CONSULTANT in preparing the Drawings and Specifications.

7.4 Change Orders

OWNER is obligated to execute Change Orders as indicated in paragraph 9.4.

7.5 Inspections, Tests and Approvals

OWNER'S responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.3.

7.6 Stop or Suspend Work

In connection with OWNER'S right to stop Work or suspend Work, see paragraph 12.4 and 14.1 Paragraph 14.2 deals with OWNER'S rights to terminate services of CONTRACTOR under certain circumstances.

8. CONSULTANT'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

CONSULTANT will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of CONSULTANT as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and CONSULTANT.

8.2 Visits to Site

CONSULTANT will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. CONSULTANT will not be required to make exhaustive or

continuous on-site inspections to check the quality or quantity of the Work. CONSULTANT'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, CONSULTANT will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

CONSULTANT will provide an Inspector to assist CONSULTANT in observing the performance of the Work. If OWNER designates another agent to represent OWNER at the site who is not CONSULTANT'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Special Conditions.

8.4 Clarifications and Interpretations

CONSULTANT will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as CONSULTANT may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

8.5 Authorized Variations in Work

CONSULTANT may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

8.6 Rejecting Defective Work

CONSULTANT will have authority to disapprove or reject Work which CONSULTANT believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.3, whether or not the Work is fabricated, installed or completed.

8.7 Shop Drawings

In connection with CONSULTANT'S responsibility for Shop Drawings and samples, see paragraphs 5.15.1 through 5.16 inclusive.

8.8 Change Orders

In connection with CONSULTANT'S responsibilities as to Change Orders, see Articles 10, 11 and 12.

8.9 Payments

In connection with CONSULTANT'S responsibilities with respect to Applications for Payment, etc., see Article 13.

8.10 Determinations for Unit Prices

CONSULTANT will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR.

CONSULTANT will review with CONTRACTOR CONSULTANT'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

8.11 Decision on Disputes

CONSULTANT will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to CONSULTANT in writing with a request for a formal decision in accordance with this paragraph, which CONSULTANT will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered to CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to CONSULTANT within sixty days after such occurrence unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim.

8.12 Limitations on CONSULTANT'S Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

Neither CONSULTANT'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by CONSULTANT in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of CONSULTANT to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.12.2 To Evaluate the Work

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives or like "effect" or "import" are used to describe a requirement, direction, review or judgment of CONSULTANT as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign CONSULTANT any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

8.12.3 CONTRACTOR'S Means, Methods, Etc.

CONSULTANT will not be responsible for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and CONSULTANT will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents.

8.12.4 Acts of Omissions of CONTRACTOR

CONSULTANT will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9. CHANGES IN THE WORK

9.1 OWNER May Order Change

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Change Order. Upon receipt of such notice, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

9.2 Claims

Claims for an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Change Order will be settled as provided for in Article 10 or Article 11.

9.3 Work Not in Contract Documents

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.4, except in the case of an emergency and except in the case of uncovering Work as provided in paragraph 12.3.4.

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

9.4.1 changes in the Work which are ordered by OWNER pursuant to paragraph 9.1, are required because of acceptance of defective Work under paragraph 12.7 or corrective defective Work under paragraph 12.8, or are agreed to by the parties;

9.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

9.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by CONSULTANT pursuant to paragraph 8.11; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and REGULATIONS, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 5.16.

9.5 Notice of Change

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.2 Claim for Increase or Decrease in Price

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

10.3 Value of Work

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Unit Prices

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

10.3.2 Lump Sum

By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 10.6.2.1).

10.3.3 Cost Plus Fee

On the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraphs 10.6 and 10.7).

10.4 Cost of the Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items; and shall not include any of the costs itemized in paragraph 10.5:

10.4.1 Payroll Costs

Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

10.4.2 Materials and Equipment Costs

Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Subcontractor Costs

Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of CONSULTANT, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR'S Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

10.4.4 Special Consultant Costs

Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

10.4.5 Supplemental Costs

10.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

10.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of CONSULTANT, and the costs of transportation, loading, unloading, installation, dismantling and removal shall be in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

10.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid a fee proportionate to that stated in paragraph 10.6.2 for services.

10.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

10.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER.

10.5 Not to Be Included in Cost of the Work

The term Cost of the Work shall not include any of the following:

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of

the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Capital Expense

Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.5.4 Bonds and Insurance

Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.9 above).

10.5.5 Costs Due to Negligence

Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.6 Other Costs

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 Contractor's Fee

The CONTRACTOR'S Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,

10.6.2 a fee based on the following percentages of the various portions of the Cost of the Work:

10.6.2.1 for costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR'S fee shall be fifteen percent;

10.6.2.2 for costs incurred under paragraph 10.4.3, the CONTRACTOR'S fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

10.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;

10.6.2.4 the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S Fee by an amount equal to ten percent of the net decrease; and

10.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.1 through 10.6.2.4, inclusive.

10.7 Itemized Cost Breakdown

Whenever the cost of any Work is to be determined pursuant to paragraph 10.4 or 10.5, CONTRACTOR will submit in form acceptable to CONSULTANT an itemized cost breakdown together with supporting data.

10.8 Cash Allowances

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to CONSULTANT, CONTRACTOR agrees that:

10.8.1 Materials and Equipment

The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

10.8.2 Other Costs

CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

10.8.3 Change Order

Prior to final payment, an appropriate Change Order will be issued as recommended by CONSULTANT to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work

10.9.1 General

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by CONSULTANT in accordance with Paragraph 8.10.

10.9.2 Overhead and Profit

Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

10.9.3 Claim for Increase in Unit Price

Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 10.

11. CHANGE OF CONTRACT TIME

11.1 Change Order

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by CONSULTANT in accordance with paragraph 8.11. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 11.1.

11.2 Justification for Time Extensions

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 11.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 6, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

11.3 Time Limits

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 11 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

12. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

12.1 Warranty and Guarantee

CONTRACTOR warrants and guarantees to OWNER and CONSULTANT that all Work will be in accordance with the Contract Documents and will not be defective. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 12.

12.2 Access to Work

CONSULTANT and CONSULTANT'S representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections

12.3.1 Timely Notice

CONTRACTOR shall give CONSULTANT timely notice of readiness of the Work for all required inspections, tests or approvals.

12.3.2 Requirements and Responsibilities

The CONSULTANT may require such inspection and testing during the course of the Work as he/she deems necessary to ascertain and assure the integrity and acceptable quality of the materials incorporated and the work performed. Inspection presence may be either full-time or intermittent, and neither the presence nor absence at any time of the CONSULTANT or the INSPECTOR shall relieve the CONTRACTOR of sole responsibility for the acceptability and integrity of the Work or any part thereof.

The costs of sampling, testing, and inspection on-site to ascertain acceptability of the Work and materials will be borne by the OWNER except as otherwise provided. The OWNER will select a testing laboratory to perform such sampling and testing. Sampling and/or testing required by the CONTRACTOR or necessitated by failure of Work or materials to meet the above acceptability test shall be at the expense of the CONTRACTOR.

Inspection services may be performed by the employees of the OWNER or by others selected or designated by the OWNER or the CONSULTANT.

Sampling and/or testing required for manufacturing quality and/or process control, for certification that raw mineral materials or manufactured products are the quality specified in the contract, or to assure the acceptability for incorporation into the Work shall be borne by the CONTRACTOR or the material supplier.

Cost for inspection, sampling, testing, and approvals required by the laws or regulations of any public body having competent jurisdiction shall be borne by the CONTRACTOR or the material supplier.

Sampling and testing will be in accord with pertinent codes and regulations and with appropriate standards of the American Society of Testing Materials or other specified standards.

12.3.3 On-Site Construction Test and Other Testing

All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by CONSULTANT if so specified).

12.3.4 Covered Work

If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of CONSULTANT, it must, if requested by CONSULTANT, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given CONSULTANT timely notice of CONTRACTOR'S intention to cover the same and CONSULTANT has not acted with reasonable promptness in response to such notice.

12.3.5 CONTRACTOR'S Obligation

Neither observations by CONSULTANT nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the Contract Documents.

12.4 OWNER May Stop the Work

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

12.5 Correction or Removal of Defective Work

If required by CONSULTANT, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by CONSULTANT, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.6 One Year Correction Period

If within one year after the date of Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement

(including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

12.7 Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by CONSULTANT as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

12.8 OWNER May Correct Defective Work

If CONTRACTOR fails within a reasonable time after written notice of CONSULTANT to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by CONSULTANT in accordance with paragraph 12.5, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by CONSULTANT, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

The schedule of values established as provided in paragraph 2.8 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to CONSULTANT. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Application for Progress Payment

At least ten days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to CONSULTANT for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. OWNER shall, within thirty (30) calendar days of presentation to him of an approved Application for Payment, pay CONTRACTOR the amount approved by CONSULTANT. Monthly progress payments shall be ninety (90) percent of the sum obtained by applying the respective bid unit prices to the approved estimated quantities of work completed by the Contractor during the preceding month. The remaining ten (10) percent will be held by the Owner, as retainage. At such time as the CONSULTANT deems appropriate - based on the quality of work performed, progress of cleanup, and other pertinent factors - the rate of retainage, or the total amount retained, may be reduced; although, any reduction in retainage, below the ten (10) percent level, is made solely at the CONSULTANT's discretion. All remaining retainage held will be included in the final payment to the Contractor.

13.2.1 Waivers of Mechanic's Lien

With each Application for Payment OWNER may require CONTRACTOR to submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

13.2.1.1 Requirement for waivers of Mechanic's Lien on Partial Applications for Payment will be determined and communicated at the Preconstruction Conference.

13.2.1.2 Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

13.2.1.3 When an application shows completion of an item, submit conditional final or full waivers.

13.2.1.4 Owner reserves the right to designate which entities involved in the Work must submit waivers.

13.2.1.5 Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

13.3 CONTRACTOR'S Warranty of Title

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

CONSULTANT will, after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing CONSULTANT'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

13.4.2 CONSULTANT'S Recommendation

CONSULTANT may refuse to recommend the whole or any part of any payment, if, in CONSULTANT'S opinion, it would be incorrect to make such representations to OWNER. CONSULTANT may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in CONSULTANT'S opinion to protect OWNER from loss because:

13.4.2.1 the Work is defective, or completed Work has been damaged requiring correction or replacement;

13.4.2.2 the Contract Price has been reduced by Written Amendment or Change Order;

13.4.2.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 12.8; or

13.4.2.4 of CONSULTANT's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1 through 14.2.9 inclusive.

13.5 Partial Utilization

OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and has been completed. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is complete and request that a Certificate of Completion be issued for that part of the Work.

13.6 Final Inspection

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, CONSULTANT will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

13.7 Final Application for Payment

After CONTRACTOR has completed all such corrections to the satisfaction of CONSULTANT and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.14) and other documents - all as required by the Contract Documents, and after CONSULTANT has indicated that the Work is acceptable (subject to the provisions of paragraph 13.10), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to

furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

13.8 Final Payment and Acceptance

13.8.1 CONSULTANT'S Approval

If, on the basis of CONSULTANT'S observation of the Work during construction and final inspection, and CONSULTANT'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, CONSULTANT is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, CONSULTANT will, after receipt of the final Application for Payment, indicate in writing CONSULTANT'S recommendation of payment and present the Application to OWNER for payment. Thereupon CONSULTANT will give written notice to OWNER and CONTRACTOR that the Work is acceptable, subject to the provisions of paragraph 13.10. Otherwise, CONSULTANT will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

13.8.2 Delay in Completion of Work

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of CONSULTANT, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to CONSULTANT with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.9 CONTRACTOR'S Continuing Obligation

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by CONSULTANT, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the

Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

13.10.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the Contract Documents; and

13.10.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and CONSULTANT which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 10 and 11.

14.2 OWNER May Terminate

The OWNER may terminate the Work upon the occurrence of any one or more of the following events:

14.2.1 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

14.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

14.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

14.2.4 if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

14.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

14.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as revised from time to time);

14.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

14.2.8 if CONTRACTOR disregards the authority of CONSULTANT, or

14.2.9 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by CONSULTANT and incorporated in a Change Order,

but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

14.2.10 If safety violations are observed and brought to the Contractors attention and Contractor fails to take immediate corrective measures any repeat of similar safety violations, Owner will order an immediate termination of contract. Note: it is the Contractor's responsibility to know proper safety measures as they pertain to construction and OSHA.

14.2.11 This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

14.2.12 This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

14.3 CONTRACTOR'S Services Terminated

Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

14.4 Payment After Termination

Upon seven days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

14.5 CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or CONSULTANT fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and CONSULTANT, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if CONSULTANT has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and

CONSULTANT stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 15.1 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

15.2.1 That no person (as defined in KRS 344.010) shall bid on Lexington-Fayette Urban County Government construction projects, or bid to furnish materials or supplies to the Lexington-Fayette Urban County Government, if, within six months prior to the time of opening of bids, said person shall have been found, by declaratory judgment action in Fayette Circuit Court, to be presently engaging in an unlawful practice, as hereinafter defined. Such declaratory judgment action may be brought by an aggrieved individual or upon an allegation that an effort at conciliation pursuant to KRS 344.200 has been attempted and failed, by the Lexington-Fayette County Human Rights Commission.

15.2.2 That it is an unlawful practice for an employer:

15.2.2.1 to fail or refuse to hire, or to discharge any individual or otherwise to discriminate against an individual, with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, age, or national origin; or

15.2.2.2 to limit, segregate or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee because of such individual's sex, race, color, religion, age, or national origin.

15.2.3 That it is an unlawful practice for an employer, labor organization, or joint-labor management committee controlling apprenticeship or other training or retraining, including on-the-job training programs to discriminate against an individual because of his race, color, religion, sex, age, or national origin in admission to, or employment in, any program established to provide apprenticeship or other training.

15.2.4 That a copy of this Ordinance shall be furnished all suppliers and made a part of all bid specifications.

15.2.5 This Ordinance shall take effect after it is signed, published and recorded, as required by law.

15.3 Temporary Street Closing or Blockage

The CONTRACTOR will notify the CONSULTANT at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies. Specific details and restrictions on street closure or blockage are contained in the Special Conditions.

15.4 Percentage of Work Performed by prime CONTRACTOR

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty (50%) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the CONSULTANT determines that the reduction would be to the advantage of the OWNER.

15.5 Clean-up

Cleanup shall progress, to the greatest degree practicable, throughout the course of the Work. The Work will not be considered as completed, and final payment will not be made, until the right-of-way and all ground occupied or affected by the Contractor in connection with the Work has been cleared of all rubbish, equipment, excess materials, temporary structures, and weeds. Rubbish and all waste materials of whatever nature shall be disposed of, off of the project site, in an acceptable manner. All property, both public and private, which has been damaged in the prosecution of the Work, shall be restored in an acceptable manner. All areas shall be draining, and all drainage ways shall be left unobstructed, and in such a condition that drift will not collect or scour be induced.

15.6 General

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 12.1, 12.3.5, 13.3, and 15.2 and all of the rights and remedies available to OWNER and CONSULTANT thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies

available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

15.7 Debris Disposal

For all LFUCG projects any trash, construction demolition debris, yard waste, dirt or debris of any kind that is removed from the project site must be disposed of in accordance with local, state, and federal regulations. The disposal site or facility must be approved in advance by the LFUCG and disposal documentation is required. The Contractor will be responsible for payment of any fines associated with improper disposal of material removed from the project site.

END OF SECTION

PART V
SPECIAL CONDITIONS
INDEX

- 1 RISK MANAGEMENT PROVISIONS –
INSURANCE AND INDEMNIFICATION

1. RISK MANAGEMENT PROVISIONS INSURANCE AND INDEMNIFICATION

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (5) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (6) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (7) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (8) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (9) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability occurrence (Insurance Services Office Form CA 0001)	combined single, \$1 million per
Worker's Compensation	Statutory
Employer's Liability	\$100,000.00
Excess/Umbrella Liability	\$5 million

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless deemed not to apply by LFUCG.

- d. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- e. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

00470806

END OF SECTION

PART VI
CONTRACT AGREEMENT
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9.	ENUMERATION OF SPECIFICATIONS AND DRAWINGS.....	CA-4

PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the 27th day of June, 20 18, by and between **Lexington-Fayette Urban County Government**, acting herein called "OWNER" and FRISTOE & REYNOLDS. INC. DBA Comfort & Process Solutions, doing business as *(an individual) (a partnership) (a corporation) located in the City of Lexington, County of Fayette, and State of Kentucky, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of no Dollars and no Cents (\$ 95,455.00) ^{ninety-five thousand, four hundred and fifty-five} quoted in the proposal by the CONTRACTOR, dated 6-14-18, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications, IonWave Q&A and Contract Documents therefore as prepared by Department of General Services for Family Care Boiler Project.

2. TIME OF COMPLETION

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as eighty (80) calendar days to final completion. The time shall begin in accordance with the Notice to Proceed provided by OWNER.

3. ISSUANCE OF WORK ORDERS

Notice to begin Work will be given in whole or for part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined by the Engineer after consultation with the CONTRACTOR and the OWNER.

4. THE CONTRACT SUM

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Contract, as quoted in the proposal, subject to any additions and deductions, as provided therein.

5. PROGRESS PAYMENTS

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, as estimated by the Engineer, less the aggregate of previous payments.

6. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the Work has been paid.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR, and the ENGINEER so certifies, the OWNER shall upon certificate of the ENGINEER, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

7. THE CONTRACT DOCUMENTS

The Advertisement for Bids, Information for Bidders, the General Conditions, Performance and Payment Bonds, Contract Agreement, Special Conditions, Technical Specifications, any and all Addenda, IonWave Q&A, and Proposal, and Plan Drawings form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated.

8. EXTRA WORK

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

9. THE FOLLOWING IS AN ENUMERATION OF THE SPECIFICATIONS AND DRAWINGS (CONTRACT DOCUMENTS):

SPECIFICATIONS

SECTION NO.	TITLE	PAGES
I	Advertisement for Bids	AB 1 thru 5
II	Information for Bidders	IB 1 thru 10
III	Form of Proposal	P 1 thru 35
IV	General Conditions	GC 1 thru 52
V	Special Conditions	SC 1 thru 5
VI	Contract Agreement	CA 1 thru 6
VII	Performance and Payment Bonds	PB 1 thru 7
VIII	Addenda	AD 1 thru 1
IX	Technical Specifications	

INDEX OF DIVISION ONE SPECIFICATIONS

SECTION	TITLE
SECTION 01000	SPECIAL CONDITIONS
SECTION 01027	APPLICATIONS FOR PAYMENT
SECTION 01039	COORDINATION AND MEETINGS
SECTION 01300	SUBMITTALS
SECTION 01700	CONTRACT CLOSEOUT
SECTION 01740	WARRANTIES AND BONDS

INDEX OF DIVISION FIFTEEN SPECIFICATIONS

SECTION	TITLE
SECTION 15010	MECHANICAL GENERAL REQUIREMENTS
SECTION 15020	CUTTING, PATCHING AND REPAIRING
SECTION 15030	ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT
SECTION 15047	MECHANICAL DEMOLITION
SECTION 15100	VALVES
SECTION 15140	PUMPS
SECTION 15170	METERS AND GAUGES
SECTION 15180	PIPING SPECIALTIES
SECTION 15190	PIPING SUPPORTS, ANCHORS, AND SEALS
SECTION 15250	INSULATION
SECTION 15350	NATURAL GAS PIPING SYSTEMS
SECTION 15641	HIGH EFFICIENCY GAS-FIRED BOILERS
SECTION 15704	HVAC CHILLED & HOT WATER PIPING SYSTEMS
SECTION 15710	HYDRONIC SPECIALTIES
SECTION 15980	TESTING, ADJUSTING AND BALANCING

INDEX OF DIVISION SIXTEEN SPECIFICATIONS

SECTION	TITLE
SECTION 16010	GENERAL PROVISIONS - ELECTRICAL
SECTION 16110	RACEWAYS & FITTINGS
SECTION 16120	CONDUCTORS, IDENTIFICATIONS, SPLICING DEVICES CONNECTORS
SECTION 16135	CABINETS, OUTLET BOXES & PULL BOXES
SECTION 16452	GROUNDING

DRAWINGS

■	COVER SHEET
SHEET M1	MECHANICAL ROOM PLAN AND SCHEDULES
SHEET M2	MECHANICAL PIPING SCHEMATICS

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.
Lexington, Kentucky

(Owner)

ATTEST:

[Signature]
Clerk of the Urban County Council

BY:

[Signature]
MAYOR

[Signature]
(Witness)

(Title)

[Signature]
(Contractor)

(Seal)

[Signature]
(Secretary)*

BY:

[Signature]

[Signature]
(Witness)

[Signature]
(Title)

100 Mercer Court, Suite 100
Lexington, KY 40511

(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

Secretary of the Owner should attest. If the CONTRACTOR is corporation,
Secretary should attest. Give proper title of each person-executing Contract.

AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

Fristoe & Reynolds Inc DBA Comfort &
Process Solutions
100 Mercer Ct STE 100
Lexington, KY 40511

SURETY:

(Name, legal status and principal place of
business)

Auto-Owners Insurance Company
6101 Anacapi Blvd.
Lansing, MI 48917

OWNER:

(Name, legal status and address)

Lexington Fayette Urban County Government
200 E Main St
Lexington, KY 40507

CONSTRUCTION CONTRACT

Date: 06/21/2018

Amount: \$ 95,455.00

Description:

(Name and location)

66272390 - Family Care Boiler Project
1135 Harry Sykes Way Lexington, KY 40504

BOND

Date:

(Not earlier than Construction Contract Date)

06/21/2018

Amount: \$ 95,455.00

Modifications to this Bond: X None Sec Section 18

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and _____

Title:

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

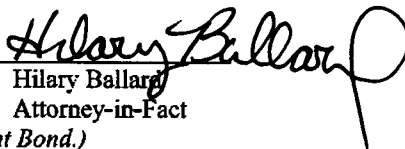
SURETY

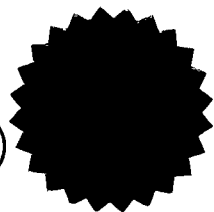
Company: (Corporate Seal)

Signature: _____

Name and _____

Title:


Hilary Ballard
Attorney-in-Fact

**ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Winchester Insurance Agency
41 South Main St
Winchester, KY 40391
Telephone Number: 859-744-2200

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Init.

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

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

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

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

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

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

§ 16 Definitions

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

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

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

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

Init.

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

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

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

§ 18 Modifications to this bond are as follows:

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

CONTRACTOR AS PRINCIPAL

Company: _____ (Corporate Seal)
Signature: _____

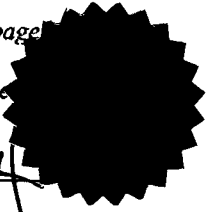
Name and Title: _____
Address: _____

SURETY

Company: _____ (Corporate Seal)
Signature: _____

Name and Title: _____
Address: _____

Hilary Ballou



Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 14:13:22 on 06/20/2018 under Order No. 4440473378 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Payment Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.



(Signed)

attorney-in-fact

(Title)

6/20/2018

(Dated)

AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

Fristoe & Reynolds Inc DBA Comfort &
Process Solutions
100 Mercer Ct STE 100
Lexington, KY 40511

SURETY:

(Name, legal status and principal place of
business)

Auto-Owners Insurance Company
6101 Anacapi Blvd.
Lansing, MI 48917

OWNER:

(Name, legal status and address)

Lexington Fayette Urban County Government
200 E Main St
Lexington, KY 40504

CONSTRUCTION CONTRACT

Date: 06/21/2018

Amount: \$ 95,455.00

Description:

(Name and location)

66272390 - Family Care Boiler Project
1135 Harry Sykes Way
Lexington, KY 40504

BOND

Date:

(Not earlier than Construction Contract Date)

06/21/2018

Amount: \$ 95,455.00

Modifications to this Bond: X None See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and

Title:

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

SURETY

Company: (Corporate Seal)

Signature: 

Name and

Title:

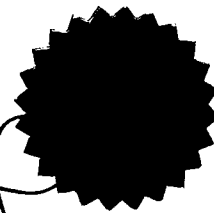
Hilary Ballard,
Attorney-in-Fact

ADDITIONS AND DELETIONS:

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

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



(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Winchester Insurance Agency
41 South Main St
Winchester, KY 40391
Telephone Number: 859-744-2200

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

Init.

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User Notes:

(3B9ADA13)

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

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

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

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

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

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

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

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

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

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

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

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

Init.

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

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

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

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

Init.

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

§ 16 Modifications to this bond are as follows:

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

CONTRACTOR AS PRINCIPAL

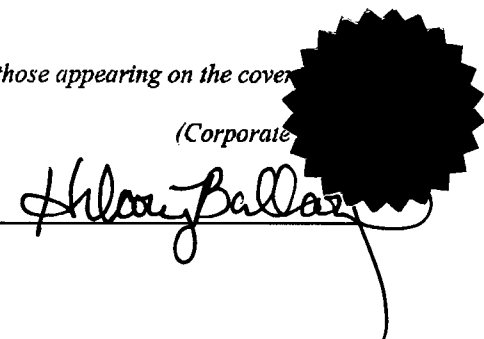
Company: _____
Signature: _____
(Corporate Seal)

Name and Title: _____
Address: _____

SURETY

Company: _____
Signature: _____
(Corporate Seal)

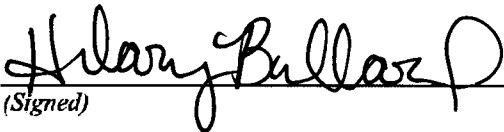
Name and Title: _____
Address: _____



Init.

Certification of Document's Authenticity
AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 14:10:32 on 06/20/2018 under Order No. 4440473378 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Performance Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.


(Signed)

attorney-in-fact
(Title)

6/20/2018
(Dated)

DATE AND ATTACH TO ORIGINAL BOND
AUTO-OWNERS INSURANCE COMPANY

LANSING, MICHIGAN
POWER OF ATTORNEY

NO. 66272390

KNOW ALL MEN BY THESE PRESENTS: That the AUTO-OWNERS INSURANCE COMPANY AT LANSING, MICHIGAN, a Michigan Corporation, having its principal office at Lansing, County of Eaton, State of Michigan, adopted the following Resolution by the directors of the Company on January 27, 1971, to wit:

"RESOLVED, That the President or any Vice President or Secretary or Assistant Secretary of the Company shall have the power and authority to appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity, and other writings obligatory in the nature thereof. Signatures of officers and seal of Company imprinted on such powers of attorney by facsimile shall have same force and effect as if manually affixed. Said officers may at any time remove and revoke the authority of any such appointee."

Does hereby constitute and appoint **Hilary Ballard**

its true and lawful attorney(s)-in-fact, to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and the execution of such instrument(s) shall be as binding upon the AUTO-OWNERS INSURANCE COMPANY AT LANSING, MICHIGAN as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal office.

IN WITNESS WHEREOF, the AUTO-OWNERS INSURANCE COMPANY AT LANSING, MICHIGAN, has caused this to be signed by its authorized officer this 1st day of August, 2016

Denise Williams

Denise Williams Senior Vice President

STATE OF MICHIGAN } ss.
COUNTY OF EATON }

On this 1st day of August, 2016, before me personally came Denise Williams, to me known, who being duly sworn, did depose and say that they are Denise Williams, Senior Vice President of AUTO-OWNERS INSURANCE COMPANY, the corporation described in and which executed the above instrument, that they know the seal of said corporation, that the seal affixed to said instrument is such Corporate Seal, and that they received said instrument on behalf of the corporation by authority of their office pursuant to a Resolution of the Board of Directors of said corporation.



My commission expires March 10, 2022

Susan E. Theisen
Susan E. Theisen Notary Public

STATE OF MICHIGAN } ss.
COUNTY OF EATON }

I, the undersigned First Vice President, Secretary and General Counsel of AUTO-OWNERS INSURANCE COMPANY, do hereby certify that the authority to issue a power of attorney as outlined in the above board of directors resolution remains in full force and effect as written and has not been revoked and the resolution as set forth is now in force.

Signed and sealed at Lansing, Michigan. Dated this 21st day of June, 2018.



William F. Woodbury
William F. Woodbury, First Vice President, Secretary and General Counsel

PART VIII

ADDENDA

All addenda issued during the bidding of the Project will be reproduced in the signed Contract Documents, on the pages following this heading sheet.

<u>Addendum Number</u>	<u>Title</u>	<u>Date</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

IX. TECHNICAL SPECIFICATIONS

**INVITATION TO BID
#77-2018**

**BOILER REPLACEMENT
For FAMILY CARE CENTER**

**LEXINGTON-FAYETTE URBAN COUNTY
GOVERNMENT
Lexington, Kentucky**

**Lexington-Fayette Urban County Government
200 E. Main Street
Lexington, Kentucky 40507**

May 2018

Prepared By:



TECHNICAL HORIZONS ENGINEERS

**501 Darby Creek, Suite #31
Lexington, Kentucky 40509
Phone: (859) 263-5983 Fax: (859) 226-0045**

**Boiler Replacement
Family Care Center
Lexington-Fayette Urban County Government**

TECHNICAL SPECIFICATIONS

INDEX OF DIVISION ONE SPECIFICATIONS

<u>SECTION</u>	<u>TITLE</u>
SECTION 01000	SPECIAL CONDITIONS
SECTION 01027	APPLICATIONS FOR PAYMENT
SECTION 01039	COORDINATION AND MEETINGS
SECTION 01300	SUBMITTALS
SECTION 01700	CONTRACT CLOSEOUT
SECTION 01740	WARRANTIES AND BONDS

INDEX OF DIVISION FIFTEEN SPECIFICATIONS

SECTION 15010	MECHANICAL GENERAL REQUIREMENTS
SECTION 15020	CUTTING, PATCHING AND REPAIRING
SECTION 15030	ELECTRICAL REQUIREMENTS FOR MECH. EQUIPMENT
SECTION 15047	MECHANICAL DEMOLITION
SECTION 15100	VALVES
SECTION 15140	PUMPS
SECTION 15170	METERS AND GAUGES
SECTION 15180	PIPING SPECIALTIES
SECTION 15190	PIPING SUPPORTS, ANCHORS, AND SEALS
SECTION 15250	INSULATION
SECTION 15350	NATURAL GAS PIPING SYSTEMS
SECTION 15641	HIGH EFFICIENCY GAS-FIRED BOILERS
SECTION 15704	HVAC CHILLED & HOT WATER PIPING SYSTEMS
SECTION 15710	HYDRONIC SPECIALTIES
SECTION 15980	TESTING, ADJUSTING AND BALANCING

INDEX OF DIVISION SIXTEEN SPECIFICATIONS

<u>SECTION</u>	<u>TITLE</u>
SECTION 16010	GENERAL PROVISIONS - ELECTRICAL
SECTION 16110	RACEWAYS & FITTINGS
SECTION 16120	CONDUCTORS, IDENTIFICATIONS, SPLICING DEVICES CONNECTORS
SECTION 16135	CABINETS, OUTLET BOXES & PULL BOXES
SECTION 16452	GROUNDING

**Boiler Replacement
Family Care Center
Lexington-Fayette Urban County Government**

DRAWINGS

■
SHEET M1
SHEET M2

COVER SHEET
MECHANICAL ROOM PLAN AND SCHEDULES
MECHANICAL PIPING SCHEMATICS

**Boiler Replacement
Family Care Center
Lexington-Fayette Urban County Government**

SECTION 01000: SPECIAL CONDITIONS

1. GENERAL

- 1.1. The Contractor shall furnish all materials and perform all the work described in the Specifications and/or shown on the Drawings entitled **Boiler Replacement, Family Care Center.**
- 1.2. The CONTRACTOR understands and agrees that the Special Conditions & Provisions of this contract define the responsibilities of the CONTRACTOR to the OWNER.
- 1.3. As used in this Contract, the terms "CONTRACTOR" and "OWNER" shall be defined as follows:
 - 1.3.1. CONTRACTOR means the contractor and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.
 - 1.3.2. OWNER means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest. Address: 200 E. Main Street, Lexington, KY 40507.
 - 1.3.3. The term "ENGINEER" as used through-out these documents means Technical Horizons, 501 Darby Creek, Suite #31, Lexington, KY 40509.

2. INDEMNITY

- 2.1. CONTRACTOR agrees to defend, indemnify, and hold harmless OWNER from any and all losses or claims of whatever kind that are in any way incidental to or connected with or that arise or are alleged to have arisen, directly or indirectly, in whole or in part from the execution, performance or breach of this Contract by CONTRACTOR, including any environmental problems CONTRACTOR may cause, including without limitation, soil and/or water contamination, and remedial investigations and feasibility studies thereof. This indemnity agreement shall in no way be limited by any financial responsibility, insurance, or loss control requirements below and shall survive the termination of this contract.
- 2.2. For purposes of this Indemnity Provision:
 - 2.2.1. The word "defend" includes, but is not limited to, investigating, handling, responding to, resisting, providing a defense for, and defending claims, at CONTRACTOR'S expense, using attorneys approved in writing by OWNER, which approval shall not be unreasonably withheld.
 - 2.2.2. The word "claims" includes, but is not limited to, claims, demands, liens, suits, notices of violation from Governmental agencies and other causes of action of whatever kind.

**Boiler Replacement
Family Care Center
Lexington-Fayette Urban County Government**

2.2.3. The word "losses" includes, but is not limited to claims, liens, demands, causes of action, judgments, penalties, interest, court costs, legal fees, and litigation expenses arising from death, injury or damage of any kind.

3. FINANCIAL RESPONSIBILITY

3.1. The CONTRACTOR understands and agrees that the CONTRACTOR shall, prior to final acceptance of the CONTRACTOR'S bid and the commencement of any work, demonstrate the ability to assure compliance with the Indemnity Agreement and other provisions of this Contract.

4. INSURANCE REQUIREMENTS

4.1. CONTRACTOR'S ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS listed as required by the LFUCG Contract Documents. CONTRACTOR shall procure and maintain for the duration of the Contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the CONTRACTOR.

5. SAFETY AND LOSS CONTROL

5.1. CONTRACTOR agrees to adhere to and comply with William-Steiger Act, enacted December, 1970, and all other federal, state and local safety health, sanitation and environmental laws, regulations and ordinances. The CONTRACTOR shall provide all safeguards, safety devices and protective equipment, and take any other action necessary to protect the life, health and safety and property of all persons on the job site, the public and the owner.

5.2. The current Kentucky Occupational Safety and Health Standards of the Construction Industry 29 CFR Part 1926 adopted by 803 KAR 2:400 and the Kentucky Occupational Safety and Health Standard for General Industry 29 CFR Part 1910 as adopted by KAR 2:300, and as promulgated by the Kentucky Occupational Safety and Health Standards Board and as amended or modified, are hereby incorporated into and made an integral part of the Contract with full compliance the responsibility solely of the CONTRACTOR.

5.3. The CONTRACTOR understands and agrees that the OWNER shall be permitted but not obligated, to inspect the work place, operations, machinery and equipment involved in this contract and review and audit any and all CONTRACTOR'S records and documents as deemed necessary by the OWNER to assure compliance with any and all of the provisions of this Contract and maximize the protection of the OWNER. Safety on the job, however, remains solely the responsibility of the CONTRACTOR.

5.4. The CONTRACTOR shall designate a Safety Supervisor. This individual shall be employed by the CONTRACTOR and will be responsible for reviewing the on-site workspace and ensuring that all OSHA regulations are adhered to be the Contractor's personnel and by ALL SUBCONTRACTORS. The Safety Supervisor is to be responsible for designating precautions with regards to the execution of the work, and

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for enforcing these precautions. This individual will also be responsible for authorizing welding, issuance of welding permits, and ensuring the adequacy of fire watch and fire avoidance precautions.

6. DRAWINGS & SPECIFICATIONS

- 6.1. Should any error or inconsistency appear in the Drawings or Specifications, the Contractor, before proceeding with the work, must make mention of the purported error to the Engineer for proper adjustment and in no case proceed with the Work in uncertainty or with insufficient direction.

7. ADMINISTRATION OF THE CONTRACT

- 7.1. The Engineer will perform certain administrative functions of the Construction Contract. Nothing contained in these Contract Documents, nor in any other oral or written agreements or communications shall create, express or imply any contractual relationship between Contractor and Engineer.
- 7.2. The Engineer may make periodic visits to the Work. The purpose is to observe progress and endeavor to guard against defects, not to supervise Contractor's Work; Contractor shall bear sole responsibility for avoiding and/or remediating defects.
- 7.3. The Engineer functions on this Project as design Engineer only. Engineer shall accept no responsibility for the Contractor's construction operations, safety program, or any means or methods of construction.

8. EXISTING OPERATING SYSTEMS

- 8.1. Operating systems, utilities and services serving the existing building shall be maintained in operation to serve the needs of portions of the building and site not involved in the Work under this Contract, except for such periods as are absolutely necessary to perform the Work. Such operating systems, utilities and services include, but are not necessarily limited to, water, electric power, ventilating, air conditioning, sanitary sewer, fire alarm, telephone and communications.
- 8.2. Prior to interrupting or otherwise affecting any such operating system, utility or service, Contractor shall consult with Owner to establish a mutually satisfactory schedule for cutover, cut-off, disruption, or other change in operation of the affected system, utility or service. The Owner may require that such cutover, cut-off, disruption or change in operation be made to occur after normal working hours, or on holidays or weekends. Once established and agreed to, schedules of disruption of systems, services, and utilities shall be strictly adhered to, unless later changed by mutual agreement between Owner and Contractor.

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9. ACCESS TO SITE:

9.1. All workmen and other personnel employed by the Contractor or any Subcontractor, that will come on site, must carry identification badges which identify the worker as a "Contractor" with a photo ID, Name, and Company. A list of workers should be made available for the Owner and the Owner's security personnel.

9.2. Access to the occupied building areas will be as described below:

9.2.1. Building is available for work 24 hours a day, seven days a week as confined to the boiler room. However, Contractor must coordinate with the with the facility staff whenever work is to occur outside of the hours of 7:00 AM to 5:00 PM Monday through Friday. If work is to be performed outside of the above hours, Contractor is to notify staff 72 hours ahead of the time work is to be performed so that staff can opt to be available for supervision of facility.

9.2.2. Building is to remain occupied during construction and Contractor must arrange work schedule to allow reasonable space for the facility staff to perform routine operations.

9.3. All Contractor activities shall accommodate the day-to-day operation of the LFUCG facility.

10. STORAGE AND DELIVERIES:

10.1. Each Contractor proving materials and equipment shall be responsible for the proper and adequate storage of materials and equipment, and for the removal of same upon completion of his work.

10.2. Offsite storage of materials will be allowed. The Contractor may request payment for materials stored off-site, but only if off-site materials are fully 100% insured. The insurance policy must list LFUCG as an additional insured for the value of the materials stored off-site.

10.3. Materials to be received at the exterior double door at entrance into boiler room. Do not block access to dumpster.

10.4. Contractor shall coordinate times of deliveries for all materials. It will be the Contractor's responsibility to receive all material deliveries for items covered under this Contract. LFUCG will not provide and equipment for unloading of materials.

11. PARKING:

11.1. The Contractor is informed that parking may be used at the facility, though parking may be limited. Inform LFUCG the number of anticipated parking spots required at any one time for coordination. Do not block access to dumpster.

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12. TEMPORARY HEAT

- 12.1. The Contractor is instructed to not remove from service the currently operating boiler until the heating season is complete, or the first replacement boiler is operational.

13. WORK BY OTHER CONTRACTORS

- 13.1. Contractor is informed that other projects may be on-going at the facility; known or perhaps unknown. Contractor shall work with LFUCG to coordinate these efforts so that other Contracts are not unduly impeded.

14. TOILET FACILITIES:

- 14.1. Contractor may **NOT** use on site Owner toilet facilities. Contractor to provide their own temporary portable restroom units for the duration of the work required on the project.
- 14.2. Water for various activities will be available at site from Owner's existing supply infrastructure.

15. DAMAGED FACILITIES

- 15.1. Each Contractor shall repair and/or replace, at no expense to Owner, any sections of building and/or systems damaged by reason of work performed under this Contract or incidental thereto, whether by forces of the Contractor or that of Subcontractors or Vendors.

16. WELDING:

- 16.1. All welding procedures shall be authorized in writing by the Safety Supervisor by means of a permit. The Safety Supervisor must be responsible for the safe use in the welding equipment.
- 16.2. The Safety Supervisor shall inform Owner's facilities manager prior to the execution of any welding work.
- 16.3. All fire hazards and combustibles shall be removed from near the welding activities to the degree possible. Contractor shall provide suitable portable fire extinguishing equipment in the room in which the welding activities are to be performed.
- 16.4. Contractor shall provide a fire watch during these activities and for a suitable amount of time following such activities to ensure no incidental fire is created; duration of fire watch shall be that which is deemed by the Safety Supervisor to be sufficient, but in no case shall be less than four (4) hours.

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- 16.5. Adhere additionally to the requirements of the applicable OSHA requirements of 1910, Subpart Q.

17. TIME AND LIQUIDATED DAMAGES:

- 17.1. Once the Contractor receives a Notice to Proceed or receives the Executed Contract (whichever comes first), the Contractor shall commence work as soon as possible to complete work to achieve Substantial Completion as indicated in the LFUCG Bid Documents. Once Substantial Completion has been reached, a time period of two (2) weeks is allotted the Owner and Engineer to generate a Punch List. A Contractor provided test and balance report must be received in this timeframe. Contractor shall complete items from Punch List within **ten (10) days**.

- 17.2. Failure of the Contractor to complete project within the above delineated timeframe shall result in the Contractor being **liable for \$250.00 per day liquidated damages**.

18. PRECONSTRUCTION CONFERENCE:

- 18.1. A Preconstruction Conference will be held after the Notice to Proceed, and before construction has begun. The purpose shall be to discuss, Define and coordinate the planned activated of all affected parties to this Contract.
- 18.2. The conference shall be attended by representatives of the Owner. The Engineer, the Contractor, Contractor's Superintendent, and a representative of each major subcontractor.
- 18.3. The following issues are some of the major points to be discussed:
- 18.3.1. Contract, Drawings, Specifications, shop drawings and details.
 - 18.3.2. Any proposed deviations from the Contract Documents
 - 18.3.3. Particular requirements of the Special Conditions.
 - 18.3.4. Progress schedules
 - 18.3.5. Work Areas and work hours.
 - 18.3.6. Limitations on delivery of materials and working conditions.
 - 18.3.7. Contractor's proposed safety program.
 - 18.3.8. Parking

19. ORDERING MATERIALS

- 19.1. Immediately following the Notice to Proceed, Contractor shall determine sources of supply for all materials, and length of time required for their delivery, including materials of all subcontractor's materials.
- 19.2. If for any reason an item specified will not be available when needed, and Contractor can show he has made a reasonable effort to obtain the item in question, including recommended alternate sources of supply, Contractor may make an

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appropriate substitute within the terms of the Contract, provided that prior approval from the Engineer has been obtained.

20. MEASUREMENTS

- 20.1. The Contractor shall be responsible for verification of all measurements at the site before allowing the order of any materials or before doing any work. No extra charge or compensation will be allowed due to differences between actual dimensions and those indicated by the Drawings.

21. CLEANING

- 21.1. Area within the Contract limits and grounds shall be kept clean and orderly during the contract period. No accumulation of debris or trash as a result of the Work shall be permitted. Daily, the Contractor shall ensure that the building is cleared of any such construction debris.
- 21.2. After Contractor turns an area over to LFUCG and the staff after completion, the facility staff will conduct final cleaning procedures.

22. CONDUCT OF EMPLOYEES:

- 22.1. Special effort shall be made by the Contractor to prevent employees of the Contractor or any Subcontractor from entering building through other entrances, other than those specifically identified to be used by the Owner.
- 22.2. The Contractor is advised that the consumption of alcoholic beverages, drugs, or the possession of fire arms on the job is strictly prohibited. Any personnel found to be under the influence of alcohol or drugs, or in possession of alcohol, drugs or firearms, will be demised from the premises, and subject to permanent removal from the Project. Applicable Federal and State penalties may also apply.
- 22.3. The Contractor shall ensure all workers on site are properly clothed. Proper dress shall include full length trousers, collared work shirts and work boots. Tee shirts are acceptable only under permission of the facilities manager.

23. PERMITS AND NOTIFICATIONS

- 23.1. The Contractor shall be responsible for obtaining and paying for all permits, and making all regulatory notifications prior to starting work. Permits are to include, but not be limited to, HVAC permits, local permits, electrical permits, etc.

24. CONFLICTS

- 24.1. If there is any conflict in the General Conditions with the Special Conditions, the Special Conditions shall govern.

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25. SUBCONTRACTOR DISPUTES

- 25.1. Contractor is hereby put on notice that it is his contractual obligation to adjust difference between his several subcontractors. Attempts to have the Engineer and/or Owner settle disputes between Prime Contractor and his subcontractors, or between subcontractors, will not be given consideration.

26. SITE CONDITIONS

- 26.1. The Contractor shall maintain his materials and organize his work in such a manner as to minimize any inconvenience to persons using this building.
- 26.2. The Contractor shall restrict his operations and movements in other areas of the building as shall be strictly necessary to his work.
- 26.3. Occupancy: The building will be occupied during the construction period.
- 26.4. The Contractor shall document the condition of existing floors, doors, and all items that could be construed to be affected by Contractor's work. This documentation shall occur during or immediately after the Pre-Construction Conference. This documentation will indicate, at project's completion, if any damage is to be corrected at the expense of the Contractor. Contractor is instructed to take photographs to document conditions of wall, floors, ceiling and trim prior to performing work.
- 26.5. Protection: Provide temporary barricades and other forms of protection to protect LFUCG's personnel and visitors from injury due to the work.
- 26.5.1. Provide protective measures as required to provide free and safe passage of LFUCG's personnel and visitors to occupied portions of building.
- 26.5.2. Protect from damage existing adjacent work that is to remain in place.
- 26.6. Damages to any existing construction, including the LFUCG parking lots, drives, walks, grass, buildings including the interior areas and finishes, etc., resulting from the work or related operations whether caused by the Contractor's personnel, his Subcontractors or his material suppliers, shall be repaired or replaced, at no additional cost to the Owner, and to the satisfaction of the Owner.
- 26.7. Note existing conditions of structure surfaces, equipment, and adjacent conditions that might be misconstrued as damage related to removal operations. File with LFUCG prior to start of work.
- 26.8. Traffic: Conduct work operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. All lane blockages of all streets and roads must occur on either Saturday or Sunday only (except Holidays). Lane blockage permits must be obtained from the proper authority before any lane blockages occur.

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- 26.9. Utility Services: Maintain existing utilities and protect them against damage during the work. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction.
- 26.10. Environmental Controls: Use methods approved by the Engineer to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection. Cover all furniture, computers, shelves, etc., with plastic before commencing work.
- 26.11. Disposal of Debris: Contractor shall assume complete responsibility for disposing of materials and equipment removed from the site during the work. Contractor may coordinate with the staff and LFUCG where a temporary dumpster might be located. Contractor shall remove, transport, and dispose of all debris off site in compliance of all codes and regulations. Contractor shall maintain a conveyance adjacent to the work in which debris shall be deposited as it is removed from the work. He shall cause the conveyance to be emptied on a regular basis and not allow overflow or wind blown materials to deface site and/or surrounding properties.
- 26.12. Any materials, labor, equipment or services not mentioned specifically within these documents, which may be necessary to complete or perfect any part of the work in a substantial manner, in compliance with the requirements stated, implied or intended in the specifications and/or drawings, shall be included as part of this contract. NOTE: LFUCG will not furnish any materials, labor, equipment or services to the Contractor for completion of the work.

27. INDEMNIFICATION

- 27.1. The Contractor shall hold harmless and indemnify the Engineer, employees, officers, agents and consultants from all claims, loss, damage, actions, causes of actions, expense and/or liability resulting from, brought for, or an account of any personal injury or property damage received or sustained by any person, persons (including third parties), or any property growing out of, occurring, or attributable to any work performed under or related to this contract, resulting in whole or in part from the negligence of the Contractor, any Subcontractor, any employee, agent or representative.

END OF SECTION

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SECTION 01027: APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for payment.

1.2 RELATED SECTIONS

- A. Agreement: Contract Sum/Price, amounts of progress payments and retainages, time schedule for submittals.
- B. General Conditions: Progress payments and final payment.
- C. Special Conditions
- D. Section 01300 - Submittals: Submittal procedures.
- E. Section 01700 - Contract Closeout: Final payment.

1.3 FORMAT

- A. AIA G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
- B. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.

1.4 PREPARATION OF APPLICATIONS

- A. Present required information in typewritten form or on electronic media printout.
- B. Execute certification by signature of authorized officer.
- C. Use data from approved Schedule of Values. Provide dollar value in each column for

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each line item for portion of work performed and for stored Products.

- D. List each authorized Change Order as an extension on AIA G703 - Continuation Sheet, listing Change Order number and dollar amount as for an original item of Work.
- E. Prepare Application for Final Payment as specified in Section 01700.

1.5 SUBMITTAL PROCEDURES

- A. Submit three [3] copies of each Application for Payment.
- B. Payment Period: Submit at intervals stipulated in the LFUCG Contract Documents.

1.6 SUBSTANTIATING DATA

- A. When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question.
- B. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01039: COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Examination.

1.2 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas [except as otherwise indicated], conceal pipes, ducts, and wiring within the construction.
- E. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.
- F. After Owner usage of new facilities, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Owner & /Engineer will schedule a meeting after Notice of Award. Attendance will be

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Required of the Contractor and primary subcontractors.

B. Agenda:

1. Submission of any LFUCG required bonds and insurance certificates.
2. Submission of schedule of values, and progress schedule.
3. Designation of personnel representing the parties in Contract.
4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
5. Scheduling.

1.4. PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at monthly intervals. **Owner reserves the right to schedule weekly meetings during periods of needed Contractor coordination with facility operations.**

B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Engineer, as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review minutes of previous meetings (if any).
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

PART 2 PRODUCTS

Not Applicable

PART 3 EXECUTION

3.1 EXAMINATION

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- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Examine and verify specific conditions described in individual specification sections.
- C. Verify that utility services are available, of the correct characteristics, and in the correct location.

END OF SECTION

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SECTION 01300: SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Shop Drawings.
- D. Product Data.
- E. Manufacturer's installation instructions.
- F. Manufacturers' certificates.

1.2 RELATED SECTIONS

- A. Section 01700 - Contract Closeout: Contract warranties, manufacturers' certificates, and closeout submittals.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Architect/Engineer accepted form.
- B. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- C. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- D. Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.
- E. For each submittal for review, allow 14 days excluding delivery time to and from the contractor.
- F. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

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- G. Provide space for Contractor and Engineer review stamps.
- H. Revise and resubmit, identify all changes made since previous submission.
- I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with provisions.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within 10 days after date of Notice to Proceed.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- E. Indicate estimated percentage of completion for each item of Work at each submission.
- F. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those direct purchased by Owner.

1.5 SHOP DRAWINGS

- A. Submit at least eight (8) copies of shop drawings to Engineer for review.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.6 PRODUCT DATA

- A. Submit the specified number of copies.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

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- D. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

1.7 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.8 MANUFACTURER CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer to Engineer, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01700: CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Warranties.
- G. Spare parts and maintenance materials.

1.2 RELATED SECTIONS

- A. Section 01730 - Operation and Maintenance Data.
- B. Section 01740 - Warranties and Bonds.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer/Owner that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean filters of operating equipment.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the site.

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1.5 ADJUSTING

Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch text pages, three D side ring covers. New binders provided to the facility shall be bound into solid leather bound binders; color to be black. Binders shall be Wilson-Jones "DublLock" 344-49NLH heavy duty three Ring Binder. Lettering on the spine of the binders shall include the name of the facility, location, and the systems included.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, typed on 30 pound white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties [and bonds].
- E. Submit 1 draft copy of completed volumes 12 days prior to final punch list. This copy will be reviewed and returned, with Engineer comments. Revise content of all

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document sets as required prior to final submission.

- F. Submit three [3] sets of revised final volumes, within 10 days after final punch list.

1.7 WARRANTIES

- A. Provide duplicate copies of warranties. If extended warranties are purchased insurance agreements, then copies are to be notarized.
- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
- C. Provide Warranties in final operation and maintenance manuals under separate tab.
- D. Submit prior to final Application for Payment.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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SECTION 01740: WARRANTIES AND BONDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preparation and submittal.
- B. Time and schedule of submittals.

1.2 RELATED SECTIONS

- A. Invitation to Bid: Instruction to Bidders: Bid Bonds.
- B. General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- C. Section 01700 - Contract Closeout: Contract closeout procedures.
- D. 01730 - Operation and Maintenance Data.
- E. Individual Specifications Sections: Warranties required for specific Products or Work.

1.3 FORM OF SUBMITTALS

- A. Bind into the Operations & Maintenance manuals.
- B. Table of Contents: Neatly typed, in the sequence of the Table of Contents of, with each item identified with the number and title of the specification section in which specified, and the name of Product or work item.
- C. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

1.4 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten [10] days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

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1.5 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten [10] days after acceptance.
- B. Make other submittals within ten [10] days after Date of Substantial Completion, prior to final Application for Payment.
- C. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten [10] days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

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DIVISION 15 INDEX OF SECTIONS

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DIVISION 15: MECHANICAL SYSTEMS

SECTION 15010: MECHANICAL GENERAL REQUIREMENTS

GENERAL REQUIREMENTS:

All requirements under Division One and the General and Supplementary Conditions of these specifications shall be a part of this section. Each contractor shall be responsible to thoroughly familiarize himself with all its contents as to requirements which affect this division or section. The work required under this section includes all material, equipment, appliances, transportation, services, and labor required to complete the entire system as required by the drawings and specifications.

SCOPE

The work included in this division consists of the furnishing of all labor, equipment, transportation, excavation, backfill, supplies, material, appurtenances and services necessary for the satisfactory installation of the complete and operating Mechanical System(s) indicated or specified in the Contract Documents.

Any materials, labor, equipment or services not mentioned specifically herein which may be necessary to complete or perfect any part of the Mechanical Systems in a substantial manner, in compliance with the requirements stated, implied or intended in the drawings and, or specifications, shall be included as part of this Contract.

Although plans and specifications are complete to the extent possible, it shall be the responsibility of the Contractors involved to coordinate all new systems with items of construction provided by others, and to relocate items which interfere with new equipment or materials Required for the complete installation without additional cost to the Owner.

Definitions and Abbreviations

Contractor - Any Contractor whether proposing or working independently or under the supervision of a General Contractor and, or Construction Manager and who installs any type of mechanical work (Controls, Plumbing, HVAC, Sprinkler, Air Systems, etc.) or, the General Contractor.

Engineer - The Consulting Mechanical-Electrical Engineers either consulting to the Owners, Architect, other Engineers, etc.

Furnish - Deliver to the site in good condition and turn over to the Contractor who is to install.

Provide - Furnish and install complete, tested and ready for operation.

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Indicated - Shown on the Drawings or Addenda thereto.

Typical - Where indicated repeat this work, method or means each time the same or similar condition occurs whether indicated or not.

OSHA - Office of Safety and Health Administration.

NEC - National Electrical Code.

NFPA - National Fire Protection Association.

ASME - American Society of Mechanical Engineers.

AGA - American Gas Association.

SMACNA - Sheet Metal and Air Conditioning Contractors National Association.

ANSI - American National Standards Institute.

ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers.

NEMA - National Electrical Manufacturers Association.

UL - Underwriters Laboratories.

INSPECTION OF THE SITE:

The contractor shall personally inspect the site of the proposed work and inform himself fully as to the conditions under which the work is to be done. Failure to do so will not be considered sufficient justification to request or obtain extra compensation over and above the contract price.

MATERIAL AND WORKMANSHIP:

All material and apparatus shall be new and in first class condition. All workmanship shall be of the finest possible by experienced mechanics. All installations shall be made in a manner that will comply with applicable Codes and laws. Any abnormal noise caused by rattling equipment, piping, ducts, air devices, and squeaks in rotating components will not be acceptable. In general, all materials and equipment shall be of commercial specification grade in quality. Light duty and residential type equipment will not be acceptable.

DRAWINGS AND SPECIFICATIONS

The drawings are diagrammatic only and indicate the general arrangement of the systems and are to be followed. If deviations from the layouts are necessitated by field conditions, detailed layouts of the

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proposed departures shall be submitted to the Engineer for approval before proceeding with the work. The drawings are not intended to show every item which may be necessary to complete the systems. All proposers shall anticipate that additional items may be required and submit their bid accordingly.

Each Contractor shall make all his own measurements in the field and shall be responsible for correct fitting. He shall coordinate this work with all other branches of work in such a manner as to cause a minimum of conflict or delay.

The Engineer shall reserve the right to make adjustments in location of piping, ductwork, equipment, etc. where such adjustments are in the interest of improving the project.

Unless dimensioned, the mechanical drawings only indicate approximate locations of equipment, piping, ductwork, etc.. Dimensions given in figures on the drawings shall take precedence over scaled dimensions and all dimensions, whether given in figures or scaled, shall be verified in the field to insure no conflict with other work.

COORDINATION:

Coordinate all work with that of other trades so that the various components of the systems will be installed at the proper time, will fit the available space, and will allow proper service access to those items requiring maintenance. Any components which are installed without regard to the above shall be relocated at no additional cost to the owner.

It is the Contractor's responsibility to provide materials with trim which will fit properly the types of ceiling, wall, or floor finishes actually installed. Model numbers in specifications or shown on drawings are not intended to designate the required trim.

ORDINANCES AND CODES:

Comply with National Fire Protection Association codes, Kentucky Building Code, Kentucky Boiler Code, International Mechanical Code, and/or all other applicable codes and ordinances. Obtain and pay for all permits. Contractor shall be held responsible for any violation of the law. Obtain and pay for all boiler permits. Contractor shall maintain all necessary signal lights and guards for the safety of the public.

The Contractor shall give all necessary notices, obtain and pay for all permits, government sales taxes, fees, inspections and other costs, in connection with his work. He shall also file all necessary plans, prepare all documents and obtain all necessary approvals of all governmental departments and/or the appropriate municipality or utility company having jurisdiction, whether indicated or specified or not. He shall also obtain all required certificates of inspection for his work and deliver same to the Engineers before request for acceptance and final payment for the work.

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PROTECTION OF EQUIPMENT:

Adequately protect equipment from damage after delivery to job. Cover with heavy polyethylene plastic as required to protect from plaster, dirt, paint, water, or physical damage. Equipment which has been damaged by construction activities will be rejected, and contractor is obligated to furnish new equipment of a like kind.

Keep premises broom clean at all times from foreign material created under this contract. All piping, equipment, etc. shall have a neat and clean appearance at the termination of the work.

EQUIPMENT AND MATERIALS SUBSTITUTIONS OR DEVIATIONS

When any Contractor requests approval of materials and/or equipment of different physical size, capacity, function, color, access, it shall be understood that such substitution, if approved, will be made without additional cost to anyone other than the Contractor requesting the change regardless of changes in connections, space requirements, electrical characteristics, etc. from that indicated, electrical service, etc.. In all cases where substitutions affect other trades, the Contractor requesting such substitutions shall advise all such Contractors of the change and shall repay them for all necessary changes in their work. Any drawings, Specifications, Diagrams, etc., required to describe and coordinate such substitutions or deviations shall be professionally prepared at the responsible Contractor's expense. Review of Shop Drawings by the Engineers does not in any way absolve the Contractor of this responsibility.

NOTE: Any drawings, Specifications, Diagrams, etc., required to describe and coordinate such substitutions or deviations shall be professionally prepared at the responsible Contractor's expense. Review of Shop Drawings by the Engineers does not in any way absolve the Contractor of this responsibility.

Wherever any equipment and material is specified exclusively without the phrase "or equal" only such items shall be used unless substitution is accepted in writing by the Engineers.

SUPERVISION OF WORK

Each Contractor shall personally supervise the work for which he is responsible or have a competent superintendent, approved by the Engineers, on the work at all times during progress with full authority to act for him.

SHOP DRAWINGS:

Submit for approval eight sets of manufacturers shop drawings of all major items of equipment and all items requiring coordination between contractors. Before submitting shop drawings and material lists, the contractor shall verify that all equipment submitted is mutually compatible and suitable for the intended use, and shall fit the available space and allow ample room for maintenance. The Engineer's checking and

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subsequent approval of such shop drawings shall not relieve the contractor from responsibility for errors in dimensions, details, size of members, or quantities; or omissions of components or fittings; or for coordinating items with actual building conditions. Provide any needed wiring diagrams.

Catalog data must have the item or model number clearly marked and all accessories indicated. Mark out all inapplicable items.

NOTE: Any shop drawings received without being reviewed and stamped by the Contractor shall be returned Rejected without review.

OPERATION AND MAINTENANCE INSTRUCTIONS:

Submit to the architect three copies each of material for maintenance and operation instruction manuals, appropriately bound into manual form including approved copies of the following, revised if necessary to show system and equipment as actually installed:

- a) Manufacturers Catalog Sheets
- b) Wiring Diagrams
- c) Maintenance Instructions
- d) Recommended Maintenance Schedules and Timelines
- e) Operating Instructions
- f) Parts Lists
- g) Trouble Shooting Directions and Service Diagnosis
- h) Preventative Maintenance Recommendations

Contractor shall also provide adequate verbal instructions of system operation to owner's representative at the termination of the work.

GUARANTEE:

Each Contractor shall guarantee all equipment, apparatus, materials, and workmanship entering into this Contract to the best of its respective kind and shall replace all parts at his own expense, which are proven defective within one year from final acceptance of the work by the Engineer. The effective date of completion of the work shall be the date of the Engineer's Statement of Substantial Completion. Items of equipment which have longer guarantees, as called for in these specifications, shall have warranties and guarantees completed in order, and shall be in effect at the time of final acceptance of the work by the Engineer. The Contractor shall present the Engineer with such warranties and guarantees at the time of final acceptance of the work. The Engineer shall then submit these warranties, etc. to the Owner. Refer to other sections for any special or extra warranty requirements.

RECORD DRAWINGS

Each Contractor shall insure that any deviations from the Design are as they occur recorded in red, erasable

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pencil on record drawings kept at the jobsite. The Engineer shall review the record documents from time to time to insure compliance with this specification. Compliance shall be a contingency of final payment. Also, pay particular attention to Deviations in the Control Systems and all exterior utilities. Keep information in a set of drawings set aside at the job site especially for this purpose and deliver to the Engineers the originals and three (3) copies of the record drawings upon completion of the work. Delivery of these documents will be contingent of final payment.

QUALIFICATIONS OF WORKMEN

All mechanical work shall be accomplished by qualified workmen competent in the area of work for which they are responsible. Work shall be performed under the direct supervision of a licensed Mechanical Contractor as per Kentucky Law.

All plumbing work shall be accomplished by Journeymen Plumbers under the direct supervision of a Master Plumber as defined and clarified under Kentucky State Plumbing Law Regulations and Code. Proof and Certification may be requested by the Engineer.

All sheet metal, insulation and pipe fitting work shall be installed by workmen normally engaged or employed in these respective trades.

All special systems (Automatic Sprinkler Equipment, etc.) shall be installed only by workmen normally engaged in such services. Exception to this specification may only be made in writing by the Engineer.

All electrical work shall be installed only by competent workmen under direct supervision of a fully qualified Electrician.

CONDUCT OF WORKMEN

Each Contractor shall be responsible for the conduct of all workmen under his supervision. Misconduct on the part of any workman to the extent of creating a safety hazard, or endangering the lives and property of others, shall result in the prompt relief of that workman. The consumption of alcoholic beverages or other intoxicants, narcotics, barbiturates, hallucinogens or debilitating drugs on the job site is strictly forbidden.

ROUGH-IN:

Coordinate without delay all roughing-in with general construction. All piping, conduit, rough-in shall be concealed except in unfinished areas and where otherwise shown.

CUTTING AND PATCHING:

This contractor shall do all cutting of walls, floors, ceilings, etc. as required to install work under this section. Contractor shall obtain permission of the architect before doing any cutting. All holes shall be cut as small as possible. Contractor shall patch walls, floors, etc. as required by work under this section. All

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patching shall be thoroughly first class and shall match the original material and construction.

ACCESSIBILITY

The Contractor shall locate and install all equipment so that it may be serviced, and maintained as recommended by the manufacturer. Allow ready access and removal of the entire unit and/or parts such as valves, filters, fan belts, motors, prime shafts, etc.

Provide access doors in ceilings, walls, etc. where indicated or required for access or maintenance to all concealed valves and equipment installed under this section. Doors shall have concealed hinges, screwdriver-type lock, anchor straps; manufactured by Milcor, Zurn, Titus, or equal. Obtain architect's approval of type and locations before ordering.

ELECTRICAL WIRING:

All power conduit and wiring shall be furnished. All wiring shall be in conduit and in accordance with the National Electric Code.

REQUIRED CERTIFICATIONS

Upon completion of the project, the Contractor shall deliver all boiler system and other inspection certificates acquired during the course of the project to the Owner for their records. The Contractor shall upon completion of the Final Punch list, deliver to Architect and Engineer a written certification that all systems and work has been completed in compliance with the plans and specifications. The Contractor also shall deliver over to the Owner all required maintenance manuals and phone numbers of the equipment suppliers. The delivery of these documents and certifications will be required prior to final payment and release of retainage.

INDEMNIFICATION

The Contractor(s) shall hold harmless and indemnify the Engineer, employees, officers, agents and consultants from all claims, loss, damage, actions, causes of actions, expense and/or liability resulting from, brought for, or on account of any personal injury or property damage received or sustained by any person, persons, (including third parties), or any property growing out of, occurring, or attributable to any work performed under or related to this contract, resulting in whole or in part from the negligence of the Contractor, any subcontractor, any employee, agent or representative.

END OF SECTION

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15020 - CUTTING, PATCHING AND REPAIRING

GENERAL

Contractor's attention is directed to the General and Special Conditions, and to all other Contract Documents as they apply to this branch of the work. Attention is also directed to all other sections of the Contract Documents which affect the work of this section and which are hereby made a part of the work specified in this section.

Contractor shall be responsible for all openings that he may require in ceilings, walls, etc., and shall coordinate all such work prior to execution. Improperly located openings shall be reworked at the expense of the responsible Contractor.

Contractor shall be responsible for properly shoring, bracing, supporting, etc., any existing and/or new construction to guard against cracking, settling, collapsing, displacing or weakening while openings are being made. Any damage occurring to the existing structure, due to failure to exercise proper precautions or due to action of the elements shall be promptly and properly made good to the satisfaction of the Engineer.

CUTTING

No cutting is to be done at points or in a manner that will weaken the structure and unnecessary cutting must be avoided. If in doubt, contact the Structural Engineer.

Provide lintels where ever bearing walls are penetrated. Plan the location of all lintels prior to any penetrations being performed.

PATCHING AND REPAIRING

Patching and repairing made necessary by work performed under this division shall be included as a part of the work and shall be done by skilled mechanics of the trade or trades for work cut or damaged, of like type to match adjacent surfaces and in a manner acceptable to the Engineer.

Piping passing through floors, ceilings and walls in finished areas, unless otherwise specified, shall be fitted with chrome plated brass escutcheons of sufficient outside diameter to amply cover the sleeved openings and an inside diameter to closely fit the pipe around which it is installed.

END OF SECTION 15020

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15030 ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT

DESCRIPTION OF WORK:

This section specifies the basic requirements for electrical components which are an integral part of packaged mechanical equipment. These components include, but are not limited to factory installed motors, starters, and disconnect switches furnished as an integral part of packaged mechanical equipment. NOTE: Refer to other sections of the specifications for additional or superseding requirements for motors and/or starters.

SUBMITTALS:

Product Data: Submit manufacturers data on motor starters.

Shop Drawings: Submit dimensioned drawings on motor starters showing accurately scaled equipment layouts and spatial relationship to associated motors, and connections to electrical power panels and feeders.

MOTORS:

Provide motors and starting equipment where not furnished with the equipment package. Motors shall have copper windings, class B insulation, and standard squirrel cage with starting torque characteristics suitable for the equipment served. All motors for air handling equipment shall be selected for quiet operation. Each motor shall be checked for proper rotation after electrical connection has been completed.

Motors shall have dripproof enclosure for locations protected from weather and not in air stream of fan; and totally enclosed fan cooled enclosure for motors exposed to weather.

Motors shall be manufactured by Century, General Electric, Westinghouse, Louis Allis, or approved equal.

Torque characteristics shall be sufficient to satisfactorily accelerate the driven loads.

Motor sizes shall be large enough so that the driven load will not require the motor to operate in the service factor range.

Temperature Rating: Rated for 40 deg. C environment with maximum 50 deg. C temperature rise for continuous duty at full load (Class A Insulation).

Service Factor: 1.15 for poly-phase motors and 1.35 for single phase motors.

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Overload protection: build-in thermal overload protection and, where indicated, internal sensing device suitable for signaling and stopping motor at starter.

Noise rating: "Quiet" rating on motors located in occupied spaces of building.

Nameplate: Indicate the full identification of manufacturer, ratings, characteristics, construction, special features and similar information.

END OF SECTION 15030.

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15047 MECHANICAL DEMOLITION

DESCRIPTION OF WORK:

The extent of general mechanical demolition work is indicated on the Drawings. Any items indicated to be salvaged, shall be turned over to the Owner; obtain receipts for all such materials. In General, Remove all materials required to install new system modifications. All demolition to be phased so as to not impact Owner's continuing operations.

Demolished materials shall be disposed of offsite by the Contractor; refer additionally to additional requirements below.

JOB CONDITIONS:

Protection: Ensure safe passage of persons around or through area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons. Provide temporary barricades and other forms of protection as required to protect Owner's personnel and the public from injury due to selective demolition work.

Damages: Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.

Contractor will disconnect and seal utilities serving each structure to be demolished, or interior area to be demolished, prior to start of demolition work.

DISPOSAL OF DEMOLISHED MATERIALS:

General: Remove from site debris, rubbish, and other materials resulting from demolition operations. Pay all fees related to removal and dumping.

END OF SECTION 15047.

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15100 VALVES

DESCRIPTION OF WORK:

Extent of valves required by this section is indicated on drawings and/or specified in other Division 15 sections.

Types of valves specified in this section include the following:

- Gate Valves.
- Drain Valves.
- Ball Valves.
- Butterfly Valves.
- Swing and Lift Check Valves.

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of valves, of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

SUBMITTALS:

Product Data: Submit catalog cuts, specifications, installation instructions, and dimensioned drawings for each type of valve. Include pressure drop curve or chart for each type and size of valve. Submit valve schedule showing Manufacturer's figure number, size, location, and valve features for each required valve.

VALVES:

General: Provide factory-fabricated valves recommended by manufacturer for use in service indicated. Provide valves of types and pressure ratings indicated; provide proper selection as determined by Installer to comply with installation requirements. Provide sizes as indicated, and connections which properly mate with pipe, tube, and equipment connections. Where more than one type is indicated, selection is Installer's option.

GATE VALVES:

Packing: Select valves designed for repacking under pressure when fully opened, equipped with packing suitable for intended service. Select valves designed so back seating protects packing and stem threads from fluid when valve is fully opened, and equipped with gland follower.

For Hot Water Services:

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Threaded Ends 2" and Smaller: Class 125, bronze body, union bonnet, rising stem, solid wedge.

Flanged Ends 2½" and Larger: Class 125, iron body bronze mounted, bolted bonnet, rising stem, OS&Y, solid wedge.

Soldered Ends 2" and Smaller" Class 125, bronze body, screwed bonnet, non-rising stem, solid wedge.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering gate valves which may be incorporated in the work include, but are not limited to the following:

Crane Co., Valve Div.
Fairbanks Co.
Hammond Valve Corp., Div. of Conval Corp.
Jenkins Bros., A Corp.
NIBCO, Inc.
Powell (Wm.) Co.
Stockham Valves and Fittings, Inc.
Walworth Co.

SWING CHECK VALVES:

General: Construct pressure containing parts of valves as follows:

Bronze Valves, 125 or 150 PSI: ANSI/ASTM B 62.

Iron Body Valves: ANSI/ASTM A 126, Grade B.

Construct valves of pressure castings free of any impregnating materials.

Construct valves of bronze, regrinding, with seating angle 40° to 45°, unless composition disc is specified.

Provide stop plug as renewable stop for disc hanger, unless otherwise specified.

Construct disc and hanger as separate parts, with disc free to rotate.

Support hanger pins on both ends by removable side plugs.

For HVAC Hot Water Service:

Threaded Ends 2" and Smaller: Class 125, bronze body, screwed cap, horizontal swing, bronze

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disc.

Flanged Ends 2½" and Larger: Class 125, iron body bronze mounted, bolted cap, horizontal swing, cast iron disc.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering swing check valves which may be incorporated in the work include, but are not limited to the following:

Crane Co., Valve Div.
Fairbanks Co. (The)
Hammond Valve Corp., A Condec Co.
Jenkins Bros., A Corp.
NIBCO, Inc.
Powell Co. (The Wm.)
Stockham Valves and Fittings, Inc.
Walworth Co.

DRAIN VALVES:

For Low Pressure Drainage Service:

Threaded Ends 2" and Smaller: Class 125, bronze body, screwed bonnet, rising stem, composition disc, ¾" hose outlet connection.

Soldered Ends 2" and Smaller: Class 125, bronze body, screwed bonnet, rising stem, composition disc, ¾" hose outlet connection.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering drain valves which may be incorporated in the work include, but are not limited to, the following:

Crane Co., Valve Div.
Fairbanks Co.
Hammond Valve Corp., Div. of Conval Corp.
Jenkins Bros., A Corp.
NIBCO, Inc.
Walworth, Co.

LIFT CHECK VALVES:

General: Provide lift check valves, 2" and smaller, constructed of bronze or forged steel to suit service. Construct bronze valves with basic saturated steam rating of 125 or 150 PSI with pressure containing parts of materials having at least physical properties of ANSI/ASTM B 62. Conform to ANSI/FCI 74-1 for design, rating, and testing. Construct pressure castings, free of any impregnating materials.

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Horizontal Lift Check Valves: ¼" to 2", straight pattern threaded ends, pressure rated for 150 PSI saturated steam, renewable composition disc, screw-over cap, bronze body.

Vertical Lift Check Valves: ¼" to 2", straight vertical pattern, threaded ends, pressure rated for 150 PSI saturated steam, renewable composition disc, screw-in hub, bronze body.

Spring Loaded Horizontal Lift Check Valves: ¼" to 2", straight pattern, threaded ends, pressure rated for 150 PSI saturated steam, renewable composition disc, phosphor bronze wire spring, screw over cap, bronze body.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering lift check valves which may be incorporated in the work include, but are not limited to the following:

Fairbanks Co. (The).
Hammond Valve Corp., A Condec Co.
Jenkins Bros., A Corp.
Lunkenheimer Co. (The), Div. Conval Corp.
Powell Co. (The Wm.).
Stockham Valves & Fittings, Inc.

BALL VALVES:

General: Select with port area equal to or greater than connecting pipe area, include seat ring designed to hold sealing material.

For HVAC Hot Water Service:

Threaded Ends 3" and Smaller: Class 125, bronze 2 piece body, bronze ball, bronze stem.

Soldered Ends 2" and Smaller: Class 125, bronze 2 piece body, bronze ball, bronze stem.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering ball valves which may be incorporated in the work include, but are not limited to the following:

Conbraco Industries, Inc.
Crane Co., Valve Div.
Fairbanks Co.
Hammond Valve Corp., Div. of Conval Corp.
Jamesbury Corp.
NIBCO, Inc.
Stockham Valves and Fittings, Inc.
Walworth Co.

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DRAIN VALVES:

For Low Pressure Drainage Service:

- Threaded Ends 2" and Smaller: Class 125, bronze body, screwed bonnet, rising stem, composition disc, 3/4" hose outlet connection.
- Soldered Ends 2" and Smaller: Class 125, bronze body, screwed bonnet, rising stem, composition disc, 3/4" hose outlet connection.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering drain valves which may be incorporated in the work include, but are not limited to, the following:

Crane Co., Valve Div.
Fairbanks Co.
Hammond Valve Corp., Div. of Conval Corp.
Jenkins Bros., A Corp.
NIBCO, Inc.
Walworth, Co.

SWING CHECK VALVES:

General: Construct pressure containing parts of valves as follows:

Bronze Valves, 125 or 150 PSI: ANSI/ASTM B 62.

Metallic Seated Bronze Valves, 200 or 300 PSI: ANSI/ASTM B 61.

Iron Body Valves: ANSI/ASTM A 126, Grade B.

Comply with MSS SP-71 for design, workmanship, material and testing.

Construct valves of pressure castings free of any impregnating materials. Construct valves of bronze, regrinding, with seating angle 40° to 45°, unless composition disc is specified.

Provide stop plug as renewable stop for disc hanger, unless otherwise specified.
Construct disc and hanger as separate parts, with disc free to rotate.

Support hanger pins on both ends by removable side plugs.

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For HVAC Hot Water Service:

- Threaded Ends 2" and Smaller: Class 125, bronze body, screwed cap, horizontal swing, bronze disc.
- Soldered Ends 2" and Smaller: Class 125, bronze body, screwed cap, horizontal swing, bronze disc.
- Flanged Ends 2½" and Larger: Class 125, iron body bronze mounted, bolted cap, horizontal swing, cast iron disc.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering swing check valves which may be incorporated in the work include, but are not limited to the following:

Crane Co., Valve Div.
Fairbanks Co. (The)
Hammond Valve Corp., A Condec Co.
Jenkins Bros., A Corp.
NIBCO, Inc.
Powell Co. (The Wm.)
Stockham Valves and Fittings, Inc.
Walworth Co.

LIFT CHECK VALVES:

General: Provide lift check valves, 2" and smaller, constructed of bronze or forged steel to suit service. Construct bronze valves with basic saturated steam rating of 125 or 150 PSI with pressure containing parts of materials having at least physical properties of ANSI/ASTM B 62. Conform to ANSI /FCI 74-1 for design, rating, and testing. Construct pressure castings, free of any impregnating materials.

Horizontal Lift Check Valves: ¼" to 2", straight pattern threaded ends, pressure rated for 150 PSI, renewable composition disc, screw-over cap, bronze body.

Vertical Lift Check Valves: ¼" to 2", straight vertical pattern, threaded ends, pressure rated for 150 PSI, renewable composition disc, screw-in hub, bronze body.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering lift check valves which may be incorporated in the work include, but are not limited to the following:

Fairbanks Co. (The).
Hammond Valve Corp.,A Condec Co.
Jenkins Bros., A Corp.

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Lunkenheimer Co. (The), Div. Conval Corp.
Powell Co. (The Wm.).
Stockham Valves & Fittings, Inc.

VALVE FEATURES:

General: Provide valves with features indicated and, where not otherwise indicated, provide proper valve features as determined by Installer for installation requirements. Comply with ANSI B31.1

Outside Screw and Yoke: Stem and handwheel designed to rise out of bonnet or yoke as valve is operated from closed to open position.

Inside Screw, Non-Rising Stem: Stem and handwheel designed to rotate without rising when valve is operated from closed to open position.

Flanged: Valve flanges complying with ANSI B16.1 (cast iron), ANSI B16.5, (steel), or ANSI B16.24 (bronze).

Threaded: Valve ends complying with ANSI B2.1.

Bonnet: Part of gate or globe valve through which stem passes to valve body, and attached to valve body by screws, bolts, union or welding.

Solid Wedge: One piece tapered disc in gate valve, designed for contact on both sides.

Outside Screw and Yoke: Stem and handwheel designed to rise out of bonnet or yoke as valve is operated from closed to open position.

Inside Screw, Non-Rising Stem: Stem and handwheel designed to rotate without rising when valve is operated from closed to open position.

Valve System: Select and install valves with outside screw and yoke stems, except provide inside screw non-rising stem valves where headroom prevents full opening of OS&Y valves.

Renewable Seats: Select and install valves with renewable seats, except where otherwise indicated.

INSTALLATION:

General: Except as otherwise indicated, comply with the following requirements:

Install valves where required for proper operation of piping and equipment, including valves in branch lines where necessary to isolate sections of piping. Locate valves so as to be accessible and so that

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separate support can be provided when necessary.

Install valves with stems pointed up, in vertical position where possible, but in no case with stems pointed downward for horizontal plane unless unavoidable. Install valve drains with hose end adapter for each valve that must be installed with stem below horizontal plane.

Insulation: Where insulation is indicated, install extended stem valves, arranged in proper manner to receive insulation.

Applications Subject to Shock: Install valves with bodies of metal other than cast iron where thermal or mechanical shock is indicated or can be expected to occur.

Valve System: Select and install valves with outside screw and yoke stems, except provide inside screw non-rising stem valves where headroom prevents full opening of OS&Y valves.

Fluid Control: Except as otherwise indicated, install gate, ball, globe and butterfly valves to comply with ANSI B31.1. Where throttling is indicated or recognized as principal reason for valve, install globe valves.

Installation of Check Valves:

Swing Check Valves: Install in horizontal position with hinge pin horizontally perpendicular to center line of pipe. Install for proper direction of flow.

END OF SECTION 15100

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15140 PUMPS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contractor, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

This section is a Division 15 Basic Materials and methods section and is a part of each Division 15 section making reference to pumps specified herein.

DESCRIPTION OF WORK:

Extent of pumps required by this section is indicated on drawings and/or specified in other Division 15 sections.

Types of pumps specified in this section include the following:

Base Mounted End Suction Pumps
Close-Coupled End Suction Pumps

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of general use centrifugal pumps with characteristics, sizes and capacities required, whose products have been in satisfactory use in similar service for not less than 5 years.

UL and NEMA Compliance: Provide electric motors and products which have been listed and labeled by Underwriters Laboratories and comply with NEMA standards. Motors shall be high efficiency type.

SUBMITTALS:

Product Data: Submit manufacturer's pump specifications, Installation and start-up instructions, and current accurate pump characteristic performance curves with selection points clearly indicated.

Maintenance Data: Submit maintenance data and spare parts lists for each type of pump. Include this data in maintenance manual.

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PART 2 - PRODUCTS

PUMPS:

General: Provide factory tested pumps, thoroughly cleaned and painted with one coat of machinery enamel prior to shipment. Type, size and capacity of each pump is listed in pump schedule. Provide pumps of same type by same manufacturer.

FRAME-MOUNTED END SUCTION PUMPS:

General: Provide frame mounted end suction pumps where indicated, and of capacities and having characteristics as scheduled.

Type: Horizontal mount, single stage, vertical split case, flexible coupling, base mounted, designed for 175 PSI working pressure.

Casing: Cast iron, 125 PSI ANSI flanges, tappings for gage and drain connections.

Shaft: Steel with replaceable shaft sleeve.

Bearings: Regreasable ball bearings.

Seal: Mechanical, with carbon seal ring and ceramic seat.

Motor: Open, drip-proof, regreasable ball bearings, energy efficient.

Impeller: Enclosed type, hydraulically and dynamically balanced, keyed to shaft and secured with locking screw.

Baseplate: Structural steel with welded cross members and open grouting area.

Coupling: Flexible, capable of absorbing torsional vibration, equipped with coupling guard.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering frame mounted end suction pumps which may be incorporated in the work include, but are not limited to the following:

Amtrol Inc., Thrush Div.
Armstrong Pumps, Inc.
Bell & Gossett ITT, Fluid Handling Div.
Federal Pump Corp.
Weinman Pump, LFE Fluids Control Div.

CLOSE-COUPLED END SUCTION PUMPS:

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General: Provide close coupled end suction pumps where indicated, and of capacities and having characteristics as scheduled.

Type: Horizontal mount, single stage, vertical split case, designed for 175 PSI working pressure.

Casing: Refer to Drawings for specific materials where none is indicated, provide cast iron, 125 PSI ANSI flanges, tapings for gage and drain connections.

Shaft: Steel with replaceable shaft sleeve.

Seal: Mechanical, with carbon seal ring and ceramic seat.

Motor: Open, dripproof, regreasable ball bearings, energy efficient.

Impeller: Enclosed type, hydraulically and dynamically balanced keyed to shaft and secured with locking screw.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering close coupled end suction pumps which may be incorporated in the work include, but are not limited to the following:

Amtrol Inc., Thrush Div.
Armstrong Pumps, Inc.
Bell & Gossett ITT, Fluid Handling Div.
Federal Pump Corp.
Weinman Pump, LFE Fluids Control Div.
Worthington Pump, Inc.

PART 3 - EXECUTION

INSTALLATION OF PUMPS:

Install pumps where indicated, in accordance with manufacturer's published installation instructions, with recommended clearances provided for service and maintenance.

Install in-line pumps, supported from piping system, located for access to oil cups, service, and maintenance.

Provide piping; accessories; hangers, supports, and anchors; valves; meters and gages; vibration isolation; and equipment supports; as indicated for complete installation.

END OF SECTION 15140

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15170 METERS AND GAGES

TEMPERATURE GAGES:

Direct Mount Dial Thermometers:

General: Provide direct mount dial thermometers of materials, capacities, and ranges indicated, designed and constructed for use in service indicated.

Type: Vapor tension, universal angle.

Case: Drawn steel or brass, clear acrylic plastic lens, 4½" diameter.

Adjustable Joint: Die cast aluminum, 180° adjustment in vertical plane, 360° adjustment in horizontal plane, with locking device.

Thermal Bulb: Copper with phosphor bronze bourbon pressure tube, on scale division accuracy.

Movement: Brass precision geared.

Scale: Progressive, satin faced, non-reflective aluminum, permanently etched markings.

Stem: Copper plated steel, or brass, for separable socket, length to suit installation.

Range: Conform to the following:

Hot Water: 40° - 240°F (10°-115°C).

Available Manufacturers: Subject to compliance with requirements, manufacturers offering direct mount dial thermometers which may be incorporated in the work include, but are not limited to the following:

Marsh Instrument Co., Unit of General Signal.

Treice (H.O.) Co.

Weiss (Albert A. & Son, Inc.

Dial Type Insertion Thermometers:

General: Provide dial type insertion thermometers of materials, capacities, and ranges indicated, designed and constructed for use in service indicated.

Type: Bi-metal, stainless steel case and stem, 1" diameter dial, dust and leak proof, 1/8"

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diameter stem with nominal length of 5".

Accuracy: 0.5% of dial range.

Range: Conform to the following:

Hot Water: 0°- 220°F (-10°-110°C).

Available Manufacturers: Subject to compliance with requirements, manufacturers offering direct mount dial type insertion thermometers which may be incorporated in the work include, but are not limited to the following:

Marsh Instrument Co., Unit of General Signal.
Taylor Instrument Process Control Div., Sybron Corp.
Terice (H.O.) Co.
Weiss (Albert A.) & Son, Inc.

Thermometer Wells:

General: Provide thermometer wells constructed of brass or stainless steel, pressure rated to match piping system design pressure. Provide 2" extension for insulated piping.

INSTALLATION OF TEMPERATURE GAGES:

General: Install temperature gages in vertical upright position, and tilted so as to be easily read by observer standing on floor.

Thermometer Wells: Install in piping tee where indicated, in vertical upright position. Fill well with oil or graphite, secure cap.

END OF SECTION 15170

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15180 PIPING SPECIALTIES

DESCRIPTION OF WORK:

Extent of piping specialties required by this section is indicated on drawings and/or specified in other Division 15 sections or as required to provide a complete system.

Types of piping specialties specified in this section include the following:

Pipe Escutcheons
Dielectric Unions.
Sleeves.
Sleeve Seals.

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of piping specialties of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

SUBMITTALS:

Product Data: Submit catalog cuts, specifications, installation instructions, Also submit dimensioned drawings for pipeline strainers. Include pressure drop curve or chart for each type and size of pipeline strainer. Submit schedule showing manufacturer's figure number, size, location and features for each required pipeline strainer.

Maintenance Data: Submit maintenance data and spare parts lists for each type of pipeline strainer. Include this data in Maintenance Manual.

MANUFACTURED PIPING SPECIALTIES:

General: Provide factory-fabricated piping specialties recommended by manufacturer for use in service indicated. Provide piping specialties of types, pressure ratings, voltage and wattage indicated for each service, or if not indicated, provide proper selections as determined by Engineer to comply with installation requirements. Provide sizes as indicated, and connections, which properly interface with pipe, tube, and equipment connections. Where more than one type is indicated, selection is Installer's option.

Pipe Escutcheons, General: Provide pipe escutcheons as specified herein with inside diameter closely fitting pipe outside diameter, or outside of pipe insulation where pipe is insulated. Select outside diameter of escutcheon to completely cover pipe penetration hole in floors, walls, or ceilings, and pipe

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sleeve extension, if any. Furnish pipe escutcheons with nickel or chrome finish for occupied areas, prime paint finish for unoccupied areas.

Pipe Escutcheons for Dry Areas: Provide sheet steel escutcheons, solid or split hinged.

Dielectric Unions, General: Provide standard products recommended by manufacturer for use in service indicated, which effectively isolate ferrous from non-ferrous piping (electrical conductance), prevent galvanic action, and stop corrosion.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering dielectric unions which may be incorporated in the work include, but are not limited to the following:

Atlas Products Co.
Capital Mfg. Co., Div. of Harsco Corp.
Eclipse, Inc.
Epcos Sales, Inc.
FMC Corp.
McNally, Inc.
PSI Industries.
Stockham Valves and Fittings.

FABRICATED PIPING SPECIALTIES:

Pipe Sleeves: Provide pipe sleeves of one of the following:

Sheet-Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams or welded longitudinal joint. Fabricate from the following gages: 3" and smaller, 20 gage; 4" to 6", 16 gage; over 6", 14 gage.

Steel-Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.

Iron-Pipe: Fabricate from cast-iron or ductile-iron pipe, remove burrs.

Sleeve Seals: Provide sleeve seals for sleeves located in foundation walls below grade, or in exterior walls, of one of the following:

Mechanical Sleeve Seals: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between pipe and sleeve, connected with bolts and pressure plates which cause rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering

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mechanical sleeve seals which may be incorporated in the work include, but are not limited to the following:

Thunderline Corp.

INSTALLATION OF MANUFACTURED PIPING SPECIALTIES:

Pipe Escutcheons: Install pipe escutcheons on each pipe penetration thru floors, walls, partitions, and ceilings where penetration is exposed to view; and on exterior of building. Secure escutcheon to pipe or insulation so escutcheon covers penetration hole and is flush with adjoining surface

Dielectric Unions: Install at each piping joint between ferrous and non-ferrous piping. Comply with manufacturer's installation instructions.

INSTALLATION OF FABRICATED PIPING SPECIALTIES:

Sleeves: Install pipe sleeves of type indicated where piping passes through walls, floors, ceilings and roofs. Do not install sleeves through structural members of work, except as detailed on drawings, or as reviewed by Architect/Engineer. Install sleeves accurately centered on pipe runs. Size sleeves so that piping and insulation (if any) will have free movement in sleeve, including allowance for thermal expansion; but not less than 2 pipe sizes larger than piping run. Where insulation includes vapor-barrier jacket, provide sleeve with sufficient clearance for installation.

Install sheet-metal sleeves at interior partitions and ceilings other than suspended ceilings.

Install iron-pipe sleeves at exterior penetrations, both above and below grade.

Install steel-pipe or plastic-pipe sleeves except as otherwise indicated.

Sleeve Seals: Install in accordance with the following:

Mechanical Sleeve Seals: Loosely assemble rubber links around pipe with bolts and pressure plates located under each bolt head and nut. Push into sleeve and center. Tighten bolts until links have expanded to form watertight seal.

END OF SECTION 15180

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15190 PIPING SUPPORTS, ANCHORS AND SEALS

DESCRIPTION OF WORK:

Extent of supports, anchors and seals required by this section is indicated on drawings and/or specified in other Division 15 sections.

Types of supports, anchors, and seals specified in this section include the following:

- Horizontal-Piping Hangers and Supports.
- Vertical-Piping Clamps.
- Hanger-Rod Attachments.
- Building Attachments.
- Saddles and Shields.

Supports, anchors, and seals furnished as part of factory-fabricated equipment, are specified as part of the equipment assembly in other Division 15 sections. Also refer to Division 15 specifications dealing with seismic control and vibration isolation; also work of this section.

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of supports, anchors, and seals, of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

Select and apply pipe hangers and supports, complying with MSS SP-69. Size hangers and supports to support pipe weight and fluid conveyed.

HORIZONTAL-PIPING HANGERS AND SUPPORTS:

General: Except as otherwise indicated, provide factory fabricated horizontal-piping hangers and supports complying with ANSI/MSS SP-58, of one of the following MSS types listed, selected by Installer to suit horizontal-piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Use only one type by one manufacturer for each piping service. Select size of hangers and supports to exactly fit pipe size for bare piping, and to exactly fit around piping insulation with saddle or shield for insulated piping.

Adjustable Steel Clevises: MSS Type 1.

Alloy Steel Pipe Clamps: MSS Type 2.

Steel Double Bolt Pipe Clamps: MSS Type 3.

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Steel Pipe Clamps: MSS Type 4.

Pipe Hangers: MSS Type 5.

Adjustable Swivel Pipe Rings: MSS Type 6.

Adjustable Steel Band Hangers: MSS Type 7.

Adjustable Band Hangers: MSS Type 9.

Extension Split Pipe Clamps: MSS Type 12.

Pipe Saddle Supports: MSS Type 36, including steel pipe base support and cast-iron floor flange.

Pipe Stanchion Saddles: MSS Type 37, including steel pipe base support and cast-iron floor flange.

Adjustable Pipe Saddle Supports: MSS Type 38 including steel pipe base support and cast-iron floor flange.

Single Pipe Rolls: MSS Type 41.

Pipe Roll Stands: MSS Type 44.

Adjustable Roller Hangers: MSS Type 43.

Pipe Rolls and Plates: MSS Type 45.

VERTICAL-PIPING CLAMPS:

General: Except as otherwise indicated, provide factory fabricated vertical-piping clamps complying with ANSI/MSS SP-58, of one of the following types listed, selected by Installer to suit vertical piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Select size of vertical piping clamps to exactly fit pipe size of bare pipe.

Two-Bolt Riser Clamps: MSS Type 8.

Four-Bolt Riser Clamps: MSS Type 42.

HANGER-ROD ATTACHMENTS:

General: Except as otherwise indicated, provide factory fabricated hanger-rod attachments complying

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with ANSI/MSS SP-58, of one of the following MSS types listed, selected by Installer to suit horizontal-piping hangers and building attachments, in accordance with MSS SP-69 and manufacturer's published product information. Use only one type by one manufacturer for each piping service. Select size of hanger-rod attachments to suit hanger rods.

Steel Clevises: MSS Type 14.

Swivel Turnbuckles: MSS Type 15.

Steel Weldless Eye Nuts: MSS Type 17.

BUILDING ATTACHMENTS:

General: Except as otherwise indicated, provide factory fabricated building attachments complying with ANSI/MSS SP-58, of one of the following MSS types listed, selected by Installer to suit building substrate conditions, in accordance with MSS SP-69 and manufacturer's published product information. Select size of building attachments to suit hanger rods.

Top Beam C-Clamps: MSS Type 19.

Side Beam or Channel Clamps: MSS Type 20.

Welded Attachments: MSS Type 22.

C-Clamps: MSS Type 23.

Top I-Beam Clamps: MSS Type 25.

Side I-Beam Clamps: MSS Type 27.

Steel I-Beam Clamps W/Eye Nut: MSS Type 28.

Steel WF-Beam Clamps W/Eye Nut: MSS Type 29.

Steel Brackets: One of the following for indicated loading:

Light Duty: MSS Type 31.

Medium Duty: MSS Type 32.

Heavy Duty: MSS Type 33.

Side Beam Brackets: MSS Type 34.

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Plate Lugs: MSS Type 57.

Horizontal Travelers: MSS Type 58.

SADDLES AND SHIELDS:

General: Except as otherwise indicated, provide saddles or shields for piping hangers and supports, factory-fabricated, for all insulated piping. Size saddles and shields for exact fit to mate with pipe insulation.

Protection Saddles: MSS Type 39; fill interior voids with segments of insulation matching adjoining insulation.

Protection Shields: MSS Type 40; of length recommended by manufacturer to prevent crushing of insulation.

MANUFACTURERS OF HANGERS AND SUPPORTS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering hangers and supports which may be incorporated in the work include, but are not limited to the following:

C & S Mfg. Corp.
Carpenter and Patterson, Inc.
Elcen Metal Products Co.
F & S Central Mfg. Corp.
Fee & Mason Mfg. Co., Div. of A-T-O, Inc.
ITT Grinnel Corp.

MISCELLANEOUS MATERIALS:

Metal Framing: Provide products complying with NEMA STD ML 1.

Steel Plates, Shapes and Bars: Provide products complying with ANSI/ASTM A 36.

Heavy-Duty Steel Trapezes: Fabricate from steel shapes selected for loads required; weld steel in accordance with AWS Standards.

Pipe Guides: Provide factory-fabricated guides, of cast semisteel or heavy fabricated steel, consisting of a bolted two section outer cylinder and base with a two-section guiding spider bolted tight to pipe. Size guide and spiders to clear pipe and insulation (if any), and cylinder. Provide guides of length recommended by manufacturer to allow indicated travel.

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INSTALLATION OF HANGERS AND SUPPORTS:

General: Install hangers, supports, clamps and attachments to support piping properly from building structure; comply with MSS SP-69. Arrange for grouping of parallel runs of horizontal piping to be supported together on trapeze type hangers where possible. Install supports with maximum spacings complying with MSS SP-69. Where piping of various sizes is to be supported together by trapeze hangers, space hangers for smallest pipe size or install intermediate supports for smaller diameter pipe. Do not use wire or perforated metal to support piping, and do not support piping from other piping, ductwork or other supported mechanical or electrical items.

Install hangers and supports complete with necessary inserts, bolts, rods, nuts, washers and other accessories. Except as otherwise indicated for exposed continuous pipe runs, install hangers and supports of same type and style as installed for adjacent similar piping.

Prevent electrolysis in support of copper tubing by use of hangers and supports which are copper plated, or by other recognized industry methods.

Provisions for Movement:

Install hangers and supports to allow controlled movement of piping systems and to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends and similar units.

Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.

Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ANSI B31 are not exceeded.

Insulated Piping: Comply with the following installation requirements.

Clamps: Attach clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ANSI B31.

Saddles: Where insulation without vapor barrier is indicated, install protection saddles.

END OF SECTION 15190

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15250 INSULATION

DESCRIPTION OF WORK:

Extent of mechanical insulation required by this section is indicated on drawings, and by requirements of this section.

Types of mechanical insulation specified in this section include the following:

Piping System Insulation:

HVAC Hot Water Systems

QUALITY ASSURANCE:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to the following:

Armaflex
Armstrong World Industries, Inc.
Babcock & Wilcox Co., Insulating Products Div.
Certainteed Corp.
Johns-Manville Corp.
Keene Corp.
Knauf Fiber Glass
Owens-Corning Fiberglass Corp.

Flame/Smoke Ratings: Provide composite mechanical insulation (insulation, jackets, coverings, sealers, mastics and adhesives) with flame-spread rating of 25 or less, and smoke-developed rating of 50 or less, as tested by ANSI/ASTM E 84 (NFPA 255) method.

INSULATION SHIELDS

Metal insulation shields are required at all pipe hangers where the piping is insulated. Metal shields shall be constructed of galvanized steel, formed to a 180 degree arc with lengths equal to at least twice the pipe diameter.

SUBMITTALS:

Product Data: Submit manufacturer's specifications and installation instructions for each type of mechanical insulation. Submit schedule showing manufacturer's product number, thickness, and furnished accessories for each mechanical system requiring insulation.

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Certified Tests: With product data submit certified test reports on performances including burning characteristics and thermal insulating valves.

DELIVERY, STORAGE AND HANDLING:

Deliver insulation, coverings, cements, adhesives, and coatings to site in containers with manufacturer's stamp or label, affixed showing fire hazard ratings of products.

Protect insulation against dirt, water, and chemical and mechanical damage. Do not install damaged insulation; remove damaged insulation from project site.

PIPING INSULATION:

All hot water, chilled water, and domestic hot water piping shall be insulated within the mechanical rooms: The insulation shall be a heavy density, pipe insulation with a K factor .22 at 75°F mean temperature. The insulation shall be wrapped with a vapor barrier jacket with self-sealing lap, equal to Certain-teed, Mansville, Owens-Corning or Armstrong. Cover fittings with Zeston or equal premolded insulating fittings. Insulation shall be installed in a professional, neat appearing manner; poor workmanship shall be corrected at the Contractor's expense.

Application thicknesses shall be as follows:

Hydronic hot water piping 1-1/2" and smaller:	1" thick
Hydronic how water piping 2" and larger:	2" thick

INSTALLATION OF INSULATION:

General: Install insulation products in accordance with manufacturer's written instructions, and in accordance with recognized industry practices to ensure that insulation serves its intended purpose.

Install insulation materials with smooth and even surface. Insulate each continuous run of piping or ductwork with full-length units of insulation, with single cut piece to complete run. Do not use cut pieces or scraps abutting each other.

Clean and dry all surfaces prior to insulating. Butt insulation joints firmly together to ensure complete and tight fit over surfaces to be covered.

Cover valves, fittings and similar items in each piping system with equivalent thickness and composition of insulation as applied to adjoining pipe run. Install factory molded, precut or job fabricated units (at Installer's option) except where specific form or type is indicated.

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Install protective metal shields and insulated inserts wherever needed to prevent compression of insulation. Pipe Hanger Insulation Inserts: Butt pipe insulation against pipe hanger insulation inserts. For cold piping apply wet coat of vapor barrier lap cement on butt joints and seal joints with 3 inch wide vapor barrier tape or band.

PROTECTION AND REPLACEMENT:

Replace damaged insulation which cannot be repaired satisfactorily, including units with vapor barrier damage and moisture saturated units.

Protection: Insulation Installer shall advise Contractor of required protection for insulation work during remainder of construction period, to avoid damage and deterioration.

END OF SECTION 15250

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15350 NATURAL GAS PIPING SYSTEMS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.

DESCRIPTION OF WORK:

Extent of natural gas piping systems work is indicated on drawings and schedules, and by requirements of this section.

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of piping products of types, materials and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

Installer: A firm with at least 3 years of successful installation experience on projects with piping system work similar to that required for project.

ANSI Compliance: Comply with applicable American National Standards pertaining to products and installation of chilled/condenser and hot water piping systems.

PART 2 - PRODUCTS

BASIC PIPE, TUBE AND FITTINGS:

Building Distribution Piping:

Pipe Size 2" and Smaller: Black steel pipe, Pipe Weight: Schedule 40 with Malleable iron threaded fittings.

Pipe Size 2½" and Larger: Black steel pipe, Schedule 40 with Wrought-steel butt welded fittings.

SPECIAL VALVES:

Gas Cocks 2" and Smaller: 150 PSI non-shock WOG, bronze straightway cock, flat or square head, threaded ends.

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Gas Cocks 2½" and Larger: 125 PSI non-shock WOG, iron body bronze mounted, straightway cock, square head, flanged ends.

INSTALLATION OF NATURAL GAS PIPING:

Use sealants on metal gas piping threads which are chemically resistant to natural gas. Use sealants sparingly, and apply to only male threads of metal joints.

Remove cutting and threaded burrs before assembling piping.

Do not install defective piping or fittings. Do not use pipe with threads which are chipped, stripped or damaged.

Plug each gas outlet, including valves, with threaded plug or cap immediately after installation and retain until continuing piping, or equipment connection are completed.

Ground gas piping electrically and continuously within project, and bond tightly to grounding connection.

Install drip-legs in gas piping where indicated, and where required by code or regulation.

Install "Tee" fitting with bottom outlet plugged or capped, at bottom of pipe risers.

Use dielectric unions where dissimilar metals are joined together.

Install piping with 1" drop in 60' pipe run (0.14%) in direction of floor.

PART 3 - EXECUTION

INSTALLATION OF NATURAL GAS PIPING

General: Install pipe and fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce sizes (where indicated) by use of reducing fittings. Align piping accurately at connection, within 1/16" misalignment tolerance.

Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing building and its equipment.

Thread pipe in accordance with ANSI B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than three threads exposed.

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Weld pipe joints in accordance with ANSI B31.

Weld pipe joints in accordance with recognized industry practice and as follows:

Bevel pipe ends at a 37.5° angle where possible, smooth rough cuts, and clean to remove slag, metal particles and dirt.

Install welding rings for butt-welded joints.

Use pipe clamps or tack-weld joints with 1" long welds; 4 welds for pipe sizes to 10", 8 welds for pipe sizes 12" to 20".

Build up welds with stringer-bead pass, followed by hot pass, followed by cover or filler pass. Eliminate valleys at center and edges of each weld. Weld by procedures which will ensure elimination of unsound or unfused metal, cracks, oxidation, blow-holes and non-metallic inclusions.

Do not weld-out piping system imperfections by tack-welding procedures; refabricate to comply with requirements.

Flanged Joints: Match flanges within piping system, and at connections with valves and equipment. Clean flange faces and install gaskets. Tighten bolts to provide uniform compression of gaskets.

Install concentric reducers where pipe is reduced in size in direction of flow, with tops of both pipes and reducer flush.

Install piping level with no pitch.

EQUIPMENT CONNECTIONS:

General: Connect gas piping to each gas-fired equipment item, with drip leg, flexible connection and shutoff gas cock. Comply with equipment manufacturer's instructions.

PIPING TESTS:

Test natural gas piping in accordance with ANSI B31.2, and local utility requirements.

END OF SECTION 15350

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Lexington-Fayette Urban County Government**

15641 HIGH EFFICIENCY GAS-FIRED BOILERS

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section includes packaged, factory-fabricated and assembled, gas-fired, fire-tube condensing boilers, trim, and accessories for space heating hot water.

SUBMITTALS

Product Data: Include performance data, operating characteristics, furnished specialties, and accessories.

Shop Drawings: For boilers, boiler trim, and accessories.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Wiring Diagrams: Power, signal, and control wiring.

Field quality-control test reports: Indicate and interpret test results for compliance with performance requirements.

Warranty: Standard warranty specified in this Section.

CLOSEOUT SUBMITTALS

Operation and Maintenance Data: For boilers to include in emergency, operation, and maintenance manuals.

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QUALITY ASSURANCE

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

ASME Compliance: Fabricate and label boilers to comply with ASME Boiler and Pressure Vessel Code.

ASHRAE/IESNA 90.1 Compliance" Paragraph may be required to comply with Project requirements or authorities having jurisdiction. Also, LEED Prerequisite EA 2 requires compliance with ASHRAE/IESNA 90.1.

ASHRAE/IESNA 90.1 Compliance: Boilers shall have minimum efficiency according to "Gas and Oil Fired Boilers - Minimum Efficiency Requirements

AHRI Compliance: Boilers shall be AHRI listed and must meet the minimum efficiency specified under AHRI BTS-2000 as defined by Department of Energy in 10 CFR Part 431.

ANSI Compliance: Boilers shall be compliant with ANSI Z21.13 test standards for US and Canada.

CSA Compliant: Boilers shall be compliant with CSA certification.

COORDINATION

Coordinate size and location of concrete bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

WARRANTY

Standard Warranty: Boilers shall include manufacturer's standard form in which manufacturer agrees to repair or replace components of boilers that fail in materials or workmanship within specified warranty period.

Warranty Period for Fire-Tube Condensing Boilers:

- a. Heat Exchanger, Pressure Vessel and Condensation Collection Basin shall carry a 10 year limited warranty against defects in materials or workmanship and failure due to thermal shock.
- b. All other components shall carry a one year warranty from date of boiler start up.

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PART 2 - PRODUCTS.

CONSTRUCTION

Description: Boiler shall be natural gas fired, fully condensing, and fire tube design. The boiler shall be factory-fabricated, factory-assembled, and factory-tested, fire-tube condensing boiler with heat exchanger sealed pressure tight, built on a steel base; including insulated jacket; flue-gas vent; combustion-air intake connections; water supply, return, and condensate drain connections; and controls.

Heat Exchanger: The heater exchanger shall bear the ASME "H" stamp for 160 psi working pressure and shall be National Board listed. The heat exchanger shall be constructed of a fully welded 316L stainless steel and of fire tube design. The heat exchanger shall be designed for a single-pass water flow to limit the water side pressure drop.

Efficiency: Boilers shall have an AHRI certified minimum thermal efficiency of 96 percent.

Condensate Collection Basin: Fully welded 316L stainless steel and shall include a stainless steel combustion analyzer test port.

Pressure Vessel: The pressure vessel shall be in accordance with ASME Section IV pressure vessel code. The pressure vessel shall be designed for a single-pass water flow to limit the water side pressure drop.

Burner: Natural gas, forced draft single burner premix design. The burner shall be high temperature stainless steel with a woven Fecralloy outer covering to provide modulating firing rates. The burner shall be capable of the stated gas train turndown without loss of combustion efficiency.

Blower: Boiler shall be equipped with a pulse width modulating blower system to precisely control the fuel/air mixture to provide modulating boiler firing rates for maximum efficiency. The burner firing sequence of operation shall include pre-purge, firing, modulation, and post-purge operation.

Motors: Comply with requirements specified in Division 23 Section "Common Motor Requirements for HVAC Equipment."

Gas Train: The boiler shall be supplied with a negative pressure regulation gas train and shall be capable of a 20:1 minimum turndowns:

Ignition: Spark ignition with 100 percent main-valve shutoff with electronic flame supervision.

Casing:

1. Jacket: Heavy gauge primed and painted steel jacket with snap-in closures.

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2. Control Compartment Enclosures: NEMA 250, Type 1A.
3. Insulation: Minimum ½ inch thick, mineral fiber insulation surrounding the heat exchanger.
4. Combustion-Air Connections: Inlet and vent duct collars.

Characteristics and Capacities:

1. Heating Medium: Hot water.
2. Design Water Pressure Rating: 160 psi working pressure.
3. Safety Relief Valve Setting: 50 psig.

TRIM

Safety Relief Valve:

1. Size and Capacity: 50 lb.
2. Description: Fully enclosed steel spring with adjustable pressure range and positive shutoff; factory set and sealed.

Pressure Gage: Minimum 3-1/2 inch diameter. Gage shall have normal operating pressure about 50 percent of full range.

Drain Valves: Minimum NPS 3/4 or nozzle size with hose-end connection.

Condensate Neutralization Kit: Factory supplied condensate trap with condensate trip sensor, high capacity condensate receiver prefilled with appropriate medium.

CONTROLS

Refer to Division 23 Section "Instrumentation and Control for HVAC."

Boiler controls shall feature a standard, factory installed multi-color graphic LCD screen display with navigation dial and includes the following standard features:

1. Pump control: Boiler shall have the ability to control the boiler pump, and a system pump (if necessary for future).

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2. Ramp delay: Boiler may be programmed to limit the firing rate based on six limits steps and six time intervals.
3. PC port connection: Boiler shall have a PC port allowing the connection of PC boiler software.
4. Time clock: Boiler shall have an internal time clock with the ability to time and date stamp lock-out codes and maintain records of runtime.
5. Maintenance reminder: Boiler shall have the ability to display a yellow colored, customizable maintenance notification screen. All notifications are adjustable by the installer based upon months of installation, hours of operation, and number of boiler cycles.
6. English Error codes: Boiler shall have a user interface that displays a red error screen with fault codes that are displayed in English and include a date and time stamp for ease of servicing.
7. Anti-cycling control: Boiler shall have the ability to set a time delay after a heating demand is satisfied allowing the boiler to block a new call for heat. The boiler will display an anti-cycling blocking on the screen until the time has elapsed or the water temperature drops below the anti-cycling differential parameter. The anti-cycling control parameter is adjustable by the installer.
8. Isolation valve control: Boiler shall have the ability to control a 2-way motorized control valve. Boiler shall also be able to force a fixed number of valves to always be energized regardless of the number of boilers that are firing.
9. BMS integration with 0-10V DC input: The Control shall allow an option to Enable and control set point temperature or control firing rate by sending the boiler a 0-10V input signal.
10. Data logging: Boiler shall have non-volatile data logging memory including last 10 lockouts, space heat run hours, domestic hot water run hours and ignition attempts. All data should be visible on the boiler screen.

The boiler shall have a built in Cascade controller to sequence and rotate lead boiler to ensure equal runtime while maintaining modulation of up to 8 boilers of different btu inputs without utilization of an external controller. The factory installed, internal cascade controller shall include:

1. Lead lag: The Control module shall allow only one boiler to fire at the beginning of a call for heat. Once the lead boiler is in full fire and the control calculates that additional heat is required it will call on an additional boiler as needed.

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2. Efficiency optimization: The Control module shall allow multiple boilers to simultaneously fire at minimum firing rate in lieu of Lead/Lag.
3. Front end loading: The Control module shall allow the cascading and functional control of several non condensing boilers.
4. Rotation of lead boiler: The Control module shall change the lead boiler every hour for the first 24 hours after initializing the Cascade. Following that, the leader will be changed once every 24 hours.

Boiler operating controls shall include the following devices and features:

1. Set-Point Adjust: Set points shall be fully adjustable by the installer.
2. Sequence of Operation: Factory installed controller to modulate burner firing rate to maintain system water temperature in response to call for heat.
3. Sequence of Operation: Boiler shall be set up to maintain a remote temperature setpoint in the condenser water loop (70 degrees F, adj.). If lead boiler cannot maintain setpoint, then the controls are to enable the second "member" boiler to stage and maintain setpoint. Controls shall allow the boiler to be set at a maximum discharge water temperature (130 F. adj.), and when called to operate, a relay is to start/stop the boiler pump.

Burner Operating Controls: To maintain safe operating conditions, burner safety controls limit burner operation and include:

1. High Temperature Limit: Automatic and manual reset stops burner if operating conditions rise above maximum boiler design temperature. Limit switch to be manually reset on the control interface.
2. Low-Water Cutoff Switch: Electronic probe shall prevent burner operation on low water. Cutoff switch shall be manually reset on the control interface.
3. Blocked Inlet Safety Switch: Manual-reset pressure switch field mounted on boiler combustion-air inlet.
4. High and Low Gas Pressure Switches: Pressure switches shall prevent burner operation on low or high gas pressure. Pressure switches to be manually reset on the control interface.
5. Blocked Drain Switch: Blocked drain switch shall prevent burner operation when tripped. Switch to be manually reset on the control interface.
6. Low air pressure switch: Pressure switches shall prevent burner operation on low air pressure. Switch to be manually reset on the control interface.

Building Automation System Interface:

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1. Boiler shall have the ability to receive a 0-10V system from a building management system and control by the following:
 - a. 0-10V DC input to control Modulation or Setpoint
 - b. 0-10V DC input Enable/Disable signal
2. Factory installed BacNet interface to enable building automation system to monitor, control, and display boiler status and alarms.

ELECTRICAL POWER

Controllers, Electrical Devices, and Wiring: Electrical devices and connections are specified in Division 26 Sections.

Single-Point Field Power Connection: Factory-installed and factory-wired switches, motor controllers, transformers, and other electrical devices necessary shall provide a single-point field power connection to boiler.

Electrical Characteristics:

3. See Drawings
4. Voltage
 - a. 120V / 1PH
5. Frequency: 60 Hz

VENTING

Exhaust flue must be Category IV approved PVC, CPVC, PP or stainless steel sealed vent material from one of the approved manufacturers listed in the Installation and Operation manual. Boilers exhaust vent length must be able to extend to 100 equivalent feet.

Intake piping must be of approved material as listed in the Installation and Operations manual. Boilers intake pipe length must be able to extend to 100 equivalent feet.

Boiler venting and intake piping configuration shall be installed per one of the approved venting methods shown in the Installation and Operation manual.

Boilers using common venting must only include like models and the optional common vent damper. Contact the factory for common vent sizing.

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Boiler shall come standard with a flue sensor to monitor and display flue gas temperature on factory provided LCD display.

Refer to manufacturer's Installation and Operations manual for detailed venting instructions and approved manufacturers.

SOURCE QUALITY CONTROL

Burner and Hydrostatic Test: Factory adjust burner to eliminate excess oxygen, carbon dioxide, oxides of nitrogen emissions, and carbon monoxide in flue gas and to achieve combustion efficiency; perform hydrostatic test.

Test and inspect factory-assembled boilers, before shipping, according to ASME Boiler and Pressure Vessel Code.

PART 3 - EXECUTION

EXAMINATION

Before boiler installation, examine roughing-in for concrete equipment bases, anchor-bolt sizes and locations, and piping and electrical connections to verify actual locations, sizes, and other conditions affecting boiler performance, maintenance, and operations.

1. Final boiler locations indicated on Drawings are approximate. Determine exact locations before roughing-in of piping and electrical connections.

Examine mechanical spaces for suitable conditions where boilers will be installed.

Proceed with installation only after unsatisfactory conditions have been corrected.

BOILER INSTALLATION

Install equipment onto existing concrete housekeeping pad.

Install gas-fired boilers according to NFPA 54. Reconnect to existing gas piping.

Assemble and install boiler trim.

Install electrical devices furnished with boiler but not specified to be factory mounted.

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Install control wiring to field-mounted electrical devices.

Connect wiring to existing emergency boiler cut-out switches to shut-down boilers upon activation of switches in accordance with ASME Heating Boiler Code.

CONNECTIONS

Install boilers level on concrete bases.

Install piping adjacent to boiler to allow service and maintenance.

Install piping from equipment drain connection to nearest floor drain. Piping shall be at least full size of connection. Provide an isolation valve if required.

Connect gas piping to boiler gas-train inlet with union. Piping shall be at least full size of equipment connection. Provide a reducer if required.

Connect hot-water piping to supply and return boiler tappings with shutoff valve and union or flange at each connection.

Install piping from safety relief valves to nearest floor drain.

Boiler Venting:

1. Install flue venting kit and combustion-air intake.
2. Connect full size to boiler connections. Comply with requirements in Division 23 Section "Breechings, Chimneys, and Stacks."

Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."

Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

FIELD QUALITY CONTROL

Perform tests and inspections and prepare test reports.

Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

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Tests and Inspections:

1. Perform installation and startup checks according to manufacturer's written instructions. Complete startup form included with Boiler and return to Manufacturer as described in the instructions.
2. Leak Test: Hydrostatic test. Repair leaks and retest until no leaks exist.
3. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - a. Check and adjust initial operating set points and high- and low-limit safety set points of fuel supply, water level and water temperature.
 - b. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other than normal occupancy hours for this purpose.

DEMONSTRATION

Engage a factory representative or a factory-authorized service representative for boiler startup. Start-up sheet shall be completed and a copy shall be sent to the Engineer and the Manufacturer. A combustion analysis shall be completed and the gas valve adjusted per the Installation and Operations manual and note in start-up report.

Factory representative or a factory-authorized representative shall provide Owners training to instruct maintenance personnel to adjust, operate, and maintain boilers. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 15621

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SECTION 15704 - HVAC HOT WATER PIPING SYSTEMS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.

DESCRIPTION OF WORK:

Extent of HVAC water piping systems work is indicated on drawings and schedules, and by requirements of this section.

Refer to section "Testing, Adjusting, and Balancing" for water system balancing; not work of this section.

QUALITY ASSURANCE:

Manufacturers: Firms regularly engaged in manufacturer of piping products of types, materials and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

Installer: A firm with at least 3 years of successful installation experience on projects with piping system work similar to that required for project.

ANSI Compliance: Comply with applicable American National Standards pertaining to products and installation of chilled/condenser and hot water piping systems.

SUBMITTALS:

Product Data: Submit manufacturer's data for piping systems materials and products.

PART 2 - PRODUCTS

HVAC HOT WATER PIPING MATERIALS AND PRODUCTS:

General: Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, temperature ratings, and capacities as indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide materials and products complying with ANSI B31.1 Code for Power Piping where applicable, base pressure rating on water piping systems maximum design pressures. Provide sizes and types matching piping and equipment connections, provide fittings of materials which match pipe materials used in hot water piping systems.

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Where more than one type of materials or products are indicated, selection is Installer's option.

BASIC PIPE, TUBE AND FITTINGS:

General: Provide pipe, tube, and fittings in accordance with the following listing. Where more than one category is given, then it is the Contractor's choice between materials:

Hot Water Piping:

Pipe 2" and Smaller; Schedule 40 Black Steel

Fitting Threaded manufactured

Pipe 2-1/2" and larger; Schedule 40 Black Steel; welded

Fitting: Manufactured, with weld necks

BASIC PIPING SPECIALTIES:

General: Provide piping specialties complying with Division 15 Basic Materials and Methods section "Piping Specialties", in accordance with the following listing:

Dielectric unions.

BASIC SUPPORTS, ANCHORS, AND SEALS:

General: Provide supports, anchors and seals complying with Division 15 "Supports, Anchors, and Seals", in accordance with the following listing:

Adjustable steel clevises, adjustable pipe saddle supports, single pipe rolls, and adjustable roller hangers, for horizontal piping hangers and supports.

Two-bolt riser clamps, for vertical piping clamps.

Steel turnbuckles, for hanger rod attachments.

Concrete inserts, C-clamps, malleable beam clamps and steel brackets for building attachments.

Protection saddles, for saddles and shields.

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PART 3 - EXECUTION

INSTALLATION OF BASIC IDENTIFICATION:

General: Install mechanical identification in accordance with Division 15 Basic Materials and Methods Section "Mechanical Identification".

INSTALLATION OF HOT WATER DISTRIBUTION PIPING:

General: Install pipe, tube and fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce sizes (where indicated) by use of reducing fittings. Align piping accurately at connection, within 1/16" misalignment tolerance.

Locate piping runs, except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing building and its equipment.

Electrical Equipment Spaces: Do not run piping through transformer vaults and above panels, starters, distribution sections, etc.. and other electrical or electronic equipment spaces and enclosures.

Thread pipe in accordance with ANSI B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than three threads exposed.

Solder copper tube-and-fitting joints where indicated, in accordance with recognized industry practice. Cut tube ends squarely, ream to full inside diameter, and clean outside of tube ends and inside of fittings. Apply solder flux to joint areas of both tubes and fittings. Insert tube full depth into fitting, and solder in manner which will draw solder full depth and circumference of joint. Wipe excess solder from joint before it hardens.

Flanged Joints: Match flanges within piping system, and at connections with valves and equipment. Clean flange faces and install gaskets. Tighten bolts to provide uniform compression of gaskets.

Install eccentric reducers where pipe is reduced in size in direction of flow, with tops of both pipes and reducer flush.

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Install piping level with no pitch.

Connect branch feed piping to mains at horizontal center line of mains, connect run out piping to branches at horizontal center line of branches.

Locate groups of pipes parallel to each other, spaced to permit applying full insulation and servicing of valves.

EQUIPMENT CONNECTIONS:

General: Connect water piping system to mechanical equipment as indicated, and comply with equipment manufacturer's instructions where not otherwise indicated. Install shutoff valve and union on supply and return, drain valve on drain connection.

CLEANING, FLUSHING AND INSPECTING AND FILLING:

General: Clean and flush system with clear water, of all dirt, metal clips, sand, and foreign matter. After flushing remove, clean, and replace all strainer baskets or screens. Inspect each run of each system for completion of joints, supports, accessory items and obvious leaks.

LEAK TESTING:

General: Provide temporary equipment for testing, including pump and gages. Test piping system before insulation is installed, wherever feasible, and remove control devices before testing. Subject entire steam supply and return piping systems to leak tests, either as a whole, or in sections; but leave no part untested.

Fill piping systems with clear water, vent all air, and pressurize at 150% of operating pressure, (but not less than 25 PSI) for 2 hours. Test fails if leakage is observed or pressure drop exceeds 5% of test pressure.

Repair piping systems which fail required piping test, by disassembly and re-installation, using new materials to extent required to overcome leakage. Do not use chemicals, stop-leak compounds, mastics or other temporary repair methods.

Drain test water from piping systems after testing and repair work has been completed.

CHEMICAL TREATMENT

QUALIFICATIONS

Chemicals, service and equipment shall be supplied by a single water treatment company for undivided responsibility, the water treatment chemical and service supplier shall be a recognized specialist, active

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in the field of industrial water treatment for at least 10 years, whose major business is in the field water treatment. The water treatment company shall have regional water analysis laboratories, development facilities and service department, full time personnel located within the trading area of the job site, such as American Water Treatment, Inc., Kesco, Mongul, Deadborn or Betz. Chemicals to be suitable for use in the existing hot water boilers.

CLOSED LOOP RECIRCULATING SYSTEM

1. CHEMICAL

Furnish one year's supply of closed system corrosion inhibitor of the non-chromate type for hot water loop.

END OF SECTION 15704

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SECTION 15710 - HYDRONIC SPECIALTIES

PART 1 - GENERAL

1.1 QUALITY ASSURANCE:

- A. Manufacturers: Firms regularly engaged in manufacturer of hydronic specialties of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. ASTM Code: Comply with all ASTM Codes pertaining to valves and tanks.

PART 2 - PRODUCTS

2.1 MANUFACTURED HYDRONIC SPECIALTIES:

- A. General: Provide factory-fabricated hydronic specialties recommended by manufacturer for use in service indicated. Provide hydronic specialties of types, capacities, and pressure ratings indicated for each service, or if not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide sizes as indicated, and connections, which properly mate with pipe, tube, and equipment connections, where more than one type cannot be used on the project.
- B. Balance Valves:
 - 1. General: Provide balance valves as indicated, of one of the following types:
 - 2. Soldered Ends 2" and Smaller: Class 125, bronze body, globe type with memory stop, straight or angle pattern.
 - 3. Threaded Ends 2" and Smaller: Class 125, bronze body, ball type with memory stop, straight or angle pattern.
 - 4. Available Manufacturers: Subject to compliance with requirements, manufacturers offering balance valves which may be incorporated in the work include, but are not limited to the following:
 - a. Bell & Gossett, ITT Fluid Handling Div.
 - b. Hammond Valve Corp., Div. of Conval Corp.
 - c. Illinois Products, American Air Filter Co., Inc.
 - d. Milwaukee Valve Co., Inc.
 - e. Sarco Co., Div. of White Consolidated.
 - f. Taco, Inc.
- C. Diaphragm-Type Compression Tanks:

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1. General: Provide diaphragm compression tanks of size and number as indicated. Construct tank of welded steel, constructed, tested, and stamped in accordance with Section VII of the ASME Boiler and Pressure Vessel Code for a working pressure of 125 PSI. Furnish National Board Form U-1 denoting compliance. Support vertical tanks with steel legs or base; support horizontal tanks with steel saddles. Provide specially compounded flexible diaphragm securely sealed into tank to permanently separate air charge from system water to maintain design expansion capacity. Provide pressure gage and air charging fitting.

2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering diaphragm type compression tanks which may be incorporated in the work include, but are not limited to the following:

- a. Amtrol, Inc.
- b. Bell & Gossett

D. Pump Triple Duty Valves:

1. General: Provide pump discharge valves as indicated. Provide non-slam check valve with spring loaded disc and calibrated adjustment feature permitting regulation of pump discharge flow and shutoff. Design valves to permit repacking under full line pressure, and with bolt-on bonnet. Provide flanged cast iron valve body, pressure rated for 175 PSI, maximum operated temperature of 300°F. Provide straight or angle pattern as indicated.

2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering pump suction diffusers which may be incorporated in the work include, but are not limited to the following:

- a. Armstrong Pumps, Inc.
- b. Bell & Gossett, ITT Fluid Handling Div.
- c. Taco, Inc.
- d. Thrush Div., Amtrol, Inc.

E. Inline Pumps:

1. General: Provide in-line circulator pumps where indicated, and of capacities as scheduled.

2. Type: Horizontal mount, vertical split case, oil lubricated, designed for 125 PSI working pressure and 225°F (107°C) continuous water temperature.

3. Body: Cast iron, with suction and discharge gage tappings.

4. Shaft: Hardened alloy steel.

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5. Bearings: Oil lubricated bronze journal bearings.
6. Seal: Mechanical, with carbon seal ring and ceramic seat.
7. Motor: Non-overloading at any point on pump curve, open, dripproof, oil lubricated journal bearings, resilient mounted construction, built-in thermal overload protection on single phase motors. Motors to be high efficiency.
8. Coupling: Self-aligning, flexible coupling.
9. Impeller: Enclosed type, hydraulically and dynamically balanced and keyed to shaft.
10. Available Manufactures: Subject to compliance with requirements, manufacturers offering in-line circulator pumps which may be incorporated in the work include, but are not limited to, the following:
 - 1) Amtrol Inc., Thrush Div.
 - 2) Armstrong Pumps, Inc.
 - 3) Bell & Gossett, ITT Fluid Handling Div.
 - 4) Dunham-Bush, Inc.
 - 5) Taco, Inc.

PART 3 - EXECUTION

INSTALLATION OF MANUFACTURED HYDRONIC SPECIALTIES:

A. Diaphragm-Type Compression Tanks:

1. General: Install diaphragm-type compression tanks on floor as indicated, in accordance with manufacturer's instructions. Vent and purge air from hydronic system, charge tank with proper air charge as recommended by manufacturer.

B. Pump Triple Duty Valves:

1. General: Install in horizontal or vertical position with stem in upward position; allow clearance above stem for check mechanism removal. After hydronic system has been completed, mark calibrated name plate with stripe of yellow lacquer to permanently mark final balanced position.

END OF SECTION 15710

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15980 TESTING, ADJUSTING AND BALANCING

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Extent of testing, adjusting, and balancing work is indicated by requirements of this section, and also by drawings and schedules, and is defined to include, but is not necessarily limited to, air distribution systems, hydronic distribution systems and associated equipment and apparatus of mechanical work. The work consists of pressure testing, setting speed and volume (flow) adjusting facilities provided for systems, recording data, conducting tests, preparing and submitting reports, and recommending modifications to work as required by contract documents.

Component types of testing, adjusting, and balancing specified in this section includes the following as applied to mechanical equipment:

Pumps
Balance Valves

QUALITY ASSURANCE:

Installer: A firm certified by Associated Air Balance Council (AABC) in those testing and balancing disciplines similar to those required for this project.

AABC Compliance: Comply with AABC's Manual MN-1 "AABC National Standards", as applicable to mechanical air and hydronic distribution systems and associated equipment and apparatus.

NEBB Compliance: NEBB compliance will be acceptable with approval of the technician's qualifications by the engineer.

Industry Standards: Comply with American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE) recommendations pertaining to measurements, instruments and testing, adjusting and balancing, except as otherwise indicated.

SUBMITTALS:

Submit certified test reports signed by Test and Balance Supervisor who performed TAB work.

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Include identification and types of instruments used and their most recent calibration date with submission of final test report.

Maintenance Data: Include in maintenance manuals, copies of certified test reports.

JOB CONDITIONS:

Do not proceed with testing, adjusting, and balancing work until work has been completed and is operable. Ensure that there is no latent residual work still to be completed.

Do not proceed until work scheduled for testing, adjusting, and balancing is clean and free from debris, dirt and discharged building materials.

PART 2 - PRODUCTS

TEST INSTRUMENTS:

Utilize test instruments and equipment for TAB work required, of type, precision and capacity as recommended in the following TAB standards: AABC's Manual MN-1 "AABC National Standards".

PART 3 - EXECUTION

TESTING, ADJUSTING, AND BALANCING:

Examine installed work and conditions under which testing is to be done to ensure that work has been completed, cleaned and is operable. Do not proceed with TAB work until satisfactory conditions have been corrected in manner acceptable to Tester.

Test, adjust and balance environmental systems and components, as indicated, in accordance with procedures outlined in applicable standards.

HVAC Hydronic Piping Systems Testing and Balancing:

Contractor shall employ the services of a testing and balancing firm to take test readings on all new unit balancing valves and orifices, across unit heaters to adjust valves to deliver specified amounts of water. Testing and balancing report logs shall be made showing water supply quantities; (3) three copies of the log shall be submitted to the Engineer before final inspection of the project and is necessary for final payment. Log shall be listed by units and tube shell.

Retest, adjust and balance systems subsequent to significant system modifications, and resubmit test results.

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System balancing shall be performed only by persons skilled in this work. The system shall be balanced as often as necessary to obtain desired system operation and results.

Prepare report of test results, including instrumentation calibration reports, in format recommended by applicable standards.

The Test and Balance Contractor shall assist the Architect/Engineer in verifying that proper measuring instruments and methods were used.

END OF SECTION 15980

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INDEX

DIVISION 16 - ELECTRICAL

SECTION

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SECTION 16010 - GENERAL PROVISIONS - ELECTRICAL WORK

1. GENERAL

- A. The Instructions to Bidders, General and Special Conditions, and all other contract documents shall apply to the Electrical Contractor's work. Each Contractor is directed to familiarize himself in detail with all documents pertinent to this Contract. In case of conflict between these General Provisions and the General and/or Special Conditions, the affected Contractor shall contact the Engineer for clarification and final determination.
- B. Each Contractor shall be governed by any alternates, unit prices and Addendums or other required or implied contract instrument insofar as they may affect his part of the work.
- C. The work included in this division consists of the furnishing of all labor, equipment, transportation, excavation, supplies, material and appurtenances and performing all operations necessary for the satisfactory installation of complete and operating Electrical Systems indicated on the drawings and/or specified herein.
- D. Any materials, labor, equipment or services not mentioned specifically herein which may be necessary to complete or perfect any part of the Electrical Systems in a substantial manner, in compliance with the requirements stated, implied, or intended in the drawings and specifications, shall be included as part of this Contract. With submission of bid, the Contractor shall give written notice of any materials or apparatus believed inadequate or unsuitable; in violation of laws, ordinances, rules or regulations of authorities having jurisdiction; and any necessary items of work omitted. In the absence of such written notice, it shall be understood that the Contractor has included the cost of all required items in his bid, and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensations.
- E. In general, whenever utilities are interrupted, either deliberately or accidentally, the Contractor shall work continuously to restore said service. The Contractor shall provide tools, materials, skilled journeymen of his own and other trades as necessary and premium time as needed, all without requests for extra compensation to the Owner, unless other arrangements have been made through the Owner and Architect.
- F. Definitions:
 - (1) Electrical Contractor - Any Contractor whether bidding or working independently or under the supervision of a General Contractor, that is: the one holding the Prime Contract, and/or Construction Manager and who installs any type of Electrical work, such as: power, lighting, television, telecommunications, data, fibre optic, intercom, fire detection and alarm, security, video, underground or overhead electrical, etc.

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- (2) Electrical Sub-Contractor - Each or any Contractor contracted to, or employed by, the Electrical Contractor for any work required by the Electrical Contractor.
- (3) Engineer - The Consulting Mechanical-Electrical Engineers either consulting to the Owner, Architect, other Engineers, etc.
- (4) Architect - The Architect of Record for the project, if any.
- (5) Furnish - Deliver to the site in good condition.
- (6) Provide - Furnish and install in complete working order.
- (7) Install - Install equipment furnished by others in complete working order.
- (8) Contract Documents - All documents pertinent to the quality and quantity of all work to be performed on the project. Includes, but not limited to: Plans, Specifications, Addenda, Instructions to Bidders, (both General and Sub-Contractors), Unit Prices, Shop Drawings, Field Orders, Change Orders, Cost Breakdowns, Construction Manager's Assignments, Architect's Supplemental Instructions, Periodical Payment Requests, etc.

Note: Any reference within these specifications to a specific entity, i.e., "Electrical Contractor" is not to be construed as an attempt to limit or define the scope of work for that entity or assign work to a specific trade or contracting entity. Such assignments of responsibility are the responsibility of the Contractor or Construction Manager that is holding the prime contract, unless otherwise provided herein.

2. INTENT

- A. It is the intention of these specifications and all associated drawings to call for finished work, tested, and ready for operation. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use."
- B. Minor details not usually shown or specified, but necessary for the proper installation and operation, shall be included in the work, the same as if herein specified or shown.

3. DRAWINGS AND SPECIFICATIONS

- A. This Contractor shall make all his own measurements in the field and shall be responsible for correct fitting. He shall coordinate this work with all other branches of work in such a manner as to cause a minimum of conflict or delay.

4. EXAMINATION OF SITE AND CONDITIONS

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- B. Each Contractor shall inform himself of all of the conditions under which the work is to be performed, the site of the work, the structure of the ground, the obstacles that may be encountered, the availability and location of necessary facilities and all relevant matters concerning the work. All Contractors shall carefully examine all Drawings and Specifications and inform themselves of the kind and type of materials to be used throughout the project and which may, in any way, affect the execution of his work.
 - C. Each Contractor shall fully acquaint himself with all existing conditions as to ingress and egress, distance of haul from supply points, routes for transportation of materials, facilities and services, availability of temporary or permanent utilities, etc. His work shall cover all expenses or disbursements in connection with such matters and conditions. Each Contractor shall verify all work shown on the drawings and conditions at the site. No allowance is to be made for lack of knowledge concerning such conditions after bids are accepted.
5. SUPERVISION OF WORK
- A. Each Contractor and his Sub-Contractors shall personally supervise the work or have a competent superintendent that is approved by the Engineers on the project site at all times during progress of the work, with full authority to act for him in matters related to the project.
6. CODES, RULES, PERMITS, FEES, REGULATIONS, ETC.
- A. The Contractor shall give all necessary notices to the engineer before request for acceptance and final payment for the work.
 - B. Ignorance of Codes, Rules, regulations, utility company requirements, laws, etc., shall not diminish or absolve Contractor's responsibilities to provide and complete all work in compliance with such.
 - C. The Contractor shall include in the work, without extra cost to the Owner, any labor, materials, services, apparatus or drawings required in order to comply with all applicable laws, ordinances rules and regulations, whether or not shown on drawings and/or specified.
 - D. All materials furnished and all work installed shall comply with the current edition of the National Electrical Codes, National Fire Codes of the National Fire Protection Association, the requirements of local utility companies, and with the requirements of all governmental agencies or departments having jurisdiction.
 - E. All material and equipment for the electrical systems shall bear the approval label, or shall be listed by the Underwriters' Laboratories, Incorporated. Listings by other testing agencies may be acceptable with written approval by the Engineer.
 - F. All electrical work is to be constructed and installed in accordance with plans and specifications which have been approved in their entirety and/or reflect any changes requested

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by the LFUCG Fire Marshal, as applicable or required. Electrical work shall not commence until such plans are in the hands of the Electrical Contractor.

- G. The Contractor shall insure that his work is accomplished in accord with OSHA Standards and/or any other applicable government requirements.

7. GUARANTEES AND WARRANTIES

- G. Each Electrical Contractor shall guarantee all equipment, apparatus, materials, and workmanship entering into this Contract to be the best of its respective kind and shall replace all parts at his own expense, which are proven defective within one year from final acceptance of the work by the Engineer. The effective date of completion of the work shall be the date of the Engineer's Certificate of Substantial Completion.

8. INSPECTION, APPROVALS AND TESTS

- A. Before requesting a final inspection, each Contractor shall thoroughly inspect his installation to assure that the work is complete in every detail and that all requirements of the Contract Documents have been fulfilled. Failure to accomplish this portion of the Contract may result in charges from the Engineers for unnecessary and undue work on their part.
- B. The Contractor shall provide as a part of this contract electrical inspection by a competent Electrical Inspection Agency, licensed to provide such services in the State of Kentucky. All costs incidental to the provision of electrical inspections shall be borne by the Electrical Contractor.
- C. Approval by an Inspector does not relieve the Contractor from the responsibilities of furnishing equipment having a quality of performance equivalent to the requirements set forth in these plans and specifications. All work under this contract is subject to the inspection and approval of the Engineer, whose decision is binding.
- F. Before final acceptance, the Contractor shall furnish the certificates of final approval by the Electrical Inspector to the Enginee, as applicable. Final payment for the work shall be contingent upon completion of this requirement.
- G. The Contractor shall test all wiring and connections for continuity and grounds before equipment and fixtures are connected, and when indicated or required, demonstrate by Megger Test the insulation resistance of any circuit or group of circuits. Where such tests indicate the possibility of faulty insulation, locate the point of such fault, pull out the conductor at fault, replace same with new and demonstrate by further test the elimination of such fault.

4 MATERIALS AND WORKMANSHIP

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- A. All workmanship shall be first-class and shall be performed by electricians skilled and regularly employed in their respective trades. All equipment shall be installed so that all parts are readily accessible for inspection, maintenance, replacement, etc.
- B. All materials, where applicable, shall bear Underwriters' Laboratories label or that of another Engineer-approved testing agency, where such a standard has been established.
- C. All electrical materials, equipment and appliances shall conform to the latest standards of the National Electrical Manufacturers Association (NEMA) and the National Board of Fire Underwriters (NBFU) and shall be approved by the Owner's insuring agency if so required.

5 QUALIFICATIONS OF WORKMEN

- A. All electrical work shall be accomplished by qualified workmen competent in the area of work for which they are responsible.
- B. All electrical work shall be accomplished by Journeymen electricians under the direct supervision of a licensed Electrician. All applicable codes, utility company regulations, laws and permitting authority of the locality shall be fully complied with by the Contractor.
- C. Special electrical systems, such as Fire Detection and Alarm Systems, , Control Systems, etc., shall be installed by approved workmen normally engaged or employed in these respective trades. As an exception to this, where small amounts of such work are required and are, in the opinion of the Engineer, within the competency of workmen directly employed by the Contractor involved, they may be provided by this Contractor.

6 CONDUCT OF WORKMEN

The Contractor shall be responsible for the conduct of all workmen under his supervision. Misconduct on the part of any workmen to the extent of creating a safety hazard, or endangering the lives and property of others, shall result in the prompt relief of that workman. The consumption or influence of alcoholic beverages, narcotics or illegally used controlled substances on the jobsite is strictly forbidden.

8 MAINTENANCE OF EXISTING UTILITIES AND LINES

- A. Conduits, cables, and utilities existing, or otherwise, that come within the contract construction site, shall be subject to continuous uninterrupted maintenance with no exception unless the Owner of the utilities grants permission to interrupt same temporarily, if need be. Provide one week's written notice to Engineer and Owner prior to interrupting any utility service or line.

9 CUTTING, PATCHING AND REPAIRING

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- A. Each Electrical Contractor shall be responsible for all openings, ceilings, walls, etc. and shall coordinate all such work with all other trades. Improperly located openings shall be reworked at the expense of the responsible Contractor.
- B. No cutting is to be done at points or in a manner that will weaken the structure and unnecessary cutting must be avoided. If in doubt, contact the Architect.
- C. All work improperly done or not done at all as required by the Electrical trades in this section will be performed by the Prime Contractor at the direction of the Contractor whose work is affected. The cost of this work shall be paid for by the Contractor responsible.

10 FINAL CONNECTIONS TO EQUIPMENT

The roughing-in and final connections to all electrically operated equipment furnished under this and all other sections of these specifications, or by others, shall be included in the Contract and shall consist of furnishing all labor and materials for connection. The Contractor shall carefully coordinate with equipment suppliers, manufacturers representatives, the vendor or other trades to provide complete electrical and dimensional interface to all such equipment (kitchen, hoods, mechanical equipment, panels, refrigeration equipment, Owner's equipment, etc.).

11 ACCESSIBILITY

- A. The Contractor shall be responsible for the sufficiency of adequate clearance in suspended ceilings for the proper installation of his work. The Contractor shall locate all conduit, disconnects & junction boxes with respect to service clearances for equipment which must be serviced, operated, or maintained.

12 ELECTRICAL CONNECTIONS

- A. The Electrical Contractor shall furnish and install all line voltage wiring except: temperature control wiring unless such is directed by the Prime Contractor. The Electrical Contractor shall furnish and install all power wiring complete from power source to motor or equipment junction box, including power wiring through starters. The Electrical Contractor shall install all starters not factory mounted on equipment. Unless otherwise noted, the supplier of equipment shall furnish starters with the equipment. Also refer to Division 15 of Specifications, shop drawings and equipment schedules for additional information.

13 CLEANING

- A. Each Contractor shall, at all times, keep the area of his work presentable to the public and clean of rubbish caused by his operations; and at the completion of the work, shall remove all rubbish, all of his tools, equipment, temporary work and surplus materials, from and about the premises, and shall leave the work clean and ready for use. If the Contractor does not attend

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to such cleaning immediately upon request, the Engineer may cause cleaning to be done by others and charge the cost of same to the responsible Contractor.

- B. After completion of all work and before final acceptance of the work, each Contractor shall thoroughly clean all equipment and materials and shall remove all foreign matter such as grease, dirt, plaster, labels, stickers, etc., from the exterior of materials, equipment and all associated fabrication. Pay particular attention to finished area surfaces such as lighting fixture lenses, lamps, reflectors, panels, etc.

14 INDEMNIFICATION

The Contractor shall hold harmless and indemnify the Engineer, employees, officers, agents and consultants from all claims, loss, damage, actions, causes of actions, expense and/or liability resulting from, brought for, or on account of any personal injury or property damage received or sustained by any person, persons, (including third parties), or any property growing out of, occurring, or attributable to any work performed under or related to this contract, resulting in whole or in part from the negligence of the Contractor, any subcontractor, any employee, agent or representative.

END OF SECTION

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SECTION 16110 - RACEWAYS & FITTINGS

1. GENERAL

- A. This section is intended to specify the raceways, conduit, conduit fittings, hangers, junction boxes, splice boxes, specialties and related items necessary to complete the work as shown on the drawings and specified herein.
- B. This section specifies basic materials and methods and is a part of each Division 16 Section that implies or refers to electrical raceways specified therein.
- C. The types of raceways specified in this section include the following:
 - (1) Steel electrical metallic tubing. (E.M.T.)
 - (2) Rigid galvanized steel conduit. (G.R.S.)
 - (3) Intermediate metal conduit (I.M.C.).
 - (4) Rigid aluminum conduit.
 - (5) Flexible metal conduit (aluminum or steel)
- D. All raceways, as listed in 1(C) above and otherwise specified herein shall be provided in compliance with latest editions of all applicable U.L., NEMA, N.E.C. and A.N.S.I. standards. All conduit, raceways and fittings shall be Underwriters Laboratories listed and labeled, or bear the listing of an agency acceptable to the local authority having jurisdiction.
- E. Conduit and raceways, as well as supporting inserts in contact with or enclosed in concrete shall comply with the latest edition of all A.C.I. standards and the equipment manufacturer's recommendations for such work.
- F. The decision of the Engineer shall be final and binding in any case where a question or inquiry arises regarding the suitability of a particular installation or application of raceways, supports or materials, if other than outlined herein.
- G. Minimum size of conduit shall be 3/4" trade size unless otherwise noted on the drawings. All conduit and raceways shall be sized for the number of conductors contained, in accord with the latest edition of the National Electrical Code or any other applicable standards.
- F. The installer of raceway systems shall avoid the use of dissimilar metals within raceway installations that would result in galvanic-action corrosion.

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2. MATERIALS

A. STEEL ELECTRICAL METALLIC TUBING

Electrical metallic tubing, (E.M.T.) of corrosion-resistant steel construction shall be permitted for concealed installation in dry interior locations. Electrical metallic tubing shall not be installed in concrete slabs or where exposed to physical damage. Electrical metallic tubing shall be permitted for exposed work in mechanical and electrical rooms and other exposed structure areas where not subjected to physical damage, as determined by the Engineer.

B. RIGID GALVANIZED STEEL CONDUIT

Rigid galvanized steel conduit shall be used where subject to physical damage for exposed work in mechanical spaces, within factory or other industrial work areas, for exposed fit-up work on machinery, for exposed exterior damp or wet location work, in hazardous atmospheres, in exterior underground locations where installed beneath roadways, where ells occur in underground P.V.C. conduits, or where turning out of concrete encased duct banks, and at other locations as specifically called out on the drawings.

Rigid galvanized steel conduit shall be used for all building interior power wiring or cables of over 600 Volts.

C. INTERMEDIATE METAL CONDUIT

Unless otherwise indicated on the drawings, intermediate metal conduit (I.M.C.) may be used in any location in place of rigid galvanized steel conduit, as permitted by codes, and as approved by the Engineer.

D. RIGID ALUMINUM CONDUIT

Rigid aluminum conduit, shall be permitted for installation indoors in dry locations only. Under no conditions shall it be cast into concrete slabs or pass thru construction where prolonged contact will degrade the aluminum. All ells used in rigid aluminum conduit systems shall be rigid galvanized steel.

E. FLEXIBLE METAL CONDUIT

Flexible conduit shall be used where permitted by NEC. It may be constructed of aluminum or steel. It shall be installed with connectors designed for the purpose. All flexible metal conduit shall be installed as a single piece. No joints shall be installed. Flexible conduit shall not be used in wet or dusty locations or where exposed to oil, water or other damaging environments. An equipment grounding conductor or bonding jumper shall be used at all flexible conduit installations.

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F. RACEWAY FITTINGS

- 1) Raceway fittings (or condulets) shall be of gray iron, malleable iron or heavy copper-free cast aluminum. They shall be furnished in proper configurations, avoiding excessive plugged openings. Any openings that are left shall be properly plugged. All coverplates shall be gasketed with neoprene or similar approved materials, rated for the environment.
- 2) Where required, raceway fittings shall be provided in explosion-proof configurations rated for the atmosphere. Place conduit seal off fittings at each device in accord with applicable codes. Seal off fittings shall be packed with wadding, and poured with an approved non-shrink sealing compound.
- 3) Fittings for threaded raceways shall be tapered thread with all burrs removed, reamed ends and cutting oil wiped clean.
- 4) Fittings for E.M.T. conduit shall be of the set-screw type. Fittings for sizes 2" and larger shall have two setscrews each side. Conduit stops shall be formed in center of couplings. All EMT connectors and couplings shall be of formed steel construction.
- 5) Indentation or die-cast fittings shall not be permitted in any raceway system.
- 6) Compression type fittings shall be utilized for EMT conduit installed in damp or dusty locations, or where otherwise indicated.
- 3) All conduit fittings shall be securely tightened. All threaded fittings shall engage seven full threads. Fasteners shall be properly torqued to manufacturer's recommendations.

3. INSTALLATION

- A. Install electrical raceways in accordance with manufacturer's written instructions, applicable requirements of latest edition of the N.E.C., and NECA "Standard of Installation", complying with recognized industry practices.
- B. Coordinate with other trades as necessary to interface installation of electrical raceways and components.
- C. Level and square raceway runs, and install at proper elevations and required heights. Hold tight to structure wherever possible, to maximize available space and not restrict other trades.
- D. Complete installation of electrical raceways before starting installation of cables or wires within raceways.

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- E. All raceway systems shall be mechanically continuous and connected to all electrical outlets boxes, cabinets, in accordance with manufacturer's installation sheets.
- F. All metal raceway shall be electrically continuous and bonded in accordance with the National Electrical Code for proper grounding.

4. SPECIALTIES

- A. All EMT terminations at junction boxes, panels, etc. shall be made with case hardened locknuts and appropriate fittings, with insulated throat liners. Insulating terminations shall be manufactured as a single unit. The use of split sleeve insulators is not permitted.

END OF SECTION

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SECTION 16120 - CONDUCTORS, IDENTIFICATION, SPLICING DEVICES & CONNECTORS

1. GENERAL

- A. This section of the Specifications covers all of the electrical power, lighting, and control power (line voltage) conductors.
- B No more than 40% conduit fill is permitted for any conduit system.

2. MATERIALS

A. CONDUCTORS

- (1) All conductors shall be 98% conductive annealed copper unless otherwise noted, UL listed and labeled.
- (2) Lighting branch circuits shall be not less than No. 12 copper wire or of the sizes shown on the drawings with Type THW, THHN or THWN insulation. All feeder circuits shall be Type THW or THHN of the size as shown on the Contract Drawings.
- (3) Conductors No. 10 and smaller sizes of wire shall be solid. Conductors No. 8 and larger sizes shall be stranded. No. 14 AWG drag wire shall be installed in all empty conduit and stubs for future use, as indicated. Conductors for fire alarm wiring and control wiring shall be stranded.
- (4) All equipment grounding conductors shall have green color insulation.
- (5) Conductors used for motor connections and connections to vibrating or oscillating equipment shall be extra flexible.

B. SPLICING DEVICES & CONNECTORS

- (1) Splicing devices for use on No. 14 to No. 10 AWG conductors shall be pressure type such as T & B "STA-KON", Burndy, Reliable or approved equivalent.
- (2) Terminating pressure applied ring type (or fork with upturned ends) terminations shall be employed on motor and equipment terminals where such terminals are provided on motor and equipment leads.
- (3) The use of split-bolt clamps will be permitted in wireways at service entrance only. Torque to 55 foot-pounds or as recommended by manufacturer.

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- (4) Large connectors (lugs) shall be mechanical type, hex-head socket or crimp-on style, installed per the manufacturer's recommendations.
- (5) No aluminum conductors shall be permitted to be used
- (6) Splices, where necessary shall be made with hydraulically-set "Hy-press" or equivalent crimped connectors. All splices shall be insulated to the full value of the wiring insulation using a cold-shrink kit or the equivalent in built-up materials.

3. INSTALLATION

- A. The pulling of all wires and cable on this project shall be performed in strict compliance with applicable sections of the National Electrical Code. No conductor entering or leaving a cabinet or box shall be deflected in such a manner as to cause excess pressure on the conductor insulation and after all insulation and insulating bushings are in place.
- B. The radius of bending of conductors shall be not less than eighteen (18) times the outside diameter of the conductor insulation.
- C. Conductors installed within environmental air plenums shall be per N.E.C., teflon-type insulation or approved equivalent.

4. COLOR CODING DISTRIBUTION VOLTAGE CONDUCTORS, 600 VOLT OR LESS

- A. Conductors to be color coded as follows:
 - 120/208 Volt Conductors
 - Phase A - Black
 - Phase B - Blue
 - Phase C - Red
 - Neutral - White
 - B. 480Y/277 Volt System:
 - 1. Phase A - Brown
 - 2. Phase A Switch Leg - Brown with "S" Tag.
 - 3. Phase B - Orange.
 - 4. Phase B Switch Leg - Orange with "S" Tag.
 - 5. Phase C - Yellow
 - 6. Phase C Switch -Leg- Yellow with "S" Tag.
 - 7. Travelers - Yellow with "T" Tag.
 - 8. Neutral - Grey.
 - 9. Equipment Ground - Green with Yellow stripe.
 - C. Control Wiring - Red, or as indicated.

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- D. All conduits carrying 480 V circuits shall be identified as such.

END OF SECTION

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SECTION 16135 - CABINETS, OUTLET BOXES & PULL BOXES

1. GENERAL

- A. This section of the specifications covers all electrical outlet boxes and pull boxes.
- B. Continuous runs of conduit shall have pull boxes at least each eighty-five (85) feet of run, or as near as possible to that limit.

2. MATERIALS & INSTALLATION

A. Outlet & Pull Boxes:

- (1) Boxes for pull boxes, outlet boxes, or any other purposes shall be constructed of code gauge, galvanized steel with sides formed and corner seams riveted or welded before galvanizing. Boxes assembled with sheet metal screws will not be accepted. All cabinets and boxes for NEMA 1 and 1A and NEMA 3R application shall be provided with knockouts, as necessary, or shall be cut in the field by approved cutting tools which will provide a clean symmetrically cut opening.
 - (2) Ceiling outlet boxes shall be galvanized steel, 4" octagonal, not less than 2-1/8" deep, with lugs or ears to secure covers, and those for use with ceiling lighting fixtures shall be fitted with 3/8" fixture studs fastened to the back of the boxes, where applicable.
 - (3) All outlets, pull boxes, junction boxes, cabinets, etc..., shall be sized per the current edition of the National Electrical Code.
- B. Cabinets, outlet boxes (FTGS) and junction or pull boxes (FTGS) shall be threaded for rigid-threaded conduit, dust-tight vapor-tight or weatherproof as required for areas other than for NEMA 1 or 1A application. These shall be as manufactured by Crouse-Hinds, Appleton, Pyle-National, Killark, or approved as equivalent.
- (1) NEMA 1 or 1A or 3R cabinets, outlet boxes or pull or junction boxes shall be as manufactured by Appleton, Steel City, T & B, or approved equivalent.
 - (2) Openings for conduit entrance in cabinets and boxes shall be prefabricated, punched, drilled and/or reamed. The use of a cutting torch for this purpose is prohibited.

END OF SECTION

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SECTION 16452 - GROUNDING

1. **GENERAL**

- A. All metallic conduit, wireways, supports, cabinets and equipment shall be grounded in accordance with the latest issue of the National Electrical Code and as shown on the Contract Drawings.
- B. The size of the grounding conductor for service equipment shall be not less than that given in Article No. 250-94 of the National Electrical Code, and as shown on the Contract Drawings.
- C. Grounding bus and non-current carrying metallic part of all equipment and conduits shall be securely grounded by connection to common ground.

2. **MATERIALS**

- A. Ground wires and cables shall be of the AWG sizes shown on the Contract Drawings. All ground wires and cables shall be copper.
- B. All grounding fittings shall be heavy cast bronze or copper of the mechanical type except for interconnection of grounding grid to cable, columns and ground-rods, which shall be welded type as manufactured by Cadweld, Burndy Co., Therm-O-Weld, or approved equivalent. Other bonding clamps or fittings shall be as manufactured by O.A. Co., Penn-Union, T & B, Burndy, or approved equivalent.

3. **INSTALLATION**

- A. All grounding conductors shall be protected from mechanical injury and shall be rigidly supported. If ground conductors are run through conduit, they shall be securely bonded to such conduit at the entrance and exit. All connection of equipment shall be made with an approved type of solderless connection and same shall be bolted or clamped to equipment or conduit.
- B. Bonding terminals and connectors for grounding shall be of the thermal welded type, or mechanical type as required.

END OF SECTION



ADDENDUM #1

Bid Number: **#77-2018**

Date: June 6, 2018

Subject: **Family Care Boiler Project**

Address inquiries to:
Kristie Thomas
(859) 258-3320

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

A) Item #ME-1: Refer to Specifications, Section 15641:

1. References to electrical specification division to be Division 16, not Division 26.
2. Fulton Boiler and Cleaver Brooks are acceptable manufacturer's of condensing boilers, subject to the specifications. Boilers shall be able to operate without thermal shock with 60 deg.F. entering water and 135 deg.F leaving water temperature. Boilers shall be suitable for using PVC, PP or CPVC piping for flue venting. Use of stainless steel is discouraged.
3. Boilers shall be provided with BACnet communications and be "ready to wire" for control communications. A BACnet object map shall be provided with boiler shop drawing submission.
4. Omit reference to Division 23 Section "Instrumentation and Control for HVAC." from subsection entitled controls. Contractor shall provide boiler control work as follows:
 - a. Contactor shall provide a temperature sensor in the main condenser water loop to sense mixed water temperature downstream of the hot water supply/return taps. This may be upstream or downstream of the existing air separator.
 - b. Wire temperature sensor into the lead boiler to communicate setpoint information. Contractor shall program the boiler to maintain a mixed water temperature in the condenser water main of 70 deg.F. adjustable.
 - c. Contractor shall wire and program the cascade controls of the lead boiler to enable and modulate the lag boiler to add additional heat to the loop to maintain setpoint when lead boiler is incapable of doing so.



- d. Contractor to wire the boiler pump enable relays to engage and disengage the respective boiler pumps for each boiler.
- e. Contractor to wire the existing boiler shutdown switches (2) to the boilers to shutdown boiler operation in accordance with ASME and Kentucky Boiler Code.
- f. Boiler operating controls shall be programmed and wired as otherwise specified in the Specification Section.

B) Item #ME-2: Refer to Drawings, Sheet ME-1:

- 1. Refer to "Hydronic Piping Demo Schematic":
 - a. The hydronic fill station shall be demolished as well. Remove domestic water fill piping serving hot water system back to first valve encountered between water main and fill station.
 - b. Existing floor drain is not to be demolished.
- 2. Refer to "Hydronic Piping New-Work Schematic":
 - a. New temperature sensor downstream of air separator to be provided by Contractor and wired to control the boilers with the on-board boiler control systems.
 - b. There are two (2) new temperature sensors indicated in the hot water supply line from the boilers to the condenser water main; only one is needed. Contractor to provide the temperature sensor and wire leads into the pipeline for others to wire into the existing BAS.
 - c. The existing 6" butterfly valve indicated for balancing service shall be replaced with a new 6" butterfly valve with handwheel and gear.

C) Item #ME-3: Refer to Drawings, Sheet ME-2:

- 1. It is believed the existing flue vent pipe can be demolished from access below in the mechanical room and from above at the roof level. If Contractor deems it necessary, the Contractor may remove a section of the exterior wall of the chase to access chase. The exterior brick would need to be cut and removed, and the poured interior concrete wall saw-cut. Contractor would be required to lintel the remaining brick during work. After access work is complete; Contractor would need to repair/replace brick to repair wall. Color of brick to match existing as nearly as feasible. This effort is only required if Contractor deems the flue demolition cannot proceed solely from within.



2. New flues are to be 6" PVC, CPVC or PP as allowed by the boiler manufacturer. Flues to be joined with joints not exceeding 8 foot o.c. Support flue risers from bottom of turn up into chase to roof and at roof level. Brace flues to roof steel/deck.
3. Contractor to make the roof penetration for flues, and to provide the pipe boot/collar for each; a roof curb not allowed. The installation of the boot/collar will be by Others, and is Not In Contract. Submit proposed roofing material to LFUCG designated person for approval prior to purchase. Contractor shall notify Owner prior to making roof penetration. Ensure there is adequate spacing between flues through roof to install collars; overlap may be necessary on the roof membrane.
4. Temperatures Sensors to be equal to 1000 OHM non-adjustable Balco sensing elements, wound to plus or minus 1/10 of 1% accuracy. All sensors used in liquid line shall be provided with immersion wells.
5. Boilers are 120 volt as specified.
6. Omit reference to 208 volt disconnects being demolished on the Demolition Plan. Intent of drawings is to strip power wiring of boiler back to the panel, if circuit is not suitable for serving new boilers. Boiler B-2 to be provided with new circuit from existing electrical panel in basement; an existing 20 amp-1p breaker is available for both new boilers; (formerly serving previous boilers).
7. Boiler Pump selection may be a Bell & Gossett e-90 pump; Model 1.25AAB, with ½ Hp motor.

D) Pre-bid meeting sign-in sheet attached.

End of Addendum Items



Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____



SIGN-IN SHEET
Pre-Bid Meeting 77-2018 Family Care Boiler Project
May 31, 2018 @ 11:00 AM

Representative	Company Name	DBE/MBE/WBE/ Veteran	Phone#	Email Address
Kristie Thomas	LFUGG		859-258-3320	kthomas@lexingtonky.gov
Sherita Miller	LFUGG		859-258-3323	smiller@lexingtonky.gov
Tim Hellard	TP Mechanical		513-535-4706	tim.hellard@tpmechanical.com
Scott Goudpaster	Technical Horizons		854-227-3466	Scott.goudpaster1@gmail.com
Chris L. Taylor	LFUGG		859-285-9254	lwec@krc@lexingtonky.gov
Daniel Parlin	LFUGG		859-258-3932	clifton@lexingtonky.gov
James Bush	LFUGG		859-288-4066	dparlin@lexingtonky.gov
Danny Shelton	C3 Mechanical		859-425-2879	josh@lex...
Jim Coomes	C-3 Mech		802-927-4086	DAN@C3Mech@gmail.com
David Miller	Miller's Plog & HTG Inc.		502-320-9322	Jim.C3Mech@gmail.com
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Adam Meyer	JCI		859-338-6955	Jeff@CPSLEX.com
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