



University of
Kentucky[®]
Procurement Services

Request for Proposal
UK-2590.29-1-25
Proposal Due Date – 12/03/2024

CENTRAL HEATING BOILER



REQUEST FOR PROPOSAL (RFP)

ATTENTION: This is not an order. Read all instructions, terms and conditions carefully.

PROPOSAL NO.: UK-2590.29-2-25	RETURN ORIGINAL COPY OF PROPOSAL TO:
Issue Date: 10/17/2024	UNIVERSITY OF KENTUCKY
Title: CENTRAL HEATING BOILER	PROCUREMENT SERVICES
Purchasing Officer: COREY W. LESLIE	411 S LIMESTONE
Phone: 859-323-5405	ROOM 322 PETERSON SERVICE BLDG.
Email: COREY.LESLIE@UKY.EDU (PREFERRED)	LEXINGTON, KY 40506-0005

IMPORTANT: PROPOSALS MUST BE RECEIVED BY: 12/03/2024 3 P.M. LEXINGTON, KY TIME.

NOTICE OF REQUIREMENTS

1. The University's General Terms and Conditions and Instructions to Bidders, viewable at <https://purchasing.uky.edu/bid-and-proposal-opportunities>, apply to this RFP. When the RFP includes construction services, the University's General Conditions and Special Conditions for Construction and Instructions to Bidders, viewable at <https://purchasing.uky.edu/bid-and-proposal-opportunities>, apply to the RFP.
2. Contracts resulting from this RFP must be governed by and in accordance with the laws of the Commonwealth of Kentucky.
3. Any agreement or collusion among offerors or prospective offerors, which restrains, tends to restrain, or is reasonably calculated to restrain competition by agreement to bid at a fixed price or to refrain from offering, or otherwise, is prohibited.
4. Any person who violates any provisions of KRS 45A.325 shall be guilty of a felony and shall be punished by a fine of not less than five thousand dollars nor more than ten thousand dollars or be imprisoned not less than one year nor more than five years, or both such fine and imprisonment. Any firm, corporation, or association who violates any of the provisions of KRS 45A.325 shall, upon conviction, be fined not less than ten thousand dollars or more than twenty thousand dollars.

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby swear (or affirm) under the penalty for false swearing as provided by KRS 523.040:

1. That I am the offeror (if the offeror is an individual), a partner, (if the offeror is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the offeror is a corporation);
2. That the attached proposal has been arrived at by the offeror independently and has been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other Contractor of materials, supplies, equipment or services described in the RFP, designed to limit independent bidding or competition;
3. That the contents of the proposal have not been communicated by the offeror or its employees or agents to any person not an employee or agent of the offeror or its surety on any bond furnished with the proposal and will not be communicated to any such person prior to the official closing of the RFP;
4. That the offeror is legally entitled to enter into contracts with the University of Kentucky and is not in violation of any prohibited conflict of interest, including, but not limited to, those prohibited by the provisions of KRS 45A.330 to .340, and 164.390;
5. That the offeror, and its affiliates, are duly registered with the Kentucky Department of Revenue to collect and remit the sale and use tax imposed by Chapter 139 to the extent required by Kentucky law and will remain registered for the duration of any contract award;
6. That I have fully informed myself regarding the accuracy of the statement made above.

SWORN STATEMENT OF COMPLIANCE WITH CAMPAIGN FINANCE LAWS

In accordance with KRS 45A.110 (2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to a bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

CONTRACTOR REPORT OF PRIOR VIOLATIONS OF KRS CHAPTERS 136, 139, 141, 337, 338, 341 & 342

The contractor by signing and submitting a proposal agrees as required by 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341 and 342 that have occurred in the previous five (5) years prior to the award of a contract and agrees to remain in continuous compliance with the provisions of the statutes during the duration of any contract that may be established. Final determinations of violations of these statutes must be provided to the University by the successful contractor prior to the award of a contract.

CERTIFICATION OF NON-SEGREGATED FACILITIES

The contractor, by submitting a proposal, certifies that he/she is in compliance with the Code of Federal Regulations, No. 41 CFR 60-1.8(b) that prohibits the maintaining of segregated facilities.

SIGNATURE REQUIRED: This proposal cannot be considered valid unless signed and dated by an authorized agent of the offeror. Type or print the signatory's name, title, address, phone number and fax number in the spaces provided. Offers signed by an agent are to be accompanied by evidence of his/her authority unless such evidence has been previously furnished to the issuing office

DELIVERY TIME:	NAME OF COMPANY:	KY SOS ID #
PROPOSAL FIRM THROUGH:	ADDRESS:	Phone/Fax:
PAYMENT TERMS:	CITY, STATE & ZIP CODE:	E-MAIL:
SHIPPING TERMS: F. O.B. DESTINATION PREPAID AND ALLOWED FEDERAL EMPLOYER ID NO.:	TYPED OR PRINTED NAME:	WEB ADDRESS:
	SIGNATURE:	DATE:

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1.0 DEFINITIONS

The term "addenda" means written or graphic instructions issued by the University of Kentucky prior to the receipt of proposals that modify or interpret the RFP documents by additions, deletions, clarifications and/or corrections.

The term "competitive negotiations" means the method authorized in the Kentucky Revised Statutes, Chapter 45A.085.

The terms "offer" or "proposal" mean the offeror's/offers' response to this RFP.

The term "offeror" means the entity or contractor group submitting the proposal.

The term "contractor" means the entity receiving a contract award.

The term "purchasing agency" means the University of Kentucky, Procurement Services, Room 322 Peterson Service Building, Lexington, KY 40506-0005.

The term "purchasing official" means the University of Kentucky's appointed contracting representative.

The term "responsible offeror" means a person, company or corporation that has the capability in all respects to perform fully the contract requirements and the integrity and reliability that will assure good faith performance. In determining whether an offeror is responsible, the University may evaluate various factors including (but not limited to): financial resources; experience; organization; technical qualifications; available resources; record of performance; integrity; judgment; ability to perform successfully under the terms and conditions of the contract; adversarial relationship between the offeror and the University that is so serious and compelling that it may negatively impact the work performed under this RFP; or any other cause determined to be so serious and compelling as to affect the responsibility of the offeror.

The term "solicitation" means RFP.

The term "University" means University of Kentucky.

2.0 GENERAL OVERVIEW

2.1 Intent and Scope

Manufacture one dual fuel (gas/oil), 30 PPM NOx, 100,000 #/hr steam, water tube boiler and deliver to site. Provide installation and startup support as described in the specifications and drawings.

Provide an alternate price for 9 PPM NOx boiler and burner with the same output of steam and options.

Provide an alternate price for 0.00314 lb/MMBtu Particulate Matter emissions guarantee with the same output of steam and options.

Provide additional price for "best available control technology" on both options above.

2.2 Background Information

The boiler will be installed in the existing UK Central Heating Plant. It will be moved through the exterior wall under another contract. See the specifications and drawings for the work involved in pricing this RFP.

2.3 University Information

Upon his arrival in 2011, President Eli Capilouto set an ambitious agenda to extend and enhance our role as Kentucky's land-grant and flagship research university. By focusing on infrastructure growth and improvement; creating opportunities for innovative teaching, learning and academic excellence; fostering a robust research enterprise; providing life-saving subspecialty care; empowering communities through service and outreach; and encouraging a transparent and shared dialogue about institutional priorities; the University of Kentucky will help ensure a Kentucky tomorrow that is healthier, wealthier and wiser than it is today.

Our mission is to advance Kentucky.

Founded in 1865 as a land-grant institution adjacent to downtown Lexington, UK is nestled in the scenic heart of the beautiful Bluegrass region of Kentucky. From its early beginnings, with only 190 students and 10 professors, UK's campus now covers more than 900 acres. The university enrolled more than 32,000 students in Fall 2022 and has approximately 25,000 employees, including nearly 3,000 full-time faculty.

UK is one of a small number of universities in the United States that has programs in agriculture, engineering, law, fine arts and a full complement of health colleges including medicine and pharmacy, on a single campus alongside an academic health system, leading to groundbreaking discoveries and unique interdisciplinary collaboration.

The state's flagship university consists of 18 academic and professional colleges where students can choose from more than 200 majors and degree programs at the undergraduate and graduate levels. The colleges are Agriculture, Food and Environment; Arts and Sciences; Business and Economics; Communication and Information; Dentistry; Design; Education; Engineering; Fine Arts;

Graduate School; Health Sciences; Honors; Law; Medicine; Nursing; Pharmacy; Public Health; and Social Work. These colleges are supported by a modern research library system.

Research at the University of Kentucky is a dynamic enterprise encompassing both traditional scholarship and emerging technologies. UK's research faculty, staff and students are establishing UK as one of the nation's most prolific public research universities. UK researchers were awarded more than \$452.9 million in extramural grant and contract funding in fiscal year 2022. Fifty-six percent of this funding comes from agencies in the federal government (\$256 million) such as the National Institutes of Health, National Science Foundation, Department of Energy, Department of Defense and numerous other federal, state and industry sponsors. Expenditures from research and development (R&D) activities at the university generate more than \$772 million in economic development across the Commonwealth of Kentucky and support more than 4,395 jobs.

With more than 70 research centers and institutes, UK researchers are discovering new knowledge, providing a rich training ground for current students and the next generation of researchers and advancing the economic growth of the Commonwealth of Kentucky. Several centers excel in the services offered to the public. The Gluck Equine Research Center is one of only three facilities of its kind in the world, conducting equine disease research.

The Center for Applied Energy Research (CAER) is internationally recognized for research in algae for carbon dioxide clean up, carbon materials, concrete and cement, emissions control in utilities, energy policy, fuels research, hydrogen, materials characterization and plant optimization.

Among the brightest examples of UK's investment in transformative research is the Markey Cancer Center. As a center of excellence and distinction at UK, Markey's robust research and clinical enterprise is the cornerstone of our commitment to Kentucky – fundamental to our success in uplifting lives through our endeavors and improving the general health and welfare of our state – burdened by the nation's highest rate of cancer deaths per 100,000 people. In 2013, Markey earned the prestigious National Cancer Institute-designation (NCI) – one of 68 nationally and the only one in Kentucky. The designation was renewed in 2018.

Both CAER and Markey are cornerstones of seven Research Priority Areas (RPAs) at the University of Kentucky. These areas — chosen based on local relevance, existing funding strength, sustainability and disciplinary scholarly diversity — focus UK's top research talent on the most pressing challenges confronting our state.

The University of Kentucky is the recipient of a Clinical Translational Sciences Award (CTSA) from the National Institutes of Health (NIH). As one of only 60 institutions with this research distinction, UK was awarded the CTSA for its potential in moving research and discovery in the lab into practical field and community applications. The CTSA and NCI are part of a trifecta of federal research grants that includes an Alzheimer's Disease Center. UK is one of only 29 universities in the country to hold all three premier grants from NIH.

Established in 1957, the medical center at UK is one of the nation's finest academic medical centers and includes the university's clinical enterprise, UK HealthCare. Licensed for 965 beds across UK Albert B. Chandler Hospital, Kentucky Children's Hospital and UK Good Samaritan Hospital, the system is supported by a growing faculty and staff providing the most advanced subspecialty care for the most critically injured and ill patients throughout the Commonwealth and beyond. Since 2014, the number of patients served by the medical enterprise has nearly doubled, with more than 38,000 discharges in 2022.

UK Chandler Hospital includes the only Level 1 Trauma Center for both adult and pediatric patients in Central and Eastern Kentucky. In addition, UK HealthCare recently opened one of the country's largest robotic hybrid operating rooms and the first of its kind in the region. While the new patient care pavilion is the leading health care facility for advanced medical procedures in the region, our talented physicians consult with and travel to our network of affiliate hospitals so Kentuckians can receive the best health care available close to their home and never need to leave the Bluegrass for complex subspecialty care.

As of December 1, 2022, King's Daughters Medical Center, based in Ashland, Kentucky, officially became part of the University of Kentucky. King's Daughters Medical Center serves a 16-county region across Kentucky, Ohio and West Virginia. Its health system is composed of two acute-care hospitals totaling 465 licensed beds, more than 50 ambulatory centers and practice locations, a long-term care facility, medical transport company and six urgent care centers.

The University of Kentucky Board of Trustees on Friday April 26, 2024 approved plans to proceed with the acquisition of St. Claire HealthCare in Morehead. The move for St. Claire to become part of UK will expand clinical and academic programs as well as result in greater access to high-quality patient care for more Kentuckians. St. Claire can continue its 60-year tradition of serving Northeastern Kentucky for decades to come, operating under the name UK St. Claire. St. Claire HealthCare is one of the largest employers in the region, with over 1,200 staff members, including a growing medical staff of more than 125 physicians and nearly 70 advanced practice professionals representing more than 30 medical specialties. It includes the largest rural hospital in Northeastern Kentucky, seven primary care locations located within five counties, a multi-specialty medical pavilion, two urgent care centers, a pediatrics clinic, as well as a retail pharmacy, counseling center, medical equipment and supply store, and an outpatient center. Additionally, St. Claire HealthCare provides home health and hospice services in eight counties within its 11-county service region. The acquisition was finalized on July 1, 2024.

UK's agenda remains committed to accelerating the university's academic excellence in all areas and gaining worldwide recognition for its outstanding academic programs, its commitment to students, its investment in pioneering research and discovery, its success in building a diverse community and its engagement with the larger society. This commitment is all part of the university's mission as a 21st century flagship and land-grant research university. From its Nobel Laureates to cutting-edge work in addressing health disparities, and from the artistic wonders that stir souls to our scientific creativity that inspires minds, UK seeks a brighter future through the contributions of our faculty, staff, students and alumni.

We are the University of Kentucky. We are committed to advancing Kentucky in everything that we do.

SUSTAINABILITY

Sustainability is an institution-wide priority for the University of Kentucky. We strive to ensure that all activities are ecologically sound, socially just, and economically viable, and that they will continue to be so for future generations. This commitment also prioritizes the integration of these principles in curricula, research, athletics, health care, creative works, and outreach. This principled approach to operational practices and intellectual pursuits is intended to prepare students and empower the campus community to support sustainable development in the Commonwealth and beyond. The UK Sustainability Strategic Plan guides these efforts (<https://www.uky.edu/sustainability/sustainability-strategic-plan>).

2.4 Economic Engagement and Procurement

The University of Kentucky is committed to serving as an advocate for Kentucky located businesses as part of its on-going workforce development and economic development efforts.

The University desires to increase the amount of goods and services acquired from Kentucky located businesses. The University encourages its suppliers to support and assist in this effort.

The University's goals for increasing participation in procurement projects include but are not limited to the following:

- To ensure the absence of barriers that reduce participation.
- Educate vendors on "how to do business" with the University.
- Support Kentucky located vendors seeking to do business with the University in the areas of goods, services, construction, and other areas of procurement.
- Encourage participation of qualified Kentucky located vendors by directing them to agencies that can benefit from their product or service.
- Provide resources for Kentucky located vendors.
- Sponsor events to assist Kentucky located vendors in becoming active, responsible, and responsive participants in the University's purchasing opportunities.

For additional information regarding how Kentucky located suppliers may participate in this Request for Proposal, submit any questions to the Procurement Officer as indicated in Section 3.2 by the Deadline for Written Questions date.

3.0 PROPOSAL REQUIREMENTS

3.1 Key Event Dates

Release of RFP	10/17/2024
Pre-Proposal Conference (Optional)	10/29/2024
Deadline for Written Questions	1 p.m. Lexington Time on 11/12/2024
Final addendum (on or about)	11/19/2024
RFP Proposals Due	3 p.m. Lexington Time on 12/03/2024

3.2 Offeror Communication

All communications with the University regarding this RFP shall only be directed to the procurement officer listed above.

All addenda and updates will be communicated through the Lynn Imaging Planroom.

Plans, Specifications, and official solicitation documents are available from:

Lynn Imaging
328 Old Vine Street
Lexington Kentucky 40507
Phone (859) 255-1021
Fax (859) 233-1558

In addition, Lynn Imaging and the University have a web site at: www.ukplanroom.com where plans can be ordered.

Interested vendors must identify the status of their firm as a prime contractor, miscellaneous subcontractor, material supplier or other when ordering Plans and Specifications.

3.3 Pre-Proposal Conference

A pre-proposal conference will be held in Lexington, Kentucky on 10/29/2024 at 10 a.m. EST in Room 226, Peterson Service Building, to allow prospective contractors an opportunity to ask questions and clarify the University's expectations. This conference provides offerors an opportunity for oral questions.

The following items should be noted in reference to the pre-proposal conference:

- Attendance at the pre-proposal conference is optional. At this conference, the scope of services will be discussed in detail.
- Offerors are encouraged to submit written questions after the conference by the date listed in Section 3.1.

The University will prepare written responses to all questions submitted and make them available to all offerors. The questions and answers will be made part of the RFP and may become part of the contract with the successful contractor. Answers given orally at the conference are not binding.

3.4 Offeror Presentations

All offerors whose proposals are judged acceptable for award may be required to make a presentation to the evaluation committee.

3.5 Preparation of Offers

The offeror is expected to follow all specifications, terms, conditions and instructions in this RFP.

The offeror will furnish all information required by this solicitation.

Proposals should be prepared simply and economically, providing a description of the offeror's capabilities to satisfy the requirements of the solicitation. Emphasis should be on completeness and clarity of content. All documentation submitted with the proposal should be bound in the single volume except as otherwise specified.

An electronic version of the RFP, in .PDF format only, is available through the University of Kentucky Procurement Services website at: <https://purchasing.uky.edu/bid-and-proposal-opportunities>.

3.6 Proposed Deviations from the RFP

The stated requirements appearing elsewhere in this RFP shall become a part of the terms and conditions of any resulting contract. Any deviations therefrom should be specifically defined in accordance with the transmittal letter, Section 4.3 (d). If accepted by the University, the deviations shall become part of the contract, but such deviations must not be in conflict with the basic nature of this RFP.

Note: Offerors should not submit their standard terms and conditions as exceptions to the University's General Terms and Conditions. Each exception to the University's General Terms and Conditions should be individually addressed.

3.7 Proposal Submission and Deadline

Offeror must provide the following materials prior to 3 p.m. (Lexington, KY time) on the date specified in Section 3.1 and addressed to the purchasing officer listed in Section 3.2:

- **Technical Proposal:** One (1) electronic storage device (USB) clearly marked with the proposal number and name, firm name and what is included (Technical Proposal) and two (2) printed copies
- **Financial Proposal:** One (1) electronic storage device (USB) clearly marked with the proposal number and name, firm name and what is included (Financial Offer) and two (2) printed copies

Do not password protect the electronic storage devices.

Proposals shall be enclosed in sealed envelopes to the above referenced address and shall show on the face of the envelope: the closing time and date specified, the solicitation number and the name and address of the offeror. The technical proposal shall be submitted in a sealed envelope and the financial proposal shall be submitted in a sealed envelope under separate cover. Both sealed envelopes shall have identical information on the cover, with the addition that one will state "Technical Information," and the other, "Financial Proposal."

Proposals received after the closing date and time will not be considered. In addition, proposals received via fax or e-mail are not acceptable.

Please note: the University of Kentucky accepts deliveries of RFPs Monday through Friday from 8 a.m. to 5 p.m. Lexington, KY time. However, RFPs must be received by 3 p.m. Lexington, KY time on the date specified on the RFP in order to be considered.

Note: In accordance with the Kentucky Revised Statute 45A.085, there will be no public opening.

3.8 Modification or Withdrawal of Offer

An offer and/or modification of an offer received at the office designated in the solicitation after the exact hour and date specified for receipt will not be considered.

An offer may be modified or withdrawn by written notice before the exact hour and date specified for receipt of offers. An offer also may be withdrawn in person by an offeror or an authorized representative, provided the identity of the person is made known and the person signs a receipt for the offer, but only if the withdrawal is made prior to the exact hour and date set for receipt of offers.

3.9 Acceptance or Rejection and Award of Proposal

The University reserves the right to accept or reject any or all proposals (or parts of proposals), to waive any informalities or technicalities, to clarify any ambiguities in proposals and (unless otherwise specified) to accept any item in the proposal. In case of error in extension or prices or other errors in calculation, the unit price shall govern. Further, the University reserves the right to make a single award, split awards, multiple awards or no award, whichever is in the best interest of the University.

3.10 Rejection

Grounds for the rejection of proposals include (but not be limited to):

- Failure of a proposal to conform to the essential requirements of the RFP.
- Imposition of conditions that would significantly modify the terms and conditions of the solicitation or limit the offeror's liability to the University on the contract awarded on the basis of such solicitation.
- Failure of the offeror to sign the University RFP. This includes the Authentication of Proposal and Statement of Non-Collusion and Non-Conflict of Interest statements.
- Receipt of proposal after the closing date and time specified in the RFP.

3.11 Addenda

Any addenda or instructions issued by the purchasing agency prior to the time for receiving proposals shall become a part of this RFP. Such addenda should be acknowledged in the proposal. No instructions or changes shall be binding unless documented by a proper and duly issued addendum.

3.12 Disclosure of Offeror's Response

The RFP specifies the format, required information and general content of proposals submitted in response to this RFP. The purchasing agency will not disclose any portions of the proposals prior to contract award to anyone outside Procurement Services, the University's administrative staff, representatives of the state or federal government (if required) and the members of the committee evaluating the proposals. After a contract is awarded in whole or in part, the University shall have the right to duplicate, use or disclose all proposal data submitted by offerors in response to this RFP as a matter of public record.

Any submitted proposal shall remain valid six (6) months after the proposal due date.

The University shall have the right to use all system ideas, or adaptations of those ideas, contained in any proposal received in response to this RFP. Selection or rejection of the proposal will not affect this right.

3.13 Restrictions on Communications with University Staff

From the issue date of this RFP until a contractor is selected and a contract award is made, offerors are not allowed to communicate about the subject of the RFP with any University administrator, faculty, staff or members of the board of trustees except: the purchasing office representative, any University purchasing official representing the University administration, others authorized in writing by the purchasing office and University representatives during offeror presentations. If violation of this provision occurs, the University reserves the right to reject the offeror's proposal.

3.14 Cost of Preparing Proposal

Costs for developing the proposals and any subsequent activities prior to contract award are solely the responsibility of the offerors. The University will provide no reimbursement for such costs.

3.15 Disposition of Proposals

All proposals become the property of the University. The successful proposal will be incorporated into the resulting contract by reference.

3.16 Alternate Proposals

Offerors may submit alternate proposals. If more than one proposal is submitted, all should be complete (separate) and comply with the instructions set forth within this document. Each proposal will be evaluated on its own merits.

3.17 Questions

All questions should be submitted by e-mail to the purchasing officer listed in Section 3.2 no later than the date listed in Section 3.1.

3.18 Section Titles in the RFP

Section titles used herein are for the purpose of facilitating ease of reference only and shall not be construed to infer the construction of contractual language.

3.19 No Contingent Fees

No person or selling agency shall be employed or retained or given anything of monetary value to solicit or secure this contract, except bona fide employees of the offeror or bona fide established commercial or selling agencies maintained by the offeror for the purpose of securing business. For breach or violation of this provision, the University shall have the right to reject the proposal, annul the contract without liability, or, at its discretion, deduct from the contract price or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee or other benefit.

3.20 Proposal Addenda and Rules for Withdrawal

Prior to the date specified for receipt of offers, a submitted proposal may be withdrawn by submitting a written request for its withdrawal to the University purchasing office, signed by the offeror. Unless requested by the University, the University will not accept revisions or alterations to proposals after the proposal due date.

3.21 Requirement to Perform Vendor Onboarding and Registration

As a condition of award, and for any renewals performed during the life of the contract, successful Contractor agrees to register their company with PaymentWorks, Inc., the University's vendor onboarding application. Registration information will be provided by Procurement Services as part of the award process. Further, should any company or business information change during the life of the contract, successful Contractor agrees to update this information in PaymentWorks as applicable. Supplier agrees to and should be responsible for all updates on their PaymentWorks account as it relates to submitting new remit-to addresses or other required supplier profile information. PaymentWorks provides support to all suppliers transacting with the University of Kentucky on the platform. Supplier agrees to and should be responsible for engaging PaymentWorks Support for any needed issues regarding updates or other matters to ensure their supplier account remains connected to the University.

4.0 PROPOSAL FORMAT AND CONTENT

4.1 Proposal Information and Criteria

The following list specifies the items to be addressed in the proposal. Offerors should read it carefully and address it completely and in the order listed to facilitate the University's review of the proposal.

Proposals should be organized into the sections identified below. The content of each section is detailed in the following pages. It is strongly suggested that offerors use the same numbers for the following content that are used in the RFP.

- Signed Authentication of Proposal and Statement of Non-Collusion and Non-Conflict of Interest Form
- Transmittal Letter
- Executive Summary and Proposal Overview
- Criteria 1 - Offeror Qualifications
- Criteria 2 - Services Defined
- Criteria 3 - Financial Proposal
- Criteria 4 - Evidence of Successful Performance and Implementation Schedule
- Criteria 5 - Other Additional Information

4.2 Signed Authentication of Proposal and Statements of Non-Collusion and Non-Conflict of Interest Form

The Offeror will sign and return the proposal cover sheet and print or type their name, firm, address, telephone number and date. The person signing the offer should initial erasures or other changes. An offer signed by an agent is to be accompanied by evidence of their authority unless such evidence has been previously furnished to the purchasing agency. The signer shall further certify that the proposal is made without collusion with any other person, persons, company or parties submitting a proposal; that it is in all respects fair and in good faith without collusion or fraud; and that the signer is authorized to bind the principal offeror.

4.3 Transmittal Letter

The Transmittal Letter accompanying the RFP should be in the form of a standard business letter and should be signed by an individual authorized to legally bind the offeror. It should include:

- A statement referencing all addenda and written questions, the answers and any clarifications to this RFP issued by the University and received by the offeror (If no addenda have been received, a statement to that effect should be included.).
- A statement that the offeror's proposal shall remain valid for six (6) months after the closing date of the receipt of the proposals.
- A statement that the offeror will accept financial responsibility for all travel expenses incurred for oral presentations (if required) and candidate interviews.

- A statement that summarizes any deviations or exceptions to the RFP requirements and includes a detailed justification for the deviation or exception.
- A statement that identifies the confidential information as described in Section 6.23.

4.4 Executive Summary and Proposal Overview

The Executive Summary and Proposal Overview should condense and highlight the contents of the technical proposal in such a way as to provide the evaluation committee with a broad understanding of the entire proposal.

As part of the Executive Summary and Proposal Overview, Offeror should submit with their response a summarized profile describing the demographic nature of their company or organization:

1. When was your organization established and/or incorporated?
2. Indicate whether your organization is classified as local, regional, national, or international.
3. Describe the size of your company in terms of number of employees, gross sales, etc.
4. Is your company certified as small business, minority-owned, women-owned, veteran-owned, disabled-owned, or similar classification?
5. Include other demographic information that you feel may be applicable to the Invitation for Bids submission.

Business Description	Check All That Apply
Minority-Owned	
Woman-Owned	
Small Business	
Veteran-Owned	
LGBTQ-Owned	
Disability-Owned Business Entity (DOBE)	
Diversity Not Indicated	

Race/Ethnicity	Check One
Asian	
Black/African American	

Hispanic or Latino	
Native American	
Native Hawaiian/Pacific Islander	
White	
Other	
Prefer Not to Say	

Kentucky Located	Yes/No?
Kentucky Located – Please indicate whether your business entity is physically located within the Commonwealth of Kentucky.	

4.5 Criteria 1 - Offeror Qualifications

The purpose of the Offeror Qualifications section is to determine the ability of the offeror to respond to this RFP. Offerors should describe and offer evidence of their ability to meet each of the qualifications listed below.

Our supply chains and business partnerships are an important aspect of this work. In your proposal, please (A) provide your company’s mission and vision relative to sustainability, and (B) how your company, through services, products, and partnerships, will help the University of Kentucky advance specific elements of the Sustainability Strategic Plan.

4.6 Criteria 2 – Services Defined

List location and capabilities of service personnel. Provide list of parts warehouses, price and availability of the most commonly replaced parts. List procedures for start up and personnel that will be on site to coordinate startup.

List the materials, joining methods, manufacturing systems, and special design features of your boiler.

4.7 Criteria 3 – Financial Proposal

The Financial Summary Form should contain the complete financial offer made to the University using the format contained in Section 8.0. All financial information should be submitted in a sealed envelope under separate cover.

4.8 Criteria 4 – Evidence of Successful Performance and Implementation Schedule

Provide references, including the location, phone number, contact, description of equipment and year of startup for similar size boilers with similar emissions standards and size.

Provide a fabrication and delivery schedule. Show time for shop drawing preparation, (assume 2 weeks for shop drawing review), production and shipping.

4.9 Criteria 5 – Other Additional Information

Maintainability: Ease of maintenance, accessibility, design, longevity of materials, and service history.

Fit: This is an existing plant so we must work around the existing structure, pipe and equipment, so fit will be important. Provide REVIT family of the boiler being provided with all the accessories and clearances.

The offeror may present any creative approaches that might be appropriate. The offeror may also provide supporting documentation that would be pertinent to this RFP.

5.0 EVALUATION CRITERIA PROCESS

A committee of University officials appointed by the Chief Procurement Officer will evaluate proposals and make a recommendation to the Chief Procurement Officer. The evaluation will be based upon the information provided in the proposal, additional information requested by the University for clarification, information obtained from references and independent sources and oral presentations (if requested).

The evaluation of responsive proposals shall then be completed by an evaluation team, which will determine the ranking of proposals. Proposals will be evaluated strictly in accordance with the requirements set forth in this solicitation, including any addenda that are issued. The University will award the contract to the responsible offeror whose proposal is determined to be the most advantageous to the University, taking into consideration the evaluation factors set forth in this RFP.

The evaluation of proposals will include consideration of responses to the list of criteria in Section 4.0. Offerors should specifically address all criteria in their response. Any deviations or exceptions to the specifications or requirements should be described and justified in a transmittal letter. Failure to list such exceptions or deviations in the transmittal letter may be considered sufficient reason to reject the proposal.

The relative importance of the criteria is defined below:

Primary Criteria

- Offeror Qualifications
- Services Defined
- Financial Proposal
- Evidence of Successful Performance and Implementation

Secondary Criteria

- Other Additional Services

The University will evaluate proposals as submitted and may not notify offerors of deficiencies in their responses.

Proposals should contain responses to each of the criteria, listed in Section 4 even if the offeror's response cannot satisfy those criteria. A proposal may be rejected if it is conditional or incomplete in the judgment of the University.

6.0 SPECIAL CONDITIONS

6.1 Contract Term

A University of Kentucky Price Agreement and Purchase Order will awarded/issued to the successful offeror(s).

6.2 Effective Date

The effective date of the contract should be the date upon which the parties execute it and all appropriate approvals, including that of the Commonwealth of Kentucky Government Contracts Review Committee, have been received.

6.3 Competitive Negotiation

It is the intent of the RFP to enter into competitive negotiation as authorized by KRS 45A.085.

The University will review all proposals properly submitted. However, the University reserves the right to request necessary modifications, reject all proposals, reject any proposal that does not meet mandatory requirement(s) or cancel this RFP, according to the best interests of the University.

Offeror(s) selected to participate in negotiations may be given an opportunity to submit a Best and Final Offer to the purchasing agency. All information received prior to the cut-off time will be considered part of the offeror's Best and Final Offer.

The University also reserves the right to waive minor technicalities or irregularities in proposals providing such action is in the best interest of the University. Such a waiver should in no way modify the RFP requirements or excuse the offeror from full compliance with the RFP specifications and other contract requirements if the offeror is awarded the contract.

6.4 Appearance Before Committee

Any, all or no offerors may be requested to appear before the evaluation committee to explain their proposal and/or to respond to questions from the committee concerning the proposal. Offerors are prohibited from electronically recording these meetings. The committee reserves the right to request additional information.

6.5 Additions, Deletions or Contract Changes

The University reserves the right to add, delete, or change related items or services to the contract established from this RFP. No modification or change of any provision in the resulting contract shall be made unless such modification is mutually agreed to in writing by the contractor and the Chief Procurement Officer and incorporated as a written modification to the contract. Memoranda of understanding and correspondence should not be interpreted as a modification to the contract.

6.6 Contractor Cooperation in Related Efforts

The University reserves the right to undertake or award other contracts for additional or related work to other entities. The contractor shall fully cooperate with such other contractors and University employees and carefully fit its work to such additional work. The contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by University employees. This clause shall be included in the contracts of all contractors with whom this contractor will be required to cooperate. The University shall equitably enforce this clause to all contractors to prevent the imposition of unreasonable burdens on any contractor.

6.7 Entire Agreement

The RFP should be incorporated into any resulting contract. The resulting contract, including the RFP and those portions of the offeror's response accepted by the University, should be the entire agreement between the parties.

6.8 Governing Law

The contractor shall conform to and observe all laws, ordinances, rules and regulations of the United States of America, Commonwealth of Kentucky and all other local governments, public authorities, boards or offices relating to the property or the improvements upon same (or the use thereof) and will not permit the same to be used for any illegal or immoral purposes, business or occupation. The resulting contract shall be governed by Kentucky law and any claim relating to this contract shall only be brought in the Franklin Circuit Court in accordance with KRS 45A.245.

6.9 Kentucky's Personal Information Security and Breach Investigation Procedures and Practices Act

To the extent Company receives Personal Information as defined by and in accordance with Kentucky's Personal Information Security and Breach Investigation Procedures and Practices Act, KRS 61.931, 61.932 and 61.933 (the "Act"), Company shall secure and protect the Personal Information by, without limitation: (i) complying with all requirements applicable to non-affiliated third parties set forth in the Act; (ii) utilizing security and breach investigation procedures that are appropriate to the nature of the Personal Information disclosed, at least as stringent as University's and reasonably designed to protect the Personal Information from unauthorized access, use, modification, disclosure, manipulation, or destruction; (iii) notifying University of a security breach relating to Personal Information in the possession of Company or its agents or subcontractors within seventy-two (72) hours of discovery of an actual or suspected breach unless the exception set forth in KRS 61.932(2)(b)2 applies and Company abides by the requirements set forth in that exception; (iv) cooperating with University in complying with the response, mitigation, correction, investigation, and notification requirements of the Act, (v) paying all costs of notification, investigation and mitigation in the event of a security breach of Personal Information suffered by Company; and (vi) at University's discretion and direction, handling all administrative functions associated with notification, investigation and mitigation.

6.10 Termination for Convenience

The University of Kentucky, Procurement Services, reserves the right to terminate the resulting contract without cause with thirty (30) day written notice. Upon receipt by the contractor of a "notice of termination," the contractor shall discontinue all services with respect to the applicable contract. The cost of any agreed upon services provided by the contractor will be calculated at the agreed upon rate prior to a "notice of termination" and a fixed fee contract will be pro-rated (as appropriate).

6.11 Termination for Non-Performance

Default

The University may terminate the resulting contract for non-performance, as determined by the University, for such causes as:

- Failing to provide satisfactory quality of service, including, failure to maintain adequate personnel, whether arising from labor disputes, or otherwise any substantial change in ownership or proprietorship of the Contractor, which in the opinion of the University is not in its best interest, or failure to comply with the terms of this contract;
- Failing to keep or perform, within the time period set forth herein, or violation of, any of the covenants, conditions, provisions or agreements herein contained;
- Adjudicating as a voluntarily bankrupt, making a transfer in fraud of its creditors, filing a petition under any section from time to time, or under any similar law or statute of the United States or any state thereof, or if an order for relief shall be entered against the Contractor in any proceeding filed by or against contractor thereunder. In the event of any such involuntary bankruptcy proceeding being instituted against the Contractor, the fact of such an involuntary petition being filed shall not be considered an event of default until sixty (60) days after filing of said petition in order that Contractor might during that sixty (60) day period have the opportunity to seek dismissal of the involuntary petition or otherwise cure said potential default; or
- Making a general assignment for the benefit of its creditors, or taking the benefit of any insolvency act, or if a permanent receiver or trustee in bankruptcy shall be appointed for the Contractor.

Demand for Assurances

In the event the University has reason to believe Contractor will be unable to perform under the Contract, it may make a demand for reasonable assurances that Contractor will be able to timely perform all obligations under the Contract. If Contractor is unable to provide such adequate assurances, then such failure may be an event of default and grounds for termination of the Contract.

Notification

The University will provide ten (10) calendar days written notice of default. Unless arrangements are made to correct the non-performance issues to the University's satisfaction within ten (10)

calendar days, the University may terminate the contract by giving forty-five (45) days notice, by registered or certified mail, of its intent to cancel this contract.

6.12 Funding Out

The University may terminate this contract if funds are not appropriated or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The University shall provide the contractor thirty (30) calendar days' written notice of termination under this provision.

6.13 Prime Contractor Responsibility

Any contracts that may result from the RFP shall specify that the contractor(s) is/are solely responsible for fulfillment of the contract with the University.

6.14 Assignment and Subcontracting

The Contractor(s) may not assign or delegate its rights and obligations under any contract in whole or in part without the prior written consent of the University. Any attempted assignment or subcontracting shall be void.

6.15 Permits, Licenses, Taxes

The contractor shall procure all necessary permits and licenses and abide by all applicable laws, regulations and ordinances of all federal, state and local governments in which work under this contract is performed.

The contractor must furnish certification of authority to conduct business in the Commonwealth of Kentucky as a condition of contract award. Such registration is obtained from the Secretary of State, who will also provide the certification thereof. However, the contractor need not be registered as a prerequisite for responding to the RFP.

The contractor shall pay any sales, use, personal property and other tax arising out of this contract and the transaction contemplated hereby. Any other taxes levied upon this contract, the transaction or the equipment or services delivered pursuant hereto shall be the responsibility of the contractor.

The contractor will be required to accept liability for payment of all payroll taxes or deductions required by local and federal law including (but not limited to) old age pension, social security or annuities.

6.16 Attorneys' Fees

In the event that either party deems it necessary to take legal action to enforce any provision of the contract and in the event that the University prevails, the contractor agrees to pay all expenses of such action including attorneys' fees and costs at all stages of litigation.

6.17 Royalties, Patents, Copyrights and Trademarks

The Contractor shall pay all applicable royalties and license fees. If a particular process, products or device is specified in the contract documents and it is known to be subject to patent rights or copyrights, the existence of such rights shall be disclosed in the contract documents and the Contractor is responsible for payment of all associated royalties. To the fullest extent permitted by law the Contractor shall indemnify, hold the University harmless, and defend all suits, claims, losses, damages or liability resulting from any infringement of patent, copyright, and trademark rights resulting from the incorporation in the Work or device specified in the Contract Documents.

Unless provided otherwise in the contract, the Contractor shall not use the University's name nor any of its trademarks or copyrights, although it may state that it has a Contract with the University.

6.18 Indemnification

The contractor shall indemnify, hold and save harmless the University, its affiliates and subsidiaries and their officers, agents and employees from losses, claims, suits, actions, expenses, damages, costs (including court costs and attorneys' fees of the University's attorneys), all liability of any nature or kind arising out of or relating to the Contractor's response to this RFP or its performance or failure to perform under the contract awarded from this RFP. This clause shall survive termination for as long as necessary to protect the University.

6.19 Insurance

The successful Contractor shall procure and maintain, at its expense, the following minimum insurance coverages insuring all services, work activities and contractual obligations undertaken in this contract. These insurance policies must be with insurers acceptable to the University.

COVERAGES

Workers' Compensation
Employer's Liability

Commercial General Liability including operations/completed operations, products and contractual liability (including defense and investigation costs), and this contract

Business Automobile Liability covering owned, leased, or non-owned autos
Umbrella Liability Insurance

LIMITS

Statutory Requirements (Kentucky)
\$500,000/\$500,000/\$500,000

\$1,000,000 each occurrence
(BI & PD combined) \$5,000,000 Products and Completed Operations Aggregate

\$2,000,000 each occurrence (BI & PD combined)
\$5,000,000 combined single limits for BI & PD each occurrence in excess of primary policies.

If the Work requires the use of helicopters, a separate aviation liability policy with limits of liability of \$100,000,000 will be required. If cranes and rigging are involved, a rigger's liability policy with liability limits of \$20,000,000 is required in addition to an inland marine policy covering the value of the contents being moved.

The successful contractor agrees to furnish Certificates of Insurance for the above-described coverages and limits to the University of Kentucky, Procurement Services. The University, its trustees and employees must be added as additional insured on the Commercial General Liability policy with regard to the scope of this solicitation. Any deductibles or self-insured retention in the above-described policies must be paid and are the sole responsibility of the contractor. Coverage is to be primary and non-contributory with other coverage (if any) purchased by the University. All of these required policies must include a Waiver of Subrogation (except Workers' Compensation) in favor of the University, its trustees and employees.

6.20 Method of Award

It is the intent of the University to award a contract to the qualified offeror whose offer, conforming to the conditions and requirements of the RFP, is determined to be the most advantageous to the University, cost and other factors considered.

Notwithstanding the above, this RFP does not commit the University to award a contract from this solicitation. The University reserves the right to reject any or all offers and to waive formalities and minor irregularities in the proposal received.

6.21 Reciprocal Preference

In accordance with KRS 45A.494, a resident offeror of the Commonwealth of Kentucky shall be given a preference against a nonresident offeror. In evaluating proposals, the University will apply a reciprocal preference against an offeror submitting a proposal from a state that grants residency preference equal to the preference given by the state of the nonresident offeror. Residency and non-residency shall be defined in accordance with KRS 45A.494(2) and 45A.494(3), respectively. Any offeror claiming Kentucky residency status shall submit with its proposal a notarized affidavit affirming that it meets the criteria as set forth in the above reference statute.

6.22 Reports and Auditing

All records relating directly or indirectly to the Project which are in the possession or control of Contractor shall be made available to Owner, its designee, and any governmental authority for audit, inspection, and copying upon the request of the Owner or the Owner's Representative(s). Such records include, without limitation: all drawings, specifications, Submittals, subcontractor bids, subcontracts, the Daily Log, correspondence, the Request Log, the Submittal Log, minutes, memoranda, tape or videotape recordings, or other writings or things which document the Project, its design, and its construction.

6.23 Confidentiality

The University recognizes an offeror's possible interest in preserving selected information and data included in the proposal; however, the University must treat such information and data as required by the Kentucky Open Records Act, KRS 61.870, et seq.

Information areas which normally might be considered proprietary, and therefore confidential, shall be limited to individual personnel data, customer references, formulae and company financial audits which, if disclosed, would permit an unfair advantage to competitors. If a proposal contains information in these areas and the offeror declares them to be proprietary in nature and not available for public disclosure, the offeror should declare in the Transmittal Letter the inclusion of proprietary information and shall noticeably label as confidential or proprietary each sheet containing such information. Proposals containing information declared by the offeror to be proprietary or confidential, either wholly or in part, outside the areas listed above may be deemed non-responsive and may be rejected.

The University's General Counsel shall review each offeror's information claimed to be confidential and, in consultation with the offeror (if needed), make a final determination as to whether or not the confidential or proprietary nature of the information or data complies with the Kentucky Open Records Act.

6.24 Conflict of Interest

This Request for Proposal and resulting Contract are subject to provisions of the Kentucky Revised Statutes regarding conflict of interest and the University of Kentucky's Ethical Principles and Code of Conduct (www.uky.edu/Legal/ethicscode.htm). When submitting and signing a proposal, an offeror certifies that no actual, apparent or potential conflict of interest exists between the interests of the University and the interests of the offeror. A conflict of interest (whether contractual, financial, organizational or otherwise) exists when any individual, contractor or subcontractor has a direct or indirect interest because of a financial or pecuniary interest, gift or other activities or relationships with other persons (including business, familial or household relationships) and is thus unable to render or is impeded from rendering impartial assistance or advice, has impaired objectivity in performing the proposed work or has an unfair competitive advantage.

Questions concerning this section or interpretation of this section should be directed to the University purchasing officer identified in this RFP.

6.25 Personal Service Contract Policies

Not applicable.

6.26 Copyright Ownership and Title to Designs and Copy

The contractor and University intend this RFP to result in a contract for services, and both consider the products and results of the services to be rendered by the contractor hereunder to be a work made for hire. The contractor acknowledges and agrees that the work and all rights therein, including (without limitation) copyright, belong to and shall be the sole and exclusive property of the University. For any work that is not considered a work made for hire under applicable law, title and copyright ownership shall be assigned to the University.

Title to all dies, type, cuts, artwork, negatives, positives, color separations, progressive proofs, plates, copy and any other requirement not stated herein required for completion of the finished product for use in connection with any University job shall be the property of and owned by the University. Such items shall be returned to the appropriate department upon completion and/or

delivery of work unless otherwise authorized by the University. In the event that time of return is not specified, the contractor shall return all such items to the appropriate University department within one week of delivery.

6.27 University Brand Standards

The contractor must adhere to all University of Kentucky Brand Standards. University Brand Standards are maintained by the University Public Relations Office (UKPR) and can be viewed at <http://www.uky.edu/prmarketing/brand-standards>. Non-adherence to the standards can have a penalty up to and including contract cancellation. Only the UKPR Director or designee can approve exceptions to the University standards.

Graphics standards for the UK HealthCare areas are governed by UK HealthCare Clinical Enterprise Graphic Standards, found at: <https://ukhealthcare.uky.edu/staff/brand-strategy>.

Contractor warrants that its products or services provided hereunder will be in compliance with all applicable Federal disabilities laws and regulations, including without limitation the accessibility requirements of Section 255 of the Federal Telecommunications Act of 1996 (47 U.S.C. § 255) and Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d), and its implementing regulations set forth at Title 36, Code of Federal Regulations, Part 1194. For purposes of clarity, updated regulations under Section 508 standards now incorporate WCAG 2.0, and for purposes of this agreement WCAG 2.0 Level AA compliance is expressly included. Contractor agrees to promptly respond to, resolve and remediate any complaint regarding accessibility of products or services in a timely manner and provide an updated version to University at no cost. If deficiencies are identified, University reserves the right to request from Contractor, a timeline by which accessibility standards will be incorporated into the products or services provided by Contractor and shall provide such a timeline within a commercially reasonable duration of time. Failure to comply with these requirements shall constitute a material breach of this Agreement and may be grounds for termination of this Agreement.

Where any customized web services are provided, Contractor represents that it has reviewed the University's Web Policy and all products or services will comply with its published standards.

Contractor will provide University with a current Voluntary Product Accessibility Template (VPAT) for any deliverable(s). If none is available, Vendor will provide sufficient information to reasonably assure the University that the products or services are fully compliant with current requirements.

6.28 Printing Statutes

Not applicable.

6.29 Requirement for Contract Administration Fee

As a condition of award, successful Contractor(s) should provide a contract administration fee to the University for all goods and/or services provided under the resultant contract. The fee shall be on a quarterly basis and shall be equivalent to 2% of the aggregate net value of goods/services sold to the University, exclusive of freight charges.

The fee should be reported and paid within 30 calendar days of the end of conventional calendar quarters ending March 31, June 30, September 30, and December 31 of each year. The fee applies to orders which have been successfully delivered/installed and paid in the previous quarter. Fees should be paid in the form of a check made payable to the University of Kentucky and should be delivered to Procurement Services, Room 322 Peterson Service Building, 411 S. Limestone, Lexington, Kentucky 40506-0005. Each fee payment should be accompanied by a statement indicating the referenced University price contract to which it applies and indicate the aggregate value of goods/services provided and paid during the quarter, the fee percentage applied, and the net amount of the quarterly payment. If any errors are found in the report or calculations as determined by University, the successful Contractor should correct them immediately upon notification.

The successful Contractor(s) may extend the pricing, terms, and/or conditions of this contract to other universities, state agencies, and public and private institutions, with prior approval of the University of Kentucky. The successful Contractor(s) will pay the University of Kentucky a contract administration fee of two (2) % of goods/services provided and paid during the quarter. The fee should be reported and paid within 30 calendar days of the end of conventional calendar quarters ending March 31, June 30, September 30, and December 31 of each year. The fees should be in the form of a check made payable to the University of Kentucky and should be delivered to Procurement Services, Room 322 Peterson Service Building, 411 S. Limestone, Lexington, Kentucky 40506-0005.

The successful Contractor should notify the Contracting Officer when the resultant contract is utilized by other universities, state agencies, and public and private institutions in Kentucky.

In the event that successful Contractor(s) does not provide the quarterly payment based on the terms and conditions herein, the contract is subject to cancellation or termination and/or the Contractor being determined as a non-responsible bidder/offeror on future IFBs and RFPs.

6.30 Payment Terms

The University adheres to a strategic approach regarding payables management based on risk minimization, processing costs, and industry best practices. As such, suppliers and individuals doing business with the University will be paid based on the following protocol:

1. The University utilizes Payment Plus (e-payables) as its primary default form of payment. By enrolling in Payment Plus, suppliers can receive payments immediately (all invoices will be paid immediately upon confirmation of goods receipt and invoice). The process is electronic and the supplier receives real-time payment notices. Additional information regarding Payment Plus (and enrollment form) can be found at: <https://www.uky.edu/ufs/payment-plus-supplier-enrollment-form>.
2. Payments by check. Payment terms for check payments are Net-30.
3. Individuals receiving payments from the University that require ACH direct payments will only be processed under special circumstances as approved by the Controller's office. Payment terms for ACH are Net-30.

7.0 SCOPE OF SERVICES

7.1 Detailed Services Defined

Manufacture one dual fuel (gas/oil), 30 PPM, 100,000 #/hr steam, water tube boiler and deliver to site. Provide installation and startup support as described in the specifications and drawings.

Specifications:

1. 010000S01 – Special Conditions
2. 017900 – Demonstration and Training Specifications
3. 235233 – Water-Tube Boilers

Drawings:

1. M114 – LEVEL 1 GENERAL ARRANGEMENTS
2. M115 – LEVEL 2 GENERAL ARRANGEMENTS
3. M116 – GAR ENLARGED SECTION

7.2 Optional Services

Option #1 - Boiler Efficiency Tuning – Within 11 months of substantial completion and during the cold season or upon owner request, an efficiency improvement tuning event should occur. Vendor is to include the optional pricing for a tuning event to improve efficiency based upon operating results.

Option #2 – Boiler Efficiency Tuning – Within 23 months of substantial completion and during the cold season or upon owner request, an efficiency improvement tuning event should occur. Vendor is to include the optional pricing for a tuning event to improve efficiency based upon operating results.

8.0 FINANCIAL OFFER SUMMARY

Offerors are to provide a fixed price for the services offered. Submit this page and necessary supporting documentation under separate seal to the technical proposal.

8.1 Mandatory Services (Section 7.1)

The Offeror agrees to furnish all labor, materials, supplies and services required to complete the Work as described in the Specifications and Contract Documents:

BASE OFFER

FOR THE SUM OF

_____ (\$ _____ dollars)
 (USE WORDS)

8.2 Optional Services (Section 7.2)

Offerors must provide a bid on the optional services detailed in Section 7.2. The University should, at its sole discretion, make the determination as to whether the optional service will be undertaken.

OPTION #1

FOR THE SUM OF

_____ (\$ _____ dollars)
 (USE WORDS)

OPTION #2

FOR THE SUM OF

_____ (\$ _____ dollars)
 (USE WORDS)

8.3 Alternate Pricing

In addition to the above financial offer, the offeror may submit alternative financial proposals, however the information requested above must be supplied and will be used for proposal evaluation purposes.

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FOR CONSTRUCTION BY A GENERAL CONTRACTOR
University of Kentucky
Capital Construction Division

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**GENERAL CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION BY A GENERAL CONTRACTOR
University of Kentucky
Capital Construction Division**

These General Conditions are binding upon the General Contractor and all Sub-contractors as each are subject to the provisions contained herein.

ARTICLE 1 - DEFINITIONS

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

1.1.1 ARCHITECTS SUPPLEMENTAL INSTRUCTIONS (ASI) - The term "ASI" means a written order issued by the Consultant that clarifies or interprets the Contract Documents, that orders minor changes in the Work, that does not require an adjustment in either cost or time, and that does not require a Change Order

1.1.2 BUSINESS DAY – The term "Business Day" means a Calendar Day that is not a Saturday, Sunday or legal holiday in Fayette County, Kentucky.

1.1.3 CALENDAR DAY - The term "Calendar Day" means a day of twenty-four hours measured from midnight to the next midnight.

1.1.4 CHANGE ORDER - The term "Change Order" means a written order to the General Contractor, signed by the Owner and issued after the execution of the Contract, directing a change in the Work or an adjustment in the Contract Amount or the Contract Time. A Change Order may be an agreed change by the General Contractor and the Owner or it may be a unilateral change by the Owner.

1.1.5 CONSULTANT - The term "Consultant" means the person and/or entity, whether singular or plural, either Architect, Engineer or other Consultant, who is or are identified as such in the Contract Documents.

1.1.6 CONTRACT - The term "Contract" means the Contract between Owner and General Contractor and consists of all Contract Documents as defined in Article 1.1.8 of these General Conditions.

1.1.7 CONTRACT AMOUNT - The term "Contract Amount" means the sum stated in the Agreement which represents the total amount payable by the Owner to the General Contractor for the performance of the Work under the Contract Documents, plus or minus adjustments as provided for in the Contract Documents or by approved Change Orders.

1.1.8 CONTRACT DOCUMENTS - The "Contract Documents" include the Agreement of Contract between the Owner and the General Contractor (the "Agreement"); the General Conditions; the Special Conditions; the General Contractor's Form of Proposal; the General Contractor's Bonds; the Specifications, Drawings and Addenda for the construction of the Project; and any Change Orders issued after execution of this Contract. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and any Sub-contractor, or any person or entity other than the General Contractor. Documents not included or expressly contemplated in this Article do not, and shall not, form any part of the Contract for Construction. Without limiting the generality of the foregoing, shop drawings and other submittals from the General Contractor or its

Sub-contractors and suppliers do not constitute a part of the Contract Documents. Except as otherwise provided, where these Contract Documents obligate the General Contractor to certain responsibilities or require the General Contractor to perform certain actions, the General Contractor may require these same responsibilities and/or actions of one or more Sub-contractors. However, assignment of such responsibilities or actions to one or more Sub-contractors shall not be construed to relieve the General Contractor of its obligation to the University under this contract.

1.1.9 CONTRACT TIME - The term "Contract Time", unless otherwise provided, means the specified number of consecutive Calendar Days following the stipulated commencement of the Work as stated in the Work Order, plus or minus adjustments as provided for by approved Change Orders, within which the General Contractor shall complete the Work required by the Contract and shall achieve certification of substantial and final completion.

1.1.10 GENERAL CONTRACTOR or (GC) - The term "General Contractor" or "GC" means the person or entity who will or has entered into a contract with the Owner that assumes the risk for construction of the Project as the general contractor, and who will provide consultation and collaboration regarding the construction during and after design of the Project. The GC shall execute and hold all construction Sub-contracts and Purchase Orders for the Project.

1.1.11 KRS REFERENCES - Reference to "KRS" means the "Kentucky Revised Statutes" adopted by the Commonwealth of Kentucky, including all laws that may have been revised, amended, supplemented or new laws enacted.

1.1.12 OWNER - The term "Owner" means the University of Kentucky, a statutory body corporate existing pursuant to Sections 164.100 et seq. of the Kentucky Revised Statutes.

1.1.13 PROJECT - The term "Project" means the total construction of the Work performed under the Contract Documents, which may be the whole or a part, and which may include construction by the Owner or by separate contracts.

1.1.14 PROJECT MANAGER - The term "Project Manager", when used alone, means the Owner's representative responsible for administration and management of the Project. The Owner's Project Manager during construction shall be the designated University of Kentucky Capital Projects Management Project Manager that is in charge of the Project. The term "General Contractor's Project Manager" or "GC Project Manager" means the individual employed by the General Contractor who is assigned to the Project to provide overall management during both the design and construction phases of the Project, and who has total responsibility for the successful completion of the Project

1.1.15 PROVIDE - The term "Provide," as used throughout the specifications, shall mean furnish, install and pay for.

1.1.16 SHOP DRAWINGS - The term "Shop Drawings" means drawings, diagrams, schedules, and other data specially prepared for the Work by the General Contractor or any Sub-contractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

1.1.17 SUBSTANTIAL COMPLETION - The term "Substantial Completion" is the point at which, as certified in writing by the Owner, a project is at the level of completion, in strict compliance with the contract, where (a) necessary approval by public regulatory authorities (and by other authorities having jurisdiction or as identified in Article 11.2, as necessary) has been given; (b) the Owner has received all required warranties and documentation, and (c) the Owner may enjoy beneficial use or

occupancy and may use, operate, and maintain the project in all respects, for its intended purpose. Partial use or occupancy shall not necessarily result in the project being deemed substantially complete and shall not be evidence of Substantial Completion. In order for the Owner to enjoy beneficial use or occupancy and use, operate, and maintain the project in all respects, for its intended purpose, the stage or progress of the Work or a designated portion thereof shall be sufficiently complete, accessible, operable and usable, and all parts, systems and site Work shall be 100% complete, cleaned and available for the Owner's full use without interruption in accordance with the Contract Documents, including but not limited to the provisions of Article 28 of these General Conditions. The Work will not be considered acceptable for Substantial Completion review until all Project systems included in the Work are operational as designed and scheduled, all designated or required governmental inspections and certifications have been made and approvals provided to the Owner, designated instruction of the Owner's personnel in the operation of systems has been completed, and all final finishes within the Contract Documents are in place. In general, the only remaining Work shall be minor in nature so that the Owner and/or the Owner's tenants could occupy the Project on that date and the completion of the Work by the General Contractor would not materially interfere or hamper the Owner's or the Owner's tenants' normal business operations. As a further condition of Substantial Completion acceptance, the General Contractor shall certify in writing that all remaining Work, the same being solely of a "punch list" nature, will be completed within thirty (30) consecutive Calendar Days following the date of Substantial Completion.

1.1.17.1 The parties agree that "substantial completion" as defined in Article No. 2 of the Agreement and Article 1 of the General Conditions, as extended by approved Change Order(s) pursuant to Article 18.1 of the General Conditions, shall be the "date of completion specified in the contract" for purposes of KRS. 45A.250(2).

1.1.18 SUB-CONTRACTOR - The term "Sub-contractor" means the person, company, corporation, joint venture or other legal entity with whom the General Contractor has executed a Contract for a portion of the Work.

1.1.19 WORK - The term "Work" means the scope of construction and services required by the Contract Documents and all approved Change Orders, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the General Contractor to perform and complete the General Contractor's obligations under the Contract in an expeditious, orderly and workmanlike manner. The Work may constitute the whole or a part of the Project.

1.1.20 WORK ORDER - The term "Work Order" means a written notice by the Owner to the General Contractor authorizing the General Contractor to commence Work under the Contract and establishing the beginning date from which the time for Substantial and Final Completion shall be established.

1.1.21 UNIT PRICE - The term "Unit Price" means the amount per unit of measurement for materials or services as described in the bid documents.

ARTICLE 2 - CONSULTANT

2.1 The Consultant will be the Owner's representative during construction and until the Work is complete. The Consultant will advise and consult with the Owner. The Owner's instructions to the General Contractor may be forwarded through the Consultant.

2.2 The Consultant will regularly, but no less frequently than monthly, visit the site to become familiar with the progress of the Work, the quality of the Work being provided and to determine if the

Work is proceeding in accordance with the Contract Documents. On the basis of these on-site inspections, the Consultant will inform the Owner of the progress of the Work, will advise the Owner of any defects and deficiencies observed in the Work and, when appropriate, will certify to the Owner that the Work in place equals or exceeds the amount requested by the General Contractor on all applications for progress payments.

2.2.1 If applicable for the Work, the Consultant will verify to the Owner that the General Contractor is performing erosion prevention and sediment control inspections as required by the Kentucky Division of Water Construction General Permit (KYR10) at least once every 7 days and shall include the findings in the site visit reports.

2.3 The Consultant will be the interpreter of the requirements of the drawings and specifications and any changes made to the drawings and specifications.

2.4 Claims, disputes, and other matters in question that arise relating to the execution or the progress of the Work shall be referred in writing to the Consultant by the General Contractor. The Consultant will provide a response in accordance with and subject to the provisions of Article 38 of these General Conditions

2.5 The Consultant will have the authority to reject Work which does not conform to the Contract Documents or to the required level of quality and performance.

2.6 The Consultant will review and approve, or take other appropriate action upon receipt of the General Contractor's submittals such as Shop Drawings, product data, and samples. The review of submittals will be for general conformance with the design concept of the work, and for compliance with the information provided by the Contract Documents. Such review will not relieve the General Contractor of any responsibility for errors or omissions in submittals, and will in no way constitute a waiver of or change to the requirements of the Contract Documents.

2.6.1 The Consultant's review and response will be completed with reasonable promptness with a goal of ten (10) business days or less. The Consultant's review of a specific item shall not indicate approval of an assembly of which the item is a component.

2.7 The Consultant will prepare Change Orders for the Owner to direct changes in the Work. Minor changes in the Work, not involving modifications to the contract cost or completion times and that are consistent with the purpose of Work, may be directed by the Consultant through Architectural Supplemental Instructions (ASI).

2.9 When requested by the General Contractor, the Consultant will conduct inspections to determine if the Project is at the level of completion required by and in strict compliance with the Contract such that the Owner may enjoy beneficial use or occupancy and may use, operate, and maintain the project in all respects, for its intended purpose, as further defined in the Contract. If the level of completion warrants, the Consultant will confirm that all necessary approvals by public regulatory authorities or other authorities having jurisdiction have been given, will confirm that the Owner has received all required warranties and documentation, will recommend dates for certification of Substantial Completion and Final Completion by the Owner, and will complete and submit the Notice of Termination of coverage under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity.

2.10 The General Contractor will accept direction for the Work on the Project only from the Owner's Project Manager or from the Consultant. Requests for information from the General Contractor shall be directed to the Consultant.

ARTICLE 3 - CORRELATION AND INTENT OF CONTRACT DOCUMENTS

3.1 Execution of the Contract by the General Contractor is a representation that the General Contractor has or shall thoroughly and carefully examine the site of the of Work; shall timely investigate all conditions which can affect the Work or its cost, including but not limited to availability of labor, materials, supplies, water, electrical power, roads, access to the site, uncertainties of weather, water tables, the character of equipment and facilities needed to perform the Work, and local conditions under which the Work is to be performed; and further, that the General Contractor shall insure that the documents issued for bidding by Sub-contractors reflect the results of this investigation and are adequate to complete the Work. It is the responsibility of the General Contractor to be familiar with and comply with all Federal, State, and local laws, ordinances, and regulations which might affect those engaged in the Work, and to be familiar with the materials, equipment, or procedures to be used in the Work, or which in any other way could affect the completion of the Work. The General Contractor shall carefully study and compare the Contract Documents with each other and with other information provided to the General Contractor by the Consultant or the Owner pursuant to the Contract Documents and shall notify the Owner and the Consultant in writing of any errors, inconsistencies or omissions in the Contract Documents recognized by the General Contractor. Any failure to properly familiarize itself with the proposed Work shall not relieve the General Contractor from the responsibility for completing the Work in accordance with the Contract Documents.

3.2 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the General Contractor. Labor or materials which are reasonably inferable from the Contract Documents and which are necessary to produce the desired result, even though not specifically mentioned in the Contract Documents, shall be included in the Work at no additional cost to the Owner.

3.3 In the event a question arises regarding the meaning or intent of the Contract Documents, the General Contractor shall report it by preparing an RFI in eCommunication[®] to the Consultant. The Consultant shall furnish, with reasonable promptness and with a goal of three (3) business days and by whatever means as may be appropriate, additional instructions necessary for the proper execution of the Work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The Work shall be executed in conformity therewith and the General Contractor shall do no Work without proper drawings and instructions. Items indicated on drawings as "N.I.C." or "Not In Contract" are shown for explanation purposes only and are not to be included in this Contract.

3.4 The Contract Documents are complementary, and what is required by one shall be binding as if required by all. In case of conflicts between the various documents, the order of precedence will be as follows: (1) Addenda, (2) Special Conditions, (3) General Conditions, (4) Technical provisions of the Specifications and (5) Drawings.

3.5 Any notice to the General Contractor from the Owner regarding this Contract shall be in writing and delivery and service of such notice shall be considered complete when sent by certified mail to the General Contractor at General Contractor's last known address. Such notice may also, at the Owner's election, be hand-delivered to the General Contractor or the General Contractor's authorized representative.

ARTICLE 4 - PRE-CONSTRUCTION CONFERENCE

4.1 Following the execution of the Contract, a pre-construction conference will be held. Representatives of the Capital Project Management Division, Consultant, General Contractor, and all

major Sub-contractors shall be present to discuss the time for construction, methods and plan of operation, authority of the Consultant, procedures for handling shop drawings, progress estimates and requests for payments, and other relevant issues. The time and location of this meeting will be the responsibility of the General Contractor in consultation with the Consultant, Owner and other interested parties.

4.2 Environmental aspects of the project, including erosion prevention and sediment control (EPSC) and storm water management shall be discussed during this conference. The Group shall discuss the Storm Water Pollution Prevention Plan (SWPPP) to ensure that all parties understand the requirements. During this meeting the responsibility for reading the rain gage on a daily basis will be established. The Contractor will identify the initial measures to be installed prior to land disturbing activities beginning. Any modifications to the SWPPP due to constructability issues should be discussed at this conference.

ARTICLE 5 - SHOP DRAWINGS

5.1 The General Contractor shall submit a shop drawing and product sample submittal schedule to the Consultant establishing dates for the submission of Shop Drawings and product samples prior to the submittal of the General Contractor's first application for payment for construction phase services. The schedule shall have been coordinated with all Sub-contractors and material suppliers as well as the General Contractor's construction schedule and shall allow for adequate and reasonable time for review of the samples and submittals by the Consultant. The General Contractor shall be responsible for compliance with the submittal schedule and shall insure that the Submittal Schedule is maintained in order to accurately reflect the status of processing all required submittals.

5.2 The General Contractor shall review product samples and shop drawings for compliance with the requirements of the Contract Documents, and shall submit them to the Consultant in accordance with submittal procedure and schedule established. The General Contractor's review and submittal to the Consultant of any shop drawing or sample shall constitute a representation to the Owner and Consultant that a) the General Contractor has determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or assumes full responsibility for doing so, and that b) each shop drawing or sample has been reviewed or coordinated with the requirements of the Work and the Contract Documents. Shop drawings and submittal requirements shall not be deemed satisfied until approvable documents are received by the Consultant. Incorrect or incomplete submittals will be returned to the General Contractor without action. No claim for additional time or extension of the contract will be considered if such claim is the result of failure by the General Contractor to provide correct, accurate, complete and approvable submittals.

5.3 The Consultant will review submittals with reasonable promptness, and take appropriate action or return submittals to the General Contractor for corrections as may be required. The General Contractor shall make any corrections required by the Consultant for compliance with the Contract and shall return the required number of corrected copies of shop drawings and resubmit new samples until approved. The General Contractor shall direct specific attention, in writing, or on resubmitted shop drawings, to revisions other than the corrections called for by the Consultant on previous submissions.

5.4 Where a shop drawing or sample submission is required by the specifications, no related Work shall be commenced until the submission has been accepted in writing by the Consultant. The review and acceptance shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The acceptance of a separate item will not indicate acceptance of the assembly in which the item functions. A copy of each accepted

shop drawing and product sample shall be kept in good order by the General Contractor at the site and shall be made available to the Consultant on request.

5.5 The Consultant's acceptance of Shop Drawings or samples shall not relieve the General Contractor from the responsibility for any deviations from the requirements of the Contract Documents unless the General Contractor has in writing called the Consultant's attention to such deviation at the time of submission and the Consultant has given written approval to the specific deviation. Any acceptance by the Consultant does not relieve the General Contractor from responsibility for errors or omissions in the Shop Drawings.

ARTICLE 6 - LAYING OUT WORK

6.1 The General Contractor will secure all data at the site of the building such as grades of lot, convenience of receiving and sorting material, location of public services, and other information which will have a bearing proposals or on the execution of the Work and shall address these issues in the preparation of scopes of work for the Subcontract bid packages. No allowance shall be made for failure of the General Contractor to obtain such site information prior to submitting their proposal or to include such information in the Subcontract bid packages, and no adjustment to the General Contractor's Contract amount or stipulated time for completion shall be allowed when due to failure by the General Contractor to do so.

6.2 The General Contractor shall be responsible for all lines, levels and measurements of all Work executed under the Contract. The General Contractor shall verify the figures before laying out the Work and will be held responsible for any error resulting from failure to do so. Working from lines and levels established by the property survey or by other Contract Documents, and as shown in relation to the Work, the General Contractor will establish and maintain bench marks and other dependable markers to set lines and levels for Work at each area of construction and elsewhere on the site as needed to properly locate each element of the entire Project. The General Contractor shall calculate and measure from the bench marks and dependable markers required dimensions as shown (within recognized tolerances if not otherwise indicated), and shall not scale drawings to determine dimensions. The General Contractor shall advise Sub-contractors and trades persons performing Work of marked lines and levels provided for their use in layout work. The General Contractor shall verify layout information shown on drawings as required for the Work.

6.3 The General Contractor shall be responsible for coordination of the installation of all elements of the Work, including preparation of coordination drawings if required by the Contract Documents or deemed necessary by the General Contractor for performance of the Work.

6.4 If any encroachments are made by the General Contractor or any Sub-contractor on any adjacent property, the General Contractor shall, at the General Contractor's expense, and within thirty (30) Calendar Days after written notice from the Owner or the Consultant, correct any encroachments and obtain approval from the owner of such adjacent property for any encroachments that cannot be feasibly corrected. The General Contractor shall not be entitled to any adjustment to the Contract Amount or the Contract Time as a result of any such encroachment or the correction thereof.

ARTICLE 7 - PLANS, DRAWINGS, SPECIFICATIONS AND RECORD DRAWINGS

7.1 Unless otherwise provided in the Contract Documents, the Owner will furnish the General Contractor free of charge one electronic or reproducible copy of the Drawings and Specifications for execution of the Work. The General Contractor shall pay for the cost of duplication of all sets required over and above this amount.

7.2 The cost of additional plans, specifications and official contract documents for use by Sub-contractors for bidding and for construction shall be borne by the General Contractor or by the Sub-contractors. Arrangements for orders and payment for plans, specifications and other contract documents must be made with Lynn Imaging, Lexington, Kentucky (<http://www.ukplanroom.com>) or by phone at 1.800.888.0693 or 859.255.1021) before a set of documents will be issued.

7.3 The General Contractor shall keep one copy of all Contract Documents, including Drawings, Specifications and Shop Drawings on the site, in good order. A qualified representative of the General Contractor shall record on these documents, from day to day as Work progresses, all changes and deviations from the Contract Documents. Prior to Substantial Completion, the General Contractor shall complete and turn over to the Consultant the As-Built drawings, with a digital copy (in PDF format) submitted to the Owner simultaneously. The As-Built drawings shall consist of a set of drawings which indicate all field changes that were made to adapt to field conditions, changes resulting from Change Orders and all concealed and buried installations of piping, conduit and utility services. All buried and concealed items, both inside and outside the facility, shall be accurately located on the As-Built drawings as to depth and in relationship to not less than two permanent features such as interior or exterior wall faces. The As-Built drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color. For any changes or corrections in the Work which are made subsequent to the Substantial Completion Inspection, revisions shall be made to the As-Built drawings and submitted to the Consultant prior to final payment. Approval of the final payment request shall be contingent upon compliance with these provisions.

7.4 All drawings, specifications and copies thereof, furnished by the Consultant to the Owner, are the property of the University of Kentucky. They shall not be used by the Consultant, General Contractor, or any Sub-contractor or Supplier on any other Project.

ARTICLE 8 - TEMPORARY UTILITIES

8.1 The General Contractor shall provide and pay for, unless modified in the Special Conditions, all temporary conveniences including, but not limited to, wiring, lighting, power and electrical outlets, heat, water, and sanitary facilities required for construction. In the event the Owner elects to make available, at no cost to the General Contractor, the electric power required for construction activities, the electric power supplied shall not be utilized as a means to provide temporary heat or for welding.

8.2 The General Contractor is responsible for paying all utility costs, whether the costs are from an outside utility company or from the University, for utility services used in the course of completing the Work. The General Contractor shall provide temporary heating, ventilation, telephones, water, electricity, portable gas, lighting for the Work, safety lighting, security lighting, and trash removal/dumpster service for both General Contractor and Sub-contractor use during the Project. Work and safety lighting shall be provided continuously during working hours. Security lighting shall be provided at all hours of darkness.

ARTICLE 9 - MATERIALS, EQUIPMENT, APPLIANCES, AND EMPLOYEES

9.1 Unless otherwise provided in the Contract Documents, the General Contractor shall provide and pay for all materials, labor and personnel, tools, equipment, construction equipment and machinery, utilities, supplies, appliances, transportation, taxes, temporary facilities, licenses, permits and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and the proper execution and completion of the Work safely, without damage to persons and property, and in compliance with all applicable law. The General Contractor shall furnish, erect, maintain, and

remove at the completion of the Contract, all temporary installations as may be required during the construction period.

9.2 Immediately following the execution of each of the sub-contracts, the General Contractor shall determine the source of supply for all materials required under that sub-contracts and the length of time required for their delivery, and shall assure that orders are placed for such materials in sufficient time to assure delivery to the site so that such materials are available to be incorporated into the Work when needed to comply with the schedule of Work.

9.3 The General Contractor shall immediately notify the Consultant in writing of any known problems with the procurement, fabrication or ordering of any materials. Unless changes are approved in writing by the Consultant, the General Contractor will not be excused for delays in securing materials specified.

9.4 The General Contractor or Sub-contractors shall not place purchase orders or issue contracts for materials, supplies, equipment and services necessary to complete this Project using the name of the University of Kentucky. All orders placed by the General Contractor that are related to this Project must use the name of the General Contractor or Sub-contractor placing the order. The use of the University of Kentucky's name for ordering purposes is strictly prohibited. Payment for all goods and services required for the completion of the Work is the sole responsibility of the General Contractor. Any invoices received at the University that are related to this Project will be immediately forwarded to the General Contractor. Copies of these invoices will be made and placed in the General Contractor's file and proof must be provided that these invoices have been paid in full prior to the processing of the next scheduled application for progress payment.

9.5 The route for delivery of all materials to the Project shall be coordinated with the Owner's Project Manager.

9.6 The General Contractor shall be responsible for the proper and adequate storage of materials and equipment. Unless otherwise provided in the Contract Documents, all materials shall be of good quality and new. Workmanship and materials supplied and incorporated into this Work shall be of first quality. The General Contractor, if required, shall furnish satisfactory evidence as to the kind and quality of materials.

9.7 The General Contractor shall at all times enforce strict discipline and good order among all employees and Sub-contractors. The conduct of all individuals performing Work or operations related to the Work is the responsibility of the General Contractor. The consumption of alcohol or drugs on the job by any workers is strictly prohibited. Any individual apprehended under the influence of alcohol or drugs on the premises at any time shall be subject to automatic removal from the Project by the General Contractor, the Consultant or the Owner. Improper conduct of any kind will not be permitted and may result in the offending individual, Sub-contractor or General Contractor being barred from the Owner's premises. The General Contractor shall not permit the employment on the Project of any person unfit or not skilled in the Work assigned.

ARTICLE 10 - ROYALTIES AND PATENTS

10.1 The General Contractor shall pay all royalties and license fees. If a particular process, product or device is specified in the Contract Documents and it is known to be subject to patent rights or copyrights, the existence of such rights shall be disclosed in the Contract Documents and the General Contractor is responsible for payment of all associated royalties. The General Contractor hereby agrees to indemnify, defend and hold the Owner, and any subsidiary, parent, or affiliates of the Owner, or other persons or entities designated by the Owner, and their respective directors, officers, agents,

employees and designees (collectively, the “Indemnities”) harmless from all losses, claims, liabilities, injuries, damages and expenses, including attorneys’ fees and legal expenses, that the Indemnities may incur as a result of the General Contractor’s failure to strictly comply with its obligations under this Paragraph 10.1.

ARTICLE 11 - SURVEYS, PERMITS, REGULATIONS, AND STANDARD CODES

11.1 The Owner will furnish only such surveys that are specifically required by the Contract Documents. Approvals, assessments, and easements for permanent structures or permanent changes in existing structures shall be secured and paid for by the Owner, unless otherwise specified. All required utility tap-on fees shall be secured and paid for by the General Contractor, or included in a sub-contract, including the Lexington-Fayette Urban County Government (LFUCG) sewer tap-on fee. All construction permits, where required by local ordinances, except excavation permit, shall be obtained by the General Contractor, but no fee shall be charged to or paid by the General Contractor as the Owner is exempt from such charges. A Contractor's license fee for doing business in the locale, if applicable, shall be paid for by the General Contractor.

11.2 All branches of Work shown on the plans and specifications shall be executed in strict compliance with all state and federal regulations and codes, with all national codes, and with the requirements of both ADA and JCAHO when applicable.

11.3 The Contractor, on projects disturbing 1 acre or more, or projects less than 1 acre that are part of a large common development plan, including grading, clearing, excavation, material laydown or other earth moving activities, shall assure full compliance with the requirements of the KYR10 and shall:

11.3.1 File a Notice of Intent (KPDES FORM eNOI-SWCA) with the Kentucky Division of Water and copy the UKCPM Project Manager and Water Quality Manager prior to the start of any excavation, grading or site development work.

11.3.2 The permittee (contractor) shall develop a Stormwater Pollution Prevention Plan (SWPPP) based on the Erosion Prevention and Sediment Control Plan (EPSC) as a minimum design standard. Ensure all requirements of KYR10 are fully addressed in the SWPPP. **Once the SWPPP is written, forward a copy to the Capital Projects Project Manager and to the Water Quality Manager for approval. Work cannot begin until SWPPP is approved and permit coverage obtained.**

11.3.3 Install BMP’s such as, basins, traps, drainage, and sediment barriers before beginning land disturbing activities, including the construction entrance/exit. Once prevention measures have been installed, grading can commence. In the event a new construction entrance is added to the site, this new entrance must be built according to the EPSC design details with a wheel wash, a water supply and a sediment catch basin for washed wheel sediment.

11.3.4 Maintain all measures in working condition. Perform maintenance activities identified during inspections prior to the next rain event. Remove sediment from BMPs when 1/3 the storage volume has been filled.

11.3.5 Stabilize disturbed areas within 14 days of inactivity or reaching final grade on any portion of the site according to permit requirements.

11.3.6 Inspect the site every 7 calendar days and after each rainfall of ½” or more. Document site conditions, rainfall, maintenance activities needed and performed, stabilization needed and performed, and where new measures are needed. Discuss deficiencies with UK Project Manager and Water Quality Manager and note on the SWPPP Inspection Sheets.

Per the KPDES Permit, Section 2.1.7. “Inspections – Permittee Conducted”. “Inspections shall be performed by personnel knowledgeable and skilled in assessing conditions at the construction site that could impact storm water quality and assessing the effectiveness of erosion prevention measures, sediment control measures, and other site management practices chosen to control the quality of the storm water discharges. Inspectors shall have training in storm water construction management such as Kentucky Erosion Prevention & Sediment Control (KEPSC), Certified Professional in Stormwater Quality (CPSWQ), Certified Erosion, Sediment and Stormwater Inspector (CESSWI), or other similar training.”

Inspections shall include a tour of the total site and verification that all BMPs are performing as constructed. Inspector shall certify that all observations are correct as stated and sign and date the inspection form.

11.3.7 Keep Permit, SWPPP, weekly/rain event inspections sheets in binder in construction trailer. Any BMP change/alteration from SWPPP and EPSC plan must be noted on the EPSC and SWPPP.

11.3.8 No soil and sediment shall leave the construction site. BMPs shall be repaired immediately if failure has occurred. No Mud shall be permitted on any street. All entrances/exits shall have a means by which to wash wheels. If an entrance/exit does not have a wheel wash, that exit shall not be used in muddy conditions. If for any reason mud is tracked offsite, the area must be cleaned in such a way as to prevent sediment from entering the storm sewer system. The use of tractor brooms solely will not be permitted.

11.3.9 When it is necessary to dewater an excavation, proper BMPs must be implemented. Dewatering filter bags must be sized and used according to manufacturer’s requirements and Standard Operating Procedures for Dewatering Bags.

11.3.10 UK (the MS4) routinely inspects sites for compliance with the EPSC/SWPPP. Any deficiencies noted become record for the Kentucky Division of Water and shall be remedied/installed as soon as site conditions are favorable but no more than 7 days from the inspection date.

11.3.11 At the conclusion of the project and all bare areas, slopes and ditches are 70% vegetated with the permanent ground cover, the contractor shall notify the UK Project Manager and Water Quality Manager and request a final site inspection prior to filing a “Notice of Termination (NOT) with the state. This inspection verifies that Construction BMPs can be removed, and Post-Construction BMPs are in place and functioning.

11.3.12 Failure of the site contractor (permittee of the KPDES Permit) to timely comply with requirements of KPDES, the Construction Manager shall inform the site contractor that a third party contractor shall be retained to remediate all BMP deficiencies immediately, and all third party costs shall be passed to the permittee of the KPDES Permit. Any fines or other costs resulting from failure to comply, levied against the Owner will be assessed against the Construction Manager’s or General Constructor’s funds.

11.3.13 Refer to 334000S01 STORM DRAINAGE UTILITIES – Information for Consultants & Contractors.

11.3.14 Reference to standards, codes, specifications, and regulations refer to the latest edition of printing in effect at the date of issue shown in the Contract Documents unless another date is implied by the suffix number of the standard.

11.4 Reference to standards, codes, specifications, and regulations refer to the latest edition of printing in effect at the date of issue shown in the Contract Documents unless another date is implied by the suffix number of the standard.

11.5 The General Contractor shall furnish a final occupancy permit from the proper agency or agencies as required.

11.5 The General Contractor shall, by provision within each applicable sub-contract or by inclusion in the lump sum fee proposed to the Owner, insure the payment of all sales, consumer, use and similar taxes for materials, equipment and supplies incorporated into the Work, by unless otherwise specified in the bid documents.

ARTICLE 12 - PROTECTION OF WORK, PROPERTY, AND PUBLIC

12.1 The General Contractor shall continuously maintain adequate protection of all Work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. Except as otherwise covered by Builder's Risk insurance, the General Contractor shall pay for any such damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. The General Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

12.2 In an emergency affecting the safety of life, or of the Work, or of adjoining property, the General Contractor, without special instruction or authorization from the Consultant or the Owner, is obligated to act to prevent such threatened damage, loss or injury.

12.3 The General Contractor shall maintain fire protection as required by the Kentucky Building Code. Access to the Project site and surrounding buildings for local fire truck access must be maintained during construction. The General Contractor shall maintain construction to allow access to new, existing or temporarily relocated standpipes, fire hydrant connections and fire alarm communication panels pursuant to Section 3018.8 of the Kentucky Building Code. If the General Contractor utilizes the Owner's fire protection equipment, the General Contractor shall replace any such materials lost, consumed or misplaced during the Contract period. The General Contractor is responsible for any false alarms caused by dust created in the Work area or dust traveling to areas beyond the Work area due to inadequate dust protection barriers. Should there be a need for any existing or newly installed fire alarm system, or parts of a system that requires service, to be removed from service or disconnected, prior approval must be obtained from the Owner and the General Contractor shall immediately provide alternate protection such as a fire watch until such systems are returned to full normal operations. When work or service is completed on a disabled fire alarm system, the Owner shall be immediately notified so the system can be placed in service.

12.4 The General Contractor and Sub-contractors are responsible for the security of their own materials, tools and equipment at the Project site.

12.5 The General Contractor shall provide to the Owner's Project Manager a key to General Contractor's field office or job trailer.

ARTICLE 13 - BLASTING

13.1 Blasting is not allowed unless permission is granted in the Special Conditions. Should blasting be allowed by the Special Conditions, it shall be completed in accordance with all laws, regulations, ordinances and instructions contained in the Special Conditions.

ARTICLE 14 - CONSTRUCTION AND SAFETY DEVICES

14.1 The General Contractor shall provide safety controls for protection of the life and health of employees and visitors. The General Contractor will utilize precautionary methods for the prevention of damage to property, materials, supplies, and equipment, and for avoidance of work interruptions in the performance of this Contract. In order to provide such safety control, the General Contractor shall comply with all pertinent provisions of the Kentucky Fire Prevention Code, Kentucky Building Code, Kentucky Labor Cabinet's Division of Occupational Safety and Health Program Construction Standards and Federal Occupational Safety and Health (Construction) Standards that are in effect at the time the Contract is entered into and during the period in which the Contract is to be performed.

14.2 The General Contractor shall provide a written safety program which includes all pertinent written specialty standards such as, but not limited to, Control of Hazardous Energy Sources (Lockout/Tagout), Hazard Communications Program, First Aid, Blood Borne Pathogen Program, Respirator Use Program and Hearing Conservation Program. The General Contractor shall require all Sub-contractors to have an effective written safety program or be required to follow the General Contractor's written safety program.

14.3 The General Contractor shall maintain an accurate record of and shall report to Kentucky Labor Cabinet's Division of Occupational Safety and Health in the manner and on the forms prescribed by that Division, exposure data and all accidents resulting in death, traumatic injury, occupational disease. The General Contractor shall maintain an accurate record of and shall report to the Owner's Project Manager, any damage to property, materials, supplies, and equipment incident to Work under this Contract.

14.4 The Kentucky Labor Cabinet's Division of Occupational Safety and Health may notify the General Contractor of any noncompliance with the foregoing provisions. The General Contractor shall, upon receipt of such notice, immediately correct the cited conditions. Notice delivered to the General Contractor or the General Contractor's representative at the site of the Work shall be deemed sufficient for this purpose. If the General Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the Work until satisfactory or corrective action has been taken. Failure or refusal to comply with the order will be grounds for reducing or stopping all payments due under the Contract to the General Contractor. No part of the construction time lost due to any such stop order shall be cause for, or the subject of a claim for, extension of time or for additional costs or damages by the General Contractor.

14.5 The General Contractor or any Sub-contractor shall immediately contact the University of Kentucky's Department of Occupational Health and Safety through the Owner's Project Manager should they be selected for an inspection by the Kentucky Occupational Safety and Health Compliance Division.

14.6 Compliance with the provisions of the foregoing sections by Sub-contractors shall be the responsibility of the General Contractor.

14.7 Nothing in the provisions of this Article 14 shall prohibit the U.S. Department of Labor or the Kentucky Department of Labor Division of Occupational Safety and Health from enforcing pertinent occupational safety and health standards as authorized under Federal or State Occupational Safety and Health Standards.

14.8 The General Contractor shall take all necessary precautions for the safety of employees on the Work, and shall comply with all applicable provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises

where the Work is being performed. If the General Contractor or any Sub-contractor has questions related to the health or safety required by their written safety program, they should contact the Kentucky Labor Cabinet Occupational Safety and Health Program Division of Education and Training. The General Contractor shall designate a responsible member of the on-site Work force as the safety officer and shall report to the Consultant and to the Owner the name of the person selected. The duties of the safety officer include the enforcement of safety regulations.

ARTICLE 15 - HAZARDOUS MATERIALS

15.1 If the General Contractor encounters material reasonably believed to be or suspected to be asbestos containing material, lead, polychlorinated biphenyls (PCBs), fluorescent light bulbs and ballasts, mercury or other hazardous material, the following procedures must be followed:

15.1.1 The General Contractor shall immediately stop Work in the affected area and notify the Owner's Project Manager. The Owner's Project Manager will contact the Owner's Environmental Health and Safety unit to arrange for collection of samples, review of existing data, or other testing necessary to confirm the presence of hazardous materials. The Owner's Project Manager will notify the General Contractor in writing of the results. Until that notification is received, the Work must not continue in the affected area.

15.1.2 If the material is confirmed to be asbestos, lead, polychlorinated biphenyls (PCBs), fluorescent light bulbs and ballasts, mercury or other hazardous material, the Owner will take appropriate action to remove the material before the General Contractor can continue Work in the affected area.

15.1.3 The General Contractor shall not be required to perform any Work related to asbestos, lead, polychlorinated biphenyls, or other hazardous material. The General Contractor is advised that certain classes of building materials (thermal system insulation, sprayed or troweled surfacing materials, and resilient flooring) installed before 1981 are required by law to be treated as asbestos containing until proven otherwise. These presumed asbestos containing materials must not be disturbed without confirmation from the Owner that asbestos is not present.

15.2 The Owner, the General Contractor, and Sub-contractors will be under the requirements of the OSHA Hazard Communication Standard (29) CFR 1910.1200. The General Contractor and Sub-contractors must provide their own written Hazard Communication Program. The Hazard Communication Standard must include: (1) A list of the hazardous chemicals to which the General Contractor's employees may be exposed; (2) Statement of the measures that General Contractor's employees and Sub-contractors may take to lessen the possibility of exposure to the hazardous materials; (3) The location of and access to the MSDS's related to the hazardous chemicals located in the Work area; (4) Procedures that the General Contractor's employees and Sub-contractors are to follow if they are exposed to hazardous chemicals above the Permissible Exposure Limit (PEL). Material Safety Data Sheets (MSDS) may be reviewed upon request by the General Contractor or any Sub-contractor as they pertain to the Work areas of the Project. Photocopies of the MSDS's may be made by General Contractor at its expense.

15.3 The General Contractor and Sub-contractors shall provide the Owner with a list of any hazardous materials that will be used on the job site that may be exposed to the Owner's employees. The General Contractor and Sub-contractors shall provide the Owner with copies of Material Data Sheets for materials to be used.

15.4 It is the policy of the Owner that PCB containing equipment will be treated by the General Contractor and the Owner in a manner that conforms to the intent of all applicable laws and

regulations (primarily 40 CFR Part 761). The following procedures shall be followed by the General Contractor and Sub-contractors while present on the Owner's Project or other property: (1) Only authorized, trained personnel may inspect, repair, or maintain PCB transformers; and (2) No combustible materials may be stored within a PCB transformer room or within five meters of a PCB transformer. Such materials include, but are not limited to, paints, solvents, plastic, paper, and wood. The General Contractor shall not use rooms containing PCB transformers for storage rooms, staging areas, job site offices or break rooms. Violation of this policy may be grounds for dismissal of the offending General Contractor and/or Sub-contractor from the Project. All PCB transformers at the University of Kentucky are identified by a PCB label as defined in federal regulations. If the General Contractor should have a question as to the location of a PCB transformer, it should contact the Owner's Project Manager.

15.5 The General Contractor shall ensure that NO asbestos-containing materials (including but not limited to: drywall, joint compound, roof mastic and floor tile adhesive) will be install on any University project without prior written approval of the University's Environmental Health and Safety Division. Additionally, the General Contractor shall submit MSDS sheets and have prior approval before installing any materials that contains hazardous substances or could pose an environmental hazard. If any environmental hazardous materials are installed without written approval of the University, the General Contractor will be responsible for all material replacement cost, all removal and all other associated damages. Any materials removed shall be taken out in accordance with all applicable federal, state and local regulations.

ARTICLE 16 - INSPECTION OF WORK

16.1 Inspections, tests, measurements or other acts of the Consultant are for the sole purpose of assisting the Consultant in determining if the Work, materials, rate of progress, and quantities comply with the Contract Documents. These acts or functions shall not relieve the General Contractor from performing the Work in full compliance with the Contract Documents, nor relieve the General Contractor from any of the responsibility for the Work assigned to it by the Contract Documents. No inspection by the Consultant shall constitute or imply acceptance. Approval of material is general and shall not constitute waiver of the Owner's right to demand full compliance with Contract Documents.

16.2 All Work completed and all materials incorporated for the Project are subject to inspection by the Owner, the Consultant or their representatives to determine conformance with the Contract Documents. The Owner, Consultant and their representatives shall at all times have access to the Work whenever it is in preparation or progress. The General Contractor shall provide, at no additional cost to the Owner, any facilities necessary for sufficient and safe access to the Work to complete any inspections required. The Consultant shall be given timely notification in order to arrange for the proper inspections to be performed on any Work outside of the normal working day or week. If the Consultant provides the General Contractor with a list of construction milestones that require inspection, the General Contractor shall provide the Consultant with at least five (5) Business Days written notice prior to the commencement of Work with respect to such milestone in order to permit the Consultant time to coordinate an inspection of the commencement of the applicable Work.

16.2.1 Normal Work hours are defined as a period between 7:00 a.m. and 5:00 p.m. Monday through Friday. The General Contractor shall notify the Owner's Project Manager at least one working day prior to performance of any Work for permission to do any Work during non-normal Work hours.

16.3 If this Contract, the Specifications, the Consultant's instructions, laws, ordinances, or any public authority require any Work to be specially inspected, tested or approved, the General Contractor shall give the Consultant timely notice of the readiness of the Work for inspection. The Consultant shall promptly make all required inspections. If any portion of the Work should be

covered contrary to the request of the Consultant, or to the requirements specifically expressed in the Contract Documents, the Work must be uncovered for inspection and observation and shall be uncovered and replaced at the General Contractor's expense.

16.4 If any other portion of the Work has been covered, which the Consultant has not specifically requested to observe prior to being covered, the Consultant, with the Owner's approval, may request to see such Work and it shall be uncovered by the General Contractor. If such Work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall be charged to the Owner by appropriate Change Order. If such uncovered Work is not in accordance with the Contract Documents, the General Contractor shall pay all costs for uncovering and replacement of such Work.

ARTICLE 17 - SUPERINTENDENT - SUPERVISION

17.1 The General Contractor shall completely and thoroughly direct and superintend the Work in accordance with the highest standard of care for the General Contractor's profession so as to ensure expeditious, workmanlike performance in accordance with requirements of the Contract Documents. Except as otherwise dictated by specific requirements of the Contract Documents, the General Contractor shall be solely responsible for and have control over all construction means, methods, techniques, sequences and procedures. The General Contractor shall be responsible for the acts and omissions of all Sub-contractors and persons directly or indirectly employed by the General Contractor in the completion of the Work. The General Contractor shall be responsible for coordinating and scheduling all portions of the Work unless the Contract Documents give other specific instructions. The General Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by the activities of the Consultant in the administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the General Contractor.

17.2 The General Contractor shall have a competent superintendent on the Project site at all times during the process of the Work. The superintendent shall have authority to act on the General Contractor's behalf with regard to all aspects of performance of this Contract. The superintendent shall have such assistants with individual specialized competencies as may be necessary to fully understand and oversee all aspects of the Work. The General Contractor shall also provide administrative, supervisory and coordinating personnel required to fully perform the Work and for interfacing the Work with other work of the Project. The superintendent and all assistants shall be physically fit for their work and capable of going to all locations where Work is being performed. A communication given to the superintendent shall be binding on the General Contractor. Immediately after the award of Contract, the General Contractor shall submit to the Consultant a list of General Contractor's employees and consultants, including names, positions held, addresses, telephone numbers and emergency contact numbers.

17.3 The superintendent assigned shall not be changed except under the following circumstances: (1) Where the superintendent ceases to be employed by the General Contractor, in which case the General Contractor shall give timely written notice to the Owner of the impending change of the superintendent and a reasonable explanation for the change; or (2) Where the Owner or the Consultant have reasonable grounds for dissatisfaction with the performance of the superintendent and give written notice to the General Contractor of the grounds. In either case, the General Contractor shall obtain prior written approval from the Owner of the qualifications of the proposed replacement superintendent. Such prior approval will not be unreasonably withheld.

17.4 If the Owner or Consultant determines that the superintendent is not performing, or is incompetent to perform the required Work, the Owner may direct the General Contractor to remove the superintendent from the Project and replace the superintendent with an employee who has the necessary expertise and skills to satisfactorily perform the Work.

ARTICLE 18 - CHANGES IN THE WORK

18.1 The Owner, at any time after execution of the Contract, may make changes within the general scope of the Contract or issue additional instructions, require additional Work, or direct the deletion of Work. The Owner's right to make changes shall not invalidate the Contract or relieve the General Contractor of any obligations under the Contract Documents. All such changes to the Work shall be authorized in writing by Change Order and shall be executed under the conditions of the Contract Document. Any adjustment of the Contract Amount or Time of Completion, as may be appropriate, shall be made only at the time of ordering such change. Change order proposals based on a reservation of rights, whether for additional compensation to be determined at a later date or for an extension of time to be determined at a later date, will not be considered for approval and shall be returned to the General Contractor without action.

18.2 The cost or credit resulting from a change in Work shall be determined in one or more of the following ways:

18.2.1 By unit prices named in the Contract or additional unit prices subsequently agreed upon;

18.2.2 By agreement on a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

18.2.3 By an amount agreed upon by the General Contractor and the Owner as a mutually acceptable fixed or percentage fee.

18.3 All lump sum proposals shall include a detailed cost breakdown satisfactory to the Consultant and to the Owner for each component of Work indicating both labor and material costs. In computing labor costs, the hourly labor rates shall not exceed a mutually agreeable combined hourly labor rate plus fringe benefits negotiated with the Owner based on a presentation of acceptable documentation by the GC. For the purposes of this Article, the term "fringe benefits" shall mean those funds transferred irrevocably to a third party for payment/distribution. In addition, there may be added by the General Contractor and/or Sub-contractor an amount agreed upon, but not to exceed a combined total of fifteen percent (15%) of the actual costs, for overhead and profit. This cost breakdown shall be submitted to the Consultant promptly and with a goal of seven (7) Calendar Days or less after receipt of the proposal request.

18.4 If none of the above methods are mutually agreed upon or if the General Contractor does not respond promptly, a change may be made by unilateral determination by the Owner and/or the Consultant of reasonable costs or savings attributable to the change, including a reasonable allowance for overhead and profit. If this method is utilized, the General Contractor shall promptly proceed with the Work involved in the change upon receipt of a written order signed by the Owner. In such case, the General Contractor shall keep and present an itemized accounting of labor, equipment, material and other costs, in such form as may be prescribed by the Consultant.

18.5 In determining the cost or credit to the Owner resulting from a change, the allowances for all overhead (including home office and field overhead) and profit combined, shall be negotiated and shall not exceed (15%) fifteen percent.

18.6 In all cases where Change Orders are determined by unit prices set forth in the Contract Documents, no amount is to be added for additional overhead and profit.

18.7 The General Contractor shall keep and present in such form as the Consultant may direct, a correct account of all items comprising the net cost of such Work, together with vouchers. The determination of the Consultant and/or the Owner shall be final upon all questions of the amount and cost of extra Work and changes in the Work, and it shall include in such cost, the cost to the General Contractor of all materials used, the cost of all labor (including social security, old age and unemployment insurance, fringe benefits to which the employee is entitled, and Workers Compensation insurance), and the fair rental of all machinery used upon the extra Work, for the period of such use, which was upon the Work before or which shall be otherwise required by or used upon the Work before or after the extra Work is done. If the extra Work requires the use of machinery not already on the Project site, or to be otherwise used upon the Work, then the cost of transportation of such machinery to and from the Project site shall be added to the fair rental value. Transportation costs shall not be allowable for distances exceeding one hundred (100) miles.

18.8 The General Contractor shall not include or allow to be included in the cost of change in the Work any cost or rental of small tools, or any portion of the time of the General Contractor or the superintendent, or any allowance for the use of capital, or for the cost of insurance or bond premium or any actual or anticipated profit, or job or office overhead. These items are considered as being covered under the added amount for general overhead addressed in Article 18.3

18.8.1 The Owner will not pay claims made for lost opportunities, claims made for lost production or production inefficiencies or claims made that are formula based.

18.9 Pending final determination of value, partial payments on account of changes in the Work may be made on recommendation of the Consultant. All Change Orders shall be in full payment and final settlement of all claims for direct, indirect and consequential costs, including all items covered and affected. Any such claim not presented by the General Contractor for inclusion in the Change Order shall be waived.

18.10 The Consultant may authorize minor changes in the Work which do not involve additional cost or extension of the Contract Time, and which are not inconsistent with the intent of the Contract Documents. Such changes shall be made by an ASI issued by the Consultant, and shall be binding on the Owner and the General Contractor. The General Contractor shall carry out such orders promptly. If the General Contractor should claim that an ASI involves additional cost or delay to the completion of the Work, the General Contractor shall give the Consultant written notice thereof within ten (10) Calendar Days after receipt of the written ASI. If this notification does not occur, the General Contractor shall be deemed to have waived any right to claim or adjustment to the contract sum or to the contract completion time.

18.10.1 If the General Contractor claims that any instructions by the Consultant involve additional cost or time extension, the General Contractor shall give the Consultant written notice thereof within ten (10) Calendar Days after the receipt of such instructions and before proceeding to execute the change in Work. The written notice shall state the date, circumstances, whether a time extension will be requested, and the source of the order that the General Contractor regards as a Change Order. Unless the General Contractor acts in accordance with this procedure, any oral order shall not be treated as a change and the General Contractor hereby waives any claim for an increase of the Contract amount or extension of the contract time.

18.11 Requests for extension of time related to changes in the Work shall be submitted in accordance with the requirements of Article 21 of these General Conditions

ARTICLE 19 - RULES AND MEASUREMENTS FOR EXCAVATION

19.1 If applicable, the following Rules and Measurements shall apply to the use of Unit Prices for the excavation portion of the Work:

19.1.1 Except as provided in this Article 19 for arbitrary measurements, the quantity of excavation shall be its in-place volume before removal.

19.1.2 No allowance will be made for excavating additional material of any nature taken out for the convenience of the General Contractor beyond the quantity computed under these "Rules and Measurements."

19.1.3 The quantities of excavation shall be computed from instrument readings taken by the Consultant's representative in vertical cross sections located at such intervals that will assure accuracy.

19.1.4 "Trench Excavation" for pipes shall arbitrarily be assumed to be two feet (2') wider than the outside diameter of the pipe barrel and with sides vertical.

19.1.5 The quantities shall be computed from plan size, or if there are no drawings, from actual measurements of the Work in place.

19.1.6 Each unit price shall cover, among other things, engineering (surveying) costs and keeping excavating dry.

19.1.7 Earth excavation for structures will be measured between the vertical planes passing 18 inches beyond the outside of the footings and from the surface of the ground to the neat lines of the bottom of the structure.

19.1.8 Rock excavation for structures will be measured between the vertical planes passing 18 inches beyond the outside of the footings and from the surfaces of the rock to the neat lines of the bottoms of the structures or the actual elevation of the rock ledge.

19.1.9 Rock excavation for pipelines trenches, unless otherwise provided for in the Specifications, shall be measured as follows: An arbitrary width of 18 inches plus the nominal diameter of the pipe multiplied by the depth from the surface the rock to six (6) inches below the invert for pipe 24 inches in diameter or less and eight (8) inches below the invert for all pipe greater than 24 inches in diameter. No additional compensation will be allowed for excavation for bell holes, gates or other purposes. The measurement of rock excavation for manholes shall be in accordance with Section 19.1.8 above.

19.1.10 Unclassified excavation shall be measured in the same manner as earth excavation.

ARTICLE 20 - CONCEALED CONDITIONS

20.1 The Contract Drawings show the approximate location of the existing and new utility lines. These lines have been identified and located as accurately as possible using available information. The General Contractor is responsible for verifying all actual locations. If utilities require relocation or rerouting that is not shown or indicated to be relocated or rerouted, the General Contractor shall contact and cooperate with the Consultant to make the required adjustments. Any request for change

in the Contract Amount by the General Contractor shall be made pursuant to Article 18 of the General Conditions.

20.2 If any charted or uncharted utility service is interrupted by activities of the General Contractor or the General Contractor's Sub-contractor(s) for any reason, the General Contractor shall work continuously to restore service to the satisfaction of the Owner.

20.2.1 If any charted utility service, or any uncharted utility service the existence of which could have been discovered by careful examination and investigation of the site of the Work by the General Contractor, is interrupted by activities of the General Contractor or the General Contractor's Sub-contractor(s) for any reason, the entire cost to restore service to the satisfaction of the Owner shall be paid by the General Contractor. Should the General Contractor fail to proceed with appropriate repairs in an expedient manner, the Owner reserves the right to have the work/repairs completed and the cost of such work/repairs deducted from the monies due or to become due to the General Contractor pursuant to Article 22 of the General Conditions.

20.3 The General Contractor shall promptly, but in no case more than ten (10) Calendar Days from the time of discovery, and before the conditions are disturbed, notify Consultant in writing of:

20.3.1 Subsurface or latent physical conditions or any condition encountered at the site which differ materially from those indicated in the Contract Documents and which were not known by General Contractor or could not have been discovered by careful examination and investigation of the site of the proposed Work;

20.3.2 Unknown and unexpected physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered in the locale or generally recognized as inherent in the Work provided for in this Contract or,

20.3.3 Concealed or unknown conditions in an existing structure which are at variance with the conditions indicated by the Contract Documents, which are of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in this Contract, and which were not known by the General Contractor and could not have been discovered by careful examination and investigation of the site of the Work.

20.4 The Consultant shall promptly investigate the conditions discovered. If the Consultant finds that conditions, which are materially different from those ordinarily encountered and generally recognized as inherent in the Work provided for in this Contract, were not known by the General Contractor, and could not have been discovered by careful examination and investigation of the site of the Work, have caused or would cause a material increase or decrease in the General Contractor's cost of construction or the time required for performance of any part of the Work under this contract, the Consultant will recommend and the Owner will make an equitable adjustment in the Contract Amount and/or the time allotted for performance in the Contract Documents. Failure by the General Contractor to provide written notice to the Owner of such claims for additional compensation or time for performance within ten (10) Calendar Days of discovery of such conditions shall constitute a waiver by the General Contractor of the right to make such claims. The Owner will not pay claims made for lost opportunities, claims made for lost production or production inefficiencies or claims made that are formula based.

20.5 If the Consultant determines that changed conditions do not exist or are not materially different and no adjustment in the Contract Amount or time is warranted, the General Contractor shall continue performance of the Contract as directed by the Consultant. No claim by the General Contractor under this clause shall be allowed unless the required written notice is given and the

Consultant is given adequate opportunity to investigate the conditions encountered prior to disturbance. The failure of the General Contractor to give the Consultant proper notice of a differing site condition shall not affect the Owner's right to an equitable adjustment of the contract price or time if there is a decrease in the Contract Amount or time required to perform the Work.

ARTICLE 21 - DELAYS AND EXTENSION OF TIME

21.1 It is agreed that time is of essence for each and every portion of this Contract and where additional time is allowed for the completion of the Work or any part of the Work under this Contract, the new time limit fixed by such time extension shall be of the essence of this Contract. An extension of time shall not be cause for extra compensation under this Contract, except as set forth in Article 21.10 below.

21.2 The General Contractor will, subject to the provisions of Articles 21.7, 21.8 and 21.9 below, be granted an extension of time and/or relief from liquidated damages when the delay in completion of the Work is due to:

21.2.1 Any preference, priority, or allocation order duly issued by the government;

21.2.2 Unforeseeable causes beyond the control and without the fault or negligence of the General Contractor including, but not limited to, acts of God, or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, floods, epidemics, quarantine restrictions, strikes, and freight embargoes.

21.2.2.1 For such delays which stop all work on the Project for thirty (30) Calendar Days or more, the General Contractor shall be authorized at its discretion to remove its people from the site and return when the normal progress of the work may continue.

21.2.3 Regardless of the cause of a delay, the General Contractor shall expend all reasonable effort to mitigate the impact of any delay.

21.2.4 Requests for additional time due to delays in transportation or due to failures of suppliers shall not be considered for approval.

21.3 Requests for extensions of time and/or relief from liquidated damages, except for weather related claims, shall be made in writing not later than ten (10) Calendar Days after the beginning of the delay. Requests for extension of time or relief from liquidated damages shall be stated in numbers of whole Calendar Days.

21.4 Except as otherwise provided in the Contract Documents, extensions of the contractually required completion dates may be granted for unusually bad weather on the Project. Unusually bad weather as used herein means daily temperature or precipitation that exceeds the normal weather recorded and expected for the locality and/or the season or seasons of the year. For the purposes of this contract, it is mutually agreed that the following chart accurately defines the number of days in each month on which bad weather can reasonably be anticipated to impact weather dependent construction operations, and the General Contractor shall anticipate this normal seasonal weather in the development of the Project baseline schedule.

Mean	Jan.	Feb	Mar	Ap	May	Jun	Jul.	Aug	Se	Oct	Nov.	Dec.
Number of		.	.	r.		.		.	p.	.		
Days When												

Max Temp 32° or Below	9	6	1	0	0	0	0	0	0	0	1	5
Precip. Is 0.10 Inch or Greater	7	6	9	7	8	8	8	6	5	5	7	7

For the purpose of this Contract, “unusually bad weather” shall be interpreted as either 1) those days in a given month on which rainfall was 0.10 inch or more that exceed the number of days shown in the row for “Precip” or 2) those days in a given month on which maximum temperature was 32 degrees F or below that exceed the number of days shown in the row for “Max Temp”, whichever is greater.

21.4.1 Requests for extension of time due to unusually bad weather that could not reasonably have been anticipated at the time of execution of the Contract shall be made in writing not later than the tenth calendar day of the month following the month in which the delay occurred.

21.4.2 Requests for an extension of time due to unusually bad weather shall be considered for approval only if it is shown that a) the unusual weather event delayed work on a specific weather dependent activity or activities that had been planned to be underway on the date(s) on which the weather event occurred, as shown in the most recent update to the Project schedule that had been submitted to the Owner prior to the date of the event, and b) only if the delay to that activity or activities is shown to be the proximate cause of a corresponding delay to the contractually required completion dates for the Project shown in the most recent update to the Project schedule. The actual dates on which the delay(s) occurred must be stated and the specific activities that were directly impacted must be identified. In the event of concurrent delays, only those activities actually impacting contractually required completion dates will be considered in evaluating the merit of a delay request. Time extensions will not be considered if such adjustments do not exceed the total or remaining “float” associated with the impacted activities at the time of delay as shown in the most recent update to the Project schedule, nor for concurrent delays not caused by the Owner.

21.4.3 In anticipation of the possibility of delay due to unusually bad weather, the General Contractor shall identify those activities in the baseline schedules, and those activities subsequently added to updated schedules, that might reasonably be expected to be delayed by such weather.

21.4.4 Delays caused by unusually bad weather shall be incorporated in the Project schedule when the schedule is next updated by showing actual dates and/or percent complete for those activities that were impacted by the unusually bad weather as well as the effects of any effort to mitigate such delays. When claims are submitted for time extensions resulting from more than one occurrence of unusually bad weather during a month, the Project schedule shall be updated to reflect such separate events sequentially so that the impact of each subsequent occurrence is shown on an adjusted Project schedule that includes all prior claims for additional time.

21.5 In addition to the requirements of Article 21.7 and Article 21.8 below, any request for an extension of time for strikes or lockouts shall be supported by a written statement of facts concerning the strike including, but not limited to, the dates, the craft(s) affected, the reason for the strike, efforts to resolve the dispute, and efforts to minimize the impact of the strike on the Project.

21.6 Approval of time extensions for changes in the Work will depend upon the extent, if any, to which the changes cause delay in the completion of the various elements of construction. The

Change Order granting the time extension may provide that the Contract Time will be extended only for those specific elements so delayed and that other Work will not be altered.

21.7 The Contract Time will only be adjusted for causes specified above. Extensions of time will only be approved if the General Contractor provides justification supported by the Project schedule or other acceptable data that 1) such changes are, in fact, on the critical path and extend the contractually required completion dates, and 2) the General Contractor has expended all reasonable effort to minimize the impact of such changes on the construction schedule. No additional extension of time will be granted subsequently for claims having the basis in previously approved extensions of time.

21.8 In support of requests for an extension of time not caused by unusual inclement weather, and concurrently with the submittal of any such request, the General Contractor shall submit to the Consultant and the Owner a written impact analysis showing the influence of each such event on contractually required completion dates as shown in the updated Project schedule most recently submitted to the Owner prior to the event. The analysis shall include a partial network diagram showing a sequence of new or revised activities and/or durations that are proposed to be added to the existing schedule including related logic (a “fragnet”). This impact analysis and the fragnet shall include the new activities and/or activity revisions proposed to be added to the existing schedule and shall demonstrate the claimed impact on the critical path and the contractually required completion dates. The General Contractor will not be granted an extension of time and/or relief from liquidated damages when the delay to completion of the work is attributable to, within the control of, or due to the fault, negligence, acts, or omissions of the General Contractor and/or the General Contractor’s contractors, subcontractors, suppliers, or their respective employees and agents. Time extensions will not be considered in the event such adjustments do not exceed the total or remaining “float” associated with the impacted activities at the time of delay, nor for concurrent delays not caused by the Owner. In the event of concurrent delays, only that event actually impacting contractually required completion dates will be considered in adjusting the schedule and evaluating the merit of a delay claim. Requests for an extension of time which are not supported by this information shall not be considered for approval.

21.9 Approved extensions of time not caused by unusual inclement weather shall be incorporated in a revised schedule at the time of approval. No subsequent requests for time extension will be considered unless all previous approved time extensions have been incorporated in the Project schedule on which the requests are based.

21.10 Except as provided for in Article 21.10.1 through 21.10.3 below, no payment or compensation shall be made to the General Contractor and extensions of the time fixed for completion of the Contract shall be the General Contractor’s sole remedy for any and all delays, hindrances, obstructions or impacts in the orderly progress of the Work.

21.10.1 In addition to the provisions of Articles 18.3 above, and subject to the requirements of Article 21.8 and 21.8.1 above, if the Owner orders changes to the scope of Work for the Project that extend the then current contractually required completion dates of the Project, the General Contractor shall be entitled to reimbursement for job site, general conditions and staffing costs associated with such delay.

21.10.2 If delays, hindrances, impacts or obstructions of the General Contractor’s performance of the Contract are in whole or in part within the control of the Owner and, subject to the requirements of Article 21.8 and 21.8.1, extend contractually required completion dates of the Project, the General Contractor shall be entitled to reimbursement for job site, general conditions and staffing costs for that portion of the costs caused by acts or omissions of the Owner.

21.10.3 Such reimbursements shall not include consequential or similar damages, exemplary damages, damages based on unjust enrichment theory, formula based delay claims, or any element of home office overhead.

ARTICLE 22 - CORRECTION OF WORK BEFORE FINAL PAYMENT

22.1 The General Contractor shall promptly remove from the site and replace any material and/or correct any Work found by the Consultant to be defective or that fails to conform to the requirements of the Contract, whether incorporated in the Work or not, and whether observed before or after Substantial or Final Completion. The General Contractor shall bear all costs of removing, replacing or correcting such Work or material including the cost of additional professional services necessary, and the cost of repairing or replacing all Work of separate contractors damaged by such removal or replacement.

22.2 The Consultant will notify the General Contractor and the Owner immediately upon its knowledge that additional services will be necessary. The Owner may consent to accept such nonconforming Work and materials with an appropriate adjustment in the Contract Amount. Otherwise, the General Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement. If the General Contractor fails to commence and continue to correct non-conforming Work within a reasonable time as determined by the Consultant, the Owner may without limitation of other rights available to the Owner and without prejudice to other remedies, take any necessary action to make the necessary corrections. If the Owner makes required corrections for non conforming Work or materials, a Change Order will be issued reflecting an equitable deduction from the Contract Amount. This amount will be deducted from payments due to the General Contractor or, if no additional payments are due, General Contractor or the General Contractor's surety shall be responsible for payment of this amount.

ARTICLE 23 - CORRECTION OF WORK AFTER FINAL PAYMENT

23.1 Neither the final certificate of payment nor any provisions in the Contract Documents shall relieve the General Contractor of responsibility for materials and equipment incorporated into the Work that fail to meet specification requirements, or for use of faulty materials or poor quality workmanship. If within one year after the date of Substantial Completion of the Work or designated portion thereof, any of the Work is found to be defective or not in accordance with the requirements of the Contract Documents, the General Contractor shall correct it promptly after receipt of written notice from the Owner to do so. The General Contractor shall correct any defects due to these conditions and pay for any damage to other Work resulting from their use. Nothing contained in this clause shall be construed to establish a period of limitation with respect to any obligation of the General Contractor under the Contract including, but not limited to, Warranties. The obligation of the General Contractor under this section shall be in addition to and not in limitation of any obligations imposed by special guarantees or warranty required by the Contract, given by the General Contractor, or otherwise recognized or prescribed by law.

23.2 In addition to being responsible for correcting the Work and removing any non conforming Work or materials from the job site, the General Contractor shall bear all other costs of bringing the affected Work into compliance with the Contract requirements. This includes costs of any required additional testing and inspection services, Consultant's services and any resulting damages to other property or to work of other contractors or of the Owner.

23.3 If the General Contractor fails to correct nonconforming Work within a reasonable time as determined by the Consultant, the Owner may take necessary actions to make the necessary corrections. If the Owner makes required corrections for nonconforming Work or materials after Final Payment to the General Contractor, the Owner shall be entitled to recover all amounts for such corrections, including costs and attorney's fees, from General Contractor or surety.

ARTICLE 24 - TERMINATION OF CONTRACT FOR CONVENIENCE OF OWNER

24.1 The Owner, by written notice to the General Contractor, may terminate this Contract in whole or in part when it is in the interest of the Owner, at the sole discretion of the Owner. In such case, the General Contractor shall be paid for all Work in place and a reasonable allowance for profit and overhead on Work done, provided that such payments shall not exceed the total Contract price as reduced by the value of the Work as yet not completed. The General Contractor shall not be entitled to profit and overhead on Work not performed.

ARTICLE 25- OWNER'S RIGHT TO STOP WORK

25.1 If the General Contractor fails to correct defective Work as required, or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner by written notice may order the General Contractor to stop the Work or any portion of the Work, until the cause for the order has been eliminated to the satisfaction of the Owner. The Consultant may stop Work without written notice for 24 hours whenever in its professional opinion such action is necessary or advisable to insure conformity with the Contract Documents. The General Contractor shall not be entitled to an adjustment in the Contract Time or Amount under this clause in the event such stoppages are determined to be the fault of the General Contractor or its Sub-contractor(s). The right of the Owner or Consultant to stop Work shall not give rise to a duty on the part of the Owner or Consultant to exercise this right for the benefit of the General Contractor or others.

ARTICLE 26 -TERMINATION OF CONTRACT FOR DEFAULT ACTION OF GENERAL CONTRACTOR

26.1 In addition to its rights under Articles 24 and 25, the Owner may terminate the contract upon the occurrence of any one or more of the following events:

26.1.1 If the General Contractor refuses or fails to prosecute the Work (or any separable part thereof) with such diligence as will insure its completion within the agreed upon time; or if the General Contractor fails to complete the Work within such time;

26.1.2 If the General Contractor is adjudged a bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the General Contractor or a third party files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws concerning the General Contractor, or if a trustee or receiver is appointed for the General Contractor or for any of the General Contractor's property on account of the General Contractor's insolvency, and the General Contractor or its successor in interest does not provide adequate assurance of future performance in accordance with the Contract within 10 days of receipt of a request for assurance from the Owner;

26.1.3 If the General Contractor repeatedly fails to supply sufficient qualified supervision of the work, or repeatedly fails to ensure that Sub-contractors supply adequate supervision, suitable materials or equipment, or adequate numbers of skilled workmen and supervision to the Work;

26.1.4 If the General Contractor repeatedly fails to make prompt payments to Sub-contractors or suppliers at any tier, or for labor, materials or equipment;

26.1.5 If the General Contractor disregards laws, ordinances, rules, codes, regulations, orders or similar requirements of any public entity having jurisdiction;

26.1.6 If the General Contractor disregards the authority of the Consultant or the Owner;

26.1.7 If the General Contractor performs Work which deviates from the Contract Documents, and neglects or refuses to correct rejected Work; or

26.1.8 If the General Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents.

26.2 Once the Owner determines that sufficient cause exists to justify the action, the Owner may terminate the Contract without prejudice to any other right or remedy the Owner may have, after giving the General Contractor and its Surety three (3) Calendar Days notice by issuing a written Declaration of Default. The Owner shall have the sole discretion to permit the General Contractor to remedy the cause for the contemplated termination without waiving the Owner's right to terminate the contract.

26.3 In the event that the Contract is terminated, the Owner may demand that the General Contractor's Surety take over and complete the Work on the Contract. The Owner may require that in so doing, the General Contractor's Surety not utilize the General Contractor in performing the Work. Upon the failure or refusal of the General Contractor's Surety to take over and begin completion of the Work within twenty (20) Calendar Days after the demand, the Owner may take over the Work and prosecute it to completion as provided below.

26.3.1 In the event that the Contract is terminated and the General Contractor's Surety fails or refuses to complete the Work, the Owner may take over the Work and prosecute it to completion in accordance with the laws of the Commonwealth, by contract or otherwise, and may exclude the General Contractor from the site. The Owner may take possession of the Work and of all of the General Contractor's tools, appliances, construction equipment, machinery, materials, and plant which may be on the site of the Work, and use the same to the full extent they could be used by the General Contractor, without liability to the General Contractor. At the Owner's sole discretion, the Owner has the right to take assignment of any or all portions of the contract work in order to prosecute the completion of the Work. In exercising the Owner's right to prosecute the completion of the Work, the Owner may also take possession of all materials and equipment stored at the site or for which the Owner has paid the General Contractor but which are stored elsewhere, and finish the Work as the Owner deems expedient. In such case, the General Contractor shall not be entitled to receive any further payment until the Work is finished.

26.3.2 If the unpaid balance of the Contract Price exceeds the direct and indirect costs and expenses of completing the Work including compensation for additional professional and Consultant services, such excess shall be used to pay the General Contractor for the cost of the Work it performed and a reasonable allowance for overhead and profit. If such costs exceed the unpaid balance, the General Contractor or the General Contractor's Surety shall pay the difference to the Owner. In exercising the Owner's right to prosecute the completion of the Work, the Owner shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work and the Owner shall not be required to obtain the lowest figure for Work performed in completing the Contract. In the event that the Owner takes bids for remedial Work or completion of the Project, the General Contractor shall not be eligible for the award of such Contract.

26.3.3 The General Contractor shall be liable for any damage to the Owner resulting from the termination or the General Contractor's refusal or failure to complete the Work, and for all costs necessary for repair and completion of the Project above the amount of the Contract. The General Contractor shall be liable for all attorney's fees, costs and expenses incurred by the Owner to enforce the provisions of the Contract.

26.3.4 If liquidated damages are provided in the Contract and the Owner terminates the Contract, the General Contractor shall be liable for such liquidated damages, as provided for in Article 29.2 and 29.3 below, until Substantial Completion and Final Completion of the Work are achieved.

26.3.5 In the event the Contract is terminated, the termination shall not affect any rights of the Owner against the General Contractor. The rights and remedies of the Owner under this Article are in addition to any other rights and remedies provided by law or under this Contract. Any retention or payment of monies to the General Contractor by the Owner will not release the General Contractor from liability.

26.3.6 In the event the Contract is terminated under this Article, and it is determined for any reason that the General Contractor was not in default under the provisions of this Article, the termination shall be deemed a Termination for Convenience of the Owner pursuant to Article 24 and the rights and obligations of the parties shall be determined in accordance with Article 24.

ARTICLE 27 - SUSPENSION OF WORK

27.1 The Owner or the Consultant may, at any time and without cause, order the General Contractor in writing or cause the General Contractor to suspend, delay or interrupt all or any part of the Work for such period of time as the Owner may determine to be appropriate for its convenience. Adjustment may be made for any increase in the Contract time necessarily caused by such suspension or delay, in accordance with Article 21.

ARTICLE 28 - TIME OF COMPLETION

28.1 The General Contractor shall begin the Work on the date of commencement as specified in the Work Order. All time limits stated in the Contract Documents are of the essence of the Contract. The end of the Contract Time shall be the date specified on the approved certificate of Substantial Completion. The time for completion set forth in the Contract is a binding part of the Contract upon which the Owner may rely in planning the use of the facilities to be constructed and for all other purposes.

28.2 Substantial Completion is defined in Article 1.1.17 of these General Conditions. Only incidental corrective Work under punch lists and final cleaning (if required) for Owner's full use shall remain for Final Completion. The ability to occupy or utilize shall include regulatory authority approval unless regulatory approval is delayed due to actions of the Owner or the Consultant. When the Owner accepts and occupies a portion of the Project, the operation, maintenance, utilities, and insurance of that portion of the Project becomes the responsibility of the Owner.

28.3 The date of Substantial Completion shall be that date certified by the Owner, in accordance with the following procedures, that the Work is sufficiently complete to occupy or utilize as defined above.

28.3.1 When the General Contractor considers the entire Work is substantially complete as defined in Article 1.1.17 of these General Conditions, and is ready for its intended use, the General Contractor shall notify the Consultant in writing and request an inspection. The declaration and request shall be

accompanied by a list prepared by the General Contractor of those items of Work still to be completed or corrected. The failure of the General Contractor or Consultant to include any item or items, which are not completed or which need correction, on such list shall not alter the responsibility of the General Contractor to complete all Work in accordance with the Contract Documents.

28.3.2 The Consultant shall, within a reasonable time after receipt of notification from the General Contractor of a declaration of Substantial Completion and request for inspection, make such inspection. Prior to the Substantial Completion Inspection and within sufficient time to allow the Consultant's review, the General Contractor shall submit all As-Built drawings, Notice of Termination, catalog data, complete operating and maintenance instructions, manufacturer specifications, certificates, warranties, written guarantees and related documents required by the contract. The Consultant shall review said documents for accuracy and compliance with the Contract Documents and incorporate them into complete operating instructions and deliver them to the Owner.

28.3.3 If the Consultant considers the Work substantially complete, the Consultant shall recommend that the Owner prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion and the responsibilities between the Owner and General Contractor for security, maintenance, heat, utilities and insurance, if not otherwise provided for in the Contract Documents, and a tentative list of items to be completed or corrected, and shall fix the time within which the General Contractor shall complete the items listed therein. This time shall not exceed thirty (30) Calendar Days unless otherwise provided for in the Work Order. The Certificate of Substantial Completion shall be submitted to the Consultant and General Contractor for their written acceptance of the responsibilities assigned to them in the certificate. The Project shall not be deemed substantially complete until the certificate is issued. If, after making the inspection, the Consultant does not consider the Work substantially complete, the Consultant will notify the Owner and the General Contractor in writing, giving the reasons therefore.

28.4 Operation and Maintenance Manual Deliverables. In anticipation and preparation of completion of the Work and the closing out of the Project, and to facilitate training of the Owner's personnel in the maintenance and operation of the new installations, the Contractor shall comply with the requirements of Article 8.7 of the Special Conditions. (For the purposes of this article, air test and balance reports may be submitted at a later date with the request for certification of substantial completion.) These manuals shall be submitted to the Consultant for approval, and subsequently forwarded to the Owner's Project Manager by or before the time construction is 75% complete, as reflected by the Contractor's most recently submitted Application for Payment.

28.4.1 The provisions of Article 30.11 notwithstanding, if the General Contractor meets the requirements of Article 28.4 above with respect to timely submittal of approvable Operation and Maintenance manuals and provided the project construction is 1) at least 75% complete and 2) is equal to or ahead of the approved progress schedule and 3) the Work completed is in compliance with the requirements of the contract documents, the Owner, at the sole discretion of the Director, Capital Projects Management Division may reduce the retainage to (5%) of the current Contract Amount.

28.4.2 In the event the General Contractor fails to submit acceptable O&M manuals prior to reaching 75% completion, it is agreed that the Owner at its sole discretion may deduct from the current and subsequent Applications for Payment an amount deemed by the Owner to be sufficient to encourage prompt compliance with this contractual requirement, until such time as acceptable O&M manuals are received.

28.5 Project Close Out. When the General Contractor considers that all Work required by the Contract is 100% complete, including correction of any remaining punch list work or deficiencies, the General Contractor shall notify the Consultant in writing and request a final inspection. The Consultant, upon receipt of written notice from the General Contractor that the Work is complete and

is ready for final inspection and acceptance, will promptly make such inspection and when the Consultant finds the Work completed and acceptable under the Contract Documents and the Contract fully performed, the Consultant will so notify the General Contractor in writing to submit, and will certify to the Owner a final Certificate for Payment submitted in accordance with Articles 30.9 and 30.9.1 of these General Conditions. If the General Contractor does not complete the punch items within the time designated, the Owner retains the right to have these items corrected at the expense of the General Contractor including all architectural, engineering and inspection costs and expenses incurred by the Consultant and the Owner, and to deduct such costs and expenses from the funds being held in retainage. The Owner shall not be required to release the retainage until such items have been completed.

ARTICLE 29 - LIQUIDATED DAMAGES

29.1 The Owner and the General Contractor recognize and agree that time is of the essence of this Contract and that the Owner will suffer financial loss if the Work is not completed within the time specified in the Contract plus any extensions that may be allowed. The parties further recognize the delays, expense and difficulties involved in proving the actual loss suffered by the Owner should the Work not be completed on time. The Owner and the General Contractor agree on the amounts stated as liquidated damages in the Agreement. The Owner and General Contractor agree that the amount stated as liquidated damages are not intended to be penalties.

29.2 Should the General Contractor fail to satisfactorily complete the Work under Contract on or before the date stipulated for Substantial Completion, as adjusted by approved Change Orders, if any, the General Contractor will be required to pay liquidated damages to the Owner for each consecutive Calendar Day that the Owner is deprived of full use of the area beyond the date specified unless otherwise stipulated elsewhere by Owner. After the date for Substantial Completion has been certified by the Owner, the General Contractor shall cease to owe liquidated damages until the date established for Final Completion.

29.3 If Final Completion is not achieved by the date established for Final Completion, as adjusted by approved Change Orders, if any, liquidated damages in the amount stipulated in the Agreement will become due and collectable. The Contract will be considered complete and Final Completion shall be deemed to have occurred when all Work has been completed in compliance with the Contract Documents and the Certificate of Final Completion has been issued by the Owner. No deduction or payment of liquidated damages will, in any degree, release the General Contractor from further obligations and liabilities to complete the entire Contract. Permitting the General Contractor to continue and finish the Work, or any part of it, after expiration of the Contract Time, shall in no way constitute a waiver on the part of the Owner of any liquidated damages due under the Contract.

ARTICLE 30 - PAYMENT TO THE GENERAL CONTRACTOR

30.1 Payments on account of this Contract shall be made monthly as Work progresses. The General Contractor shall submit to the Consultant, in the manner and form prescribed, an application for each payment, and, if required, receipts or other vouchers showing payments made for materials and labor, including payments to Sub-contractors. All payments shall be subject to any withholding or retainage provisions of this contract. All pay request documents, except the final payment, shall be submitted in whole dollar amounts. All payment applications from the General Contractor shall include line items for overhead, profit and general condition costs.

30.2 The Consultant shall, within ten (10) Business Days after receipt of each application for payment, certify approval of payment in writing to the Owner and present the application to the Owner, or return the application to the General Contractor indicating in writing its reasons for

refusing to approve payment. The Owner, provided no exception is taken to the application for payment submitted by the Consultant, will issue payment on or within thirty (30) Business Days from the date received from the Consultant. A reasonable delay on the part of the Owner in making payment to the General Contractor for any given payment shall not be grounds for breach of Contract. The Consultant may refuse to approve the whole or any part of any payment if it would be incorrect to make such presentation to the Owner.

30.3 If payment is requested on the basis of materials and equipment not incorporated in the Work, but delivered and suitably stored at an off jobsite location agreed to in writing by the Owner that meets the manufacturer's requirements for the stored material and not-comingled with other material, the General Contractor shall furnish the following:

30.3.1 A list of the materials consigned to the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices.

30.3.2 Certification that all items have been tagged for delivery to the Project and that they will not be used for any other purpose.

30.3.3 A letter from the Surety indicating that the Surety agrees to the arrangements and that payment to the General Contractor shall not relieve either the General Contractor or its Surety of their responsibility to complete the Work.

30.3.4 Evidence of adequate insurance listing the Owner as an additional insured covering the material in storage.

30.3.5 Evidence that representatives of the Consultant have visited the General Contractor's place of storage and checked all items listed on the General Contractor's certificate. They shall certify, insofar as possible, that the items are in agreement with the Specifications and approve their incorporation into the Project.

30.4 The Owner will pay 80% of the invoiced value less retainage for materials stored off site providing the above conditions are met.

30.5 The General Contractor's signature on each subsequent application for payment shall certify that all previous progress payments received on account of the Work have been applied to discharge in full all of the General Contractor's obligations reflected in prior applications for payment.

30.6 Each payment made to the General Contractor shall be on account of the total amount payable to the General Contractor and the General Contractor warrants and guarantees that the title to all materials, equipment and Work covered by the paid partial payment shall become the sole property of Owner free and clear of all encumbrances. Nothing in this Article shall be construed as relieving General Contractor from the sole responsibility for care and protection of materials, equipment and Work upon which payments have been made or restoration of any damaged Work or as a waiver of the right of Owner to require fulfillment of all terms of the Contract Documents.

30.7 Prior to submitting the first application for payment, the General Contractor shall submit to the Consultant and the Owner for approval a detailed breakdown of the Contract Amount pursuant to CSI specification divisions, divided so as to facilitate payment and correlated to the schedule required by General Conditions Article 32 of the Contract Documents. The total value of all activities shall add up to the Contract Amount. When approved by the Consultant and the Owner, this schedule shall be used as a basis for General Contractor's applications for payment and may be used by the Owner to

determine costs or credits resulting from changes in the Work. Failure to obtain the approval of the Schedules of Values shall be a basis for withholding payment to the General Contractor.

30.8 Retainage – The Owner will retain ten percent (10%) of the General Contractor’s progress payments until fifty one percent (51%) of the construction project has been completed. Thereafter, if the Work is fully in compliance with the requirements of the Contract and except as provided for in Article 28.4.1 above, the Owner shall retain five percent (5%) of the total contract amount until Substantial Completion and acceptance of all Work covered by this Contract, as collateral security to insure successful completion of the Work. For the purposes of this Article, the term “in full compliance” shall mean 1) that the progress of the Work is equal to or ahead of that predicted by the Project Baseline schedule and 2) the Work completed is in compliance with the requirements of the contract documents. Subsequent to the issuance of the Substantial Completion Certificate and depending upon the cost involved for the completion and/or correction of punch list items, the Consultant may recommend to the Owner an adjustment to the amount being held as retainage and, if approved by Owner, the amount of retainage may then be reduced and a sufficient sum retained by Owner to assure completion of the remaining unfinished Work. Retainage reduction as provided for in this Article 30.8 is contingent upon the General Contractor and/or Sub-contractors being on or ahead of the approved progress schedule and on verification by the Consultant that the Work completed is in compliance with the requirements of the contract documents

30.8.1 In addition to the retainage set forth above, the Owner may withhold from any monthly progress payments or nullify any progress payments in whole or in part as necessary to protect the Owner from loss on account of:

30.8.1.1 Defective Work which has not been remedied or completed Work which has been damaged requiring correction or replacement, or

30.8.1.2 Action required by the Owner to correct Defective Work or complete Work which the General Contractor has failed or refused to correct or complete, or

30.8.1.3 Failure of the General Contractor to perform any of its obligations under the Contract, or

30.8.1.4 Failure of the General Contractor to make payment properly to Sub-contractors; suppliers of material, services or labor; or to reimburse the University for utilities or other services as provided for in the Contract;

30.8.1.5 Amounts to be withheld as liquidated damages for failure to complete the Project in the allotted Contract time.

30.8.2 When the Owner is satisfied that the General Contractor has remedied any such deficiency, payments shall be made of the amount being withheld on the next scheduled application for payment.

30.9 Final Payment – When all Work is completed and acceptable and the Contract is fully performed, the General Contractor will be directed to submit a final payment application for certification and the entire balance shall be due and payable upon a certification of completion by the Consultant that the Work is in accordance with the Contract Documents.

30.9.1 Upon issuance of the Certificate of Final Completion by the Owner and submittal by the General Contractor of all required documents and releases, all retained amounts shall be paid to the General Contractor as part of the Final Payment. By accepting such payment, the General Contractor certifies that all amounts due or that may become due to any Sub-contractor, any Consultant of the General Contractor, or any vendors or material suppliers, have been paid or will be paid from the

proceeds of the final payment; and that, further, there are not liens, claims or disputes involving the Owner or the Consultant that are outstanding or unresolved.

30.10 The General Contractor shall promptly pay each Sub-contractor and material supplier upon receipt of payment from the Owner the amount to which said Sub-contractor and supplier is entitled, reflecting the percentage actually retained from payments to the General Contractor on account of such Sub-contractor's work. The General Contractor shall, by an appropriate Agreement with each Sub-contractor and material supplier, require each Sub-contractor and supplier to make payments to their sub-contractors, vendors and suppliers in similar manner.

30.10.1 The Consultant may, on request, furnish to any Sub-contractor or material supplier information regarding the percentages of completion applied for by the General Contractor and the action thereon by the Consultant.

30.10.2 Neither the Owner nor the Consultant shall have any obligation to make payment to any Sub-contractor or material supplier except as may otherwise be required by law.

ARTICLE 31 - AUDITS

31.1 The General Contractor's Trade Contractors', sub-contractors' and/or vendor's "records" shall upon reasonable notice be open to inspection and subject to audit and/or reproduction during normal business working hours as may be deemed necessary by the Owner at its sole discretion. Such audits may be performed by an Owner's representative or an outside representative engaged by the Owner. The Owner or its designee may conduct such audits or inspections throughout the term of this contract and for a period of three years after final payment, or longer if required by law. Owner's representative may (without limitation) conduct verifications such as counting employees at the Construction Site, witnessing the distribution of payroll, verifying information and amounts through interviews and written confirmations with General Contractor's employees, field and agency labor, Trade Contractors and vendors.

31.2 "Records" as referred to in this Contract shall include any and all information, materials and data of every kind and character, including without limitation, records, books, papers, documents, subscriptions, superintendents' reports, drawings, receipts, vouchers and memoranda, and any and all other agreements, sources of information and matters that may in the Owner's judgment have any bearing on or pertain to any matters, rights, duties or obligations under or covered by any Contract Document. Such records shall include hard copy, as well as computer readable data if it can be made available, written policies and procedures; time sheets; payroll registers; cancelled payroll checks; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.); original estimates; estimating work sheets; correspondence; change order files (including documentation covering negotiated settlements); back charge logs and supporting documentation; invoices and related payment documentation; general ledger; records detailing cash and trade discounts earned; insurance rebates and dividends; and any other General Contractor or contractor records which may have a bearing on matters of interest to the Owner in connection with the General Contractor's dealings with the Owner (all foregoing hereinafter referred to as the "records") to the extent necessary to adequately permit evaluation and verification of any or all of the following:

- Compliance with Contract requirements for deliverables;
- Compliance with approved plans and specifications;
- Compliance with Owner's business ethics expectations;
- Compliance with Contract provisions regarding the pricing of change orders;
- Accuracy of General Contractor representations regarding pricing of invoices; and
- Accuracy of General Contractor representations related to claims submitted by the General Contractor or its payees.

31.3 The General Contractor shall require all payees (examples of payees include Trade Contractors, Sub-contractors, vendors, and/or material suppliers) to comply with the provisions of this Article by including the requirements hereof in a written contract agreement between the General Contractor and payees. Such requirements to include flow-down right of audit provisions in contracts with payees will also apply to Subcontractors and Sub-subcontractors, material suppliers, etc. The General Contractor will cooperate fully and will cause all related parties and all of the General Contractor's Trade Contractors and/or subcontractors (including those entering into lump sum subcontracts) to cooperate fully in furnishing or in making available to Owner from time to time whenever requested, in an expeditious manner, any and all such information, materials and data.

31.4 Owner's authorized representative or designee shall have reasonable access to the General Contractor's facilities, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this contract and shall provide adequate and appropriate work space in order to conduct audits in compliance with this Article. The General Contractor and its payees agree bear their costs and expenses relating to any inspections and audits.

31.5 If an audit inspection or examination in accordance with this Article discovers any fraud or misrepresentation, or discloses overpricing or overcharges (of any nature) by the General Contractor to the Owner, in addition to making adjustments for the overcharges, the reasonable actual cost of the Owner's audit shall be reimbursed to the Owner by the General Contractor. Any adjustments and/or payments that must be made as a result of any such audit or inspection of the General Contractor's invoices and/or records shall be made within Ninety (90) Calendar Days from presentation of the Owner's findings to the General Contractor.

31.6 The provisions of Articles 31.1, 31.2 and 31.5 notwithstanding, the Owner shall have the right to conduct inspections and audits of any matter relating to the Contract Documents or the Work, which shall be for the Owner's sole benefit and shall not relieve the General Contractor, its sureties, contractors, subcontractors suppliers and their respective employees and agents of any obligations under the Contract Documents.

31.7 Any audits or inspections under Article 31 shall not constitute a waiver of any right the Owner has to accounting or discovery of records in the possession, custody or control of the General Contractor, its sureties, contractors, subcontractors, vendors and their respective employees and agents

ARTICLE 32- PROGRESS & SCHEDULING

32.1 The schedules submitted for this Project shall be prepared using Primavera P6 scheduling software. If approved by the University, and at the sole discretion of the University, schedules submitted in other versions of Primavera scheduling software (Primavera Contractor saved in .xer format, Primavera SureTrak or Primavera P3) may be converted to Primavera P6 format by the University for review purposes. However, the University will not be responsible for any inaccuracies that may result from such conversions.

3.2 The schedules submitted for this Project shall coordinate Work in accordance with all schedules included in the Owner's approved Program. Construction work shall be scheduled and executed such that operations of the University are given first priority. This applies particularly to outages and restriction of access.

32.2.1 The schedules submitted for this Project shall not exceed time limits established for the Project. Schedules which reflect a duration less than the Contract Time are for the convenience of the General Contractor and shall not be the basis of any claim for delay or extension of time.

32.2.2 Schedules shall be revised at appropriate intervals as required by the condition of the Work and the Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

32.2.3 The General Contractor shall also submit a payment schedule indicating the percentage of the Contract Amount and the amount of the anticipated monthly payments that will be requested as the Project proceeds.

32.2.4 The Owner may withhold approval of all or a portion of progress payments until the progress payment schedule and construction schedule have been submitted by the General Contractor.

32.3 The General Contractor shall prepare and keep current, for the Consultant's approval, a separate schedule of submittals coordinated with the General Contractor's CPM construction schedule that provides reasonable time for the Consultant to review the submittals.

32.4 The General Contractor shall cause the work to be performed pursuant to the most recent schedules.

ARTICLE 33 - USE OF COMPLETED PORTIONS

33.1 Upon mutual Agreement between the Owner, General Contractor, and Consultant, the Owner may use a completed portion of the Project after an inspection is made. Such possession and use shall not be deemed as acceptance of any Work not completed in accordance with the Contract Documents, nor shall such possession and use be considered to alter warranty obligations or cause any warranty period to commence prior to Substantial Completion.

ARTICLE 34 - INDEMNIFICATION

34.1 To the fullest extent permitted by law, the General Contractor shall indemnify and hold harmless the Owner, its consultants, and their respective employees and agents from and against all claims, damages, losses and expenses, including attorney's fees, provided that any such claim, loss, damage or expense: (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom, and (b) is caused in whole or in part by any negligent act or omission of the General Contractor, any Sub-contractor or material supplier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This basic obligation to indemnify shall not be construed to nullify or reduce other indemnification rights which the Owner, its consultants, and their respective employees and agents would otherwise have.

34.2 The General Contractor shall also indemnify and hold harmless the Owner, its consultants, and their respective employees and agents from any claims relating to the Project brought against the Owner, its consultants, and their respective employees and agents by any Sub-contractor unless such claims are due to the gross negligence or misconduct of the Owner or Consultant.

34.3 In any and all claims against the Owner its consultants, and their respective employees and agents, by any employee of the General Contractor, any Sub-contractor, any one directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type

of damages, compensation or benefits payable by or for the General Contractor or any Sub-contractor under Worker's Compensation acts, disability benefit acts or other employee benefit acts.

34.4 The obligations of the General Contractor under this Article shall not extend to the liability of the Consultant, his agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Consultant, his agents or employees, provided such giving or failure to give is the primary cause of injury or damage.

ARTICLE 35 - INSURANCE

35.1 The General Contractor shall furnish the Owner the Certificates of Insurance or other acceptable evidence that insurance is effective, and guarantee the maintenance of such coverage during the term of the Contract. Each policy of insurance, except Workers Compensation, shall name the University of Kentucky and the directors, officers, trustees and employees of the University as additional insured on a primary and non-contributory basis as their interest appears. Waiver of subrogation in favor of the University of Kentucky shall apply to all policies. Any endorsements required to validate such waiver of subrogation shall be obtained by the General Contractor at the General Contractor's expense.

35.2 The General Contractor shall not commence, nor allow any Sub-contractor to commence Work under this Contract, until the Owner has reviewed the certificates and approved coverages and limits as satisfying the requirements of the bidding process.

35.3 Workers' Compensation and Employers' Liability Insurance. The General Contractor shall acquire and maintain Workers' Compensation insurance with Kentucky's statutory limits and Employers' Liability insurance as defined in the Special Conditions for all employees who will be working at the Project site. In the event any Work is sublet, the General Contractor shall require any Sub-contractor to provide proof of this insurance for the Sub-contractors' employees, unless such employees are covered by insurance provided by the General Contractor.

35.4. The General Contractor shall either require each Sub-contractor to procure and maintain insurance of the type and limits stated during the terms of the Contract, or insure the activities of such Sub-contractors under a blanket form as described below:

35.4.1 Commercial General Liability Insurance. The General Contractor shall acquire and maintain a Broad Form Comprehensive General Liability (CGL) Insurance Policy including premises - operations, products/completed operations, blanket contractual, broad form property damage, real property fire legal liability and personal injury liability coverage. The Insurance Policy must be on an "occurrence" form only, unless approved by the Owner. Contractual liability must be endorsed to include defense costs. Products and completed operations insurance must be carried for two years following completion of the Work. Policies which contain Absolute Pollution Exclusion endorsements are not acceptable. Coverage must include pollution from "hostile fires". Where required by the risks involved, Explosion, Collapse and Underground (XCU) coverages shall be added by endorsement. If the work involved requires the use of helicopters, a separate aviation liability policy as defined in the Special Conditions will be required. If cranes and rigging are involved, a separate inland marine policy with liability limits as defined in the Special Conditions will be required.

35.4.1.1 The limits of liability shall not be less than defined in the Special Conditions.

35.4.2 Comprehensive Automobile Liability Insurance. The General Contractor shall show proof and guarantee the maintenance of insurance to cover all owned, hired, leased or non-owned vehicles used on the Project. Coverage shall be for all vehicles including off the road tractors, cranes and rigging equipment and include pollution liability from vehicle upset or overturn. Policy limits shall not be less than defined in the Special Conditions.

35.4.3 Excess or Umbrella Liability Insurance. The General Contractor shall acquire and maintain a policy of excess liability insurance in an umbrella form for excess coverages over the required primary policies of broad form commercial general liability insurance, business automobile liability insurance and employers' liability insurance. This policy shall have a minimum as defined in the Special Conditions for each occurrence in excess of the applicable limits in the primary policies. The excess liability policy shall not contain an absolute pollution exclusion and shall include coverages for pollution that may occur due to hostile fires and vehicle upset and overturn. The limits shall be increased as appropriate to cover any anticipated special exposures.

35.5 Builders Risk Insurance. The General Contractor shall purchase and maintain an "all risk" Builder's Risk Insurance policy upon the Work at the site to the full insurable value thereof. Such insurance shall include interests of the Owner, General Contractor, and all Sub-contractors and of their subcontractors. It shall insure against perils of fire, extended coverage, vandalism and malicious mischief. General Contractor's work performed, and materials to be incorporated into the project and stored on the jobsite, will be covered. Builder's Risk does not include temporary buildings, or General Contractor or General Contractor's tools, equipment, or trailers and contents.

35.6 Insurance Agent and Company Insurance as required in the bidding process of the Project shall be written according to applicable state law in Kentucky. The policies shall be written by an insurer duly authorized to do business in Kentucky in compliance with KRS: 304.1-100 and -.110.

ARTICLE 36 - PERFORMANCE AND PAYMENT BONDS

36.1 The General Contractor shall furnish a Performance Bond in the form provided in the Contract Documents in the full amount of the Contract Amount as security for the faithful performance of the Contract. The General Contractor shall also furnish a Payment Bond in the form provided in the Contract Documents in the full amount of the Contract Amount for the protection of all persons performing labor or furnishing materials, equipment or supplies for the General Contractor or its Sub-contractors for the performance of the Work provided for in the Contract, including security for payment of all unemployment contributions which become due and payable under Kentucky Unemployment Insurance Law.

36.2 Each bond furnished by the General Contractor shall incorporate by reference the terms of the Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Amount is adjusted by Change Order, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amounts.

36.3 The performance and payment bonds shall be executed by a surety company authorized to do business in the Commonwealth of Kentucky, and the contract instrument of bonds must be countersigned by a duly appointed and licensed resident agent.

ARTICLE 37 - DAMAGED FACILITIES

37.1 The General Contractor shall repair or replace, at no expense to the Owner, any damaged section of existing buildings, paving, landscaping, streets, drives, utilities, watersheds, etc. caused by Work performed under the Contract or incidental thereto, whether by the General Contractor's own

forces, Sub-contractors or by material suppliers. Such repair or replacement shall be performed by craftsmen skilled and experienced in the trade or craft for the original Work.

37.2 Water damage to the interior of any building caused by Work performed under the Contract or incidental thereto, whether by the General Contractor's own forces, Sub-contractors, or by material suppliers, and whether occurring in a new or existing building, shall be repaired by the General Contractor at the General Contractor's expense, and any materials damaged inside the building, including personal property, shall be repaired or replaced at the full replacement cost by the General Contractor at the General Contractor's expense.

37.3 For existing buildings, the General Contractor, along with the Owner's Representative and Consultant, will tour the Project site to evaluate existing conditions and determine any existing damage before any Work on this Contract is done.

37.4 Should the General Contractor fail to proceed with appropriate repairs in an expedient manner, the Owner reserves the right to have the Work/repairs completed and deduct the cost of such Work/repairs from amounts due or to become due to the General Contractor. If the Owner deems it not expedient to repair the damaged Work, or if repairs are not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

ARTICLE 38- CLAIMS & DISPUTE RESOLUTION

38.1 All General Contractor's claims and disputes shall be referred to the Consultant for review and recommendation. All claims shall be made in writing to the Consultant and Owner, not more than ten (10) days from the occurrence of the event which gives rise to the claim or dispute, or not more than ten (10) days from the date that the General Contractor knew or should have known of the claim or dispute. Unless the claim is made in accordance with these requirements, it shall be waived. Any claim not submitted before Final Payment shall be waived. The Consultant shall render a written decision within fifteen (15) days following receipt of a written demand for the resolution of a claim or dispute.

38.1.1 The provisions of Article 43.2 notwithstanding, claims and disputes between the General Contractor and any Sub-contractor or supplier shall not be referred to the Consultant except to request interpretation and/or clarification of the intent of the plans or specifications. Such claims and disputes between the General Contractor and any Sub-contractor shall be resolved between those parties as required by Article 43.4 of these General Conditions.

38.2 The Consultant's decision shall be final and binding on the General Contractor unless the General Contractor submits to the Consultant and the Project Manager a written notice of appeal within fifteen (15) Calendar Days of the Consultant's decision. The General Contractor must present within fifteen (15) Calendar Days of the notice to appeal a narrative claim in writing with complete supporting documentation. After receiving the written claim, the Project Manager will review the materials relating to the claim and may meet with the Consultant and/or the General Contractor to discuss the merits of the claim. The Project Manager will render a decision within thirty (30) Calendar Days after receiving the written claim and supporting documentation. The decision of the Project Manager shall be final and binding pending further appeal as provided for in Article 39. If the Consultant or the Project Manager do not issue a written decision within thirty (30) calendar days after receiving the claim and supporting documentation, or within a longer period as may be established by the parties to the Contract in writing, then the General Contractor may proceed as if an adverse decision had been received.

38.3 If the Project Manager does not agree with the Consultant's decision on a claim by the General Contractor, the Project Manager shall notify the General Contractor and the Consultant and direct the General Contractor to perform the Work about which the claim was made and the General Contractor shall proceed with such Work in accordance with the Project Manager's instruction. If the General Contractor disagrees with a decision of the Project Manager concerning a General Contractor's claim, the General Contractor shall proceed with the Work as indicated by the Project Manager's decision.

38.4 The General Contractor shall continue to diligently pursue Work under the Contract pending resolution of any dispute, and the Owner shall continue to pay for undisputed work in place.

ARTICLE 39 - CLAIMS FOR DAMAGE

39.1 Should either party to the Contract suffer damage because of wrongful act or neglect of the other party, or of anyone employed by them, or others for whose act they are legally liable, or other controversy arising under the Contract, such claim or controversy shall be made in writing to the other party within thirty (30) days after the first occurrence of the event. Prior to the institution of any action in court, the claim or controversy (together with supporting data) shall be presented in writing to the Director of the Capital Project Management Division at the University of Kentucky ("Director") or his designee for the University of Kentucky. The Director, or designee, is authorized, subject to any limitations or conditions imposed by regulations, to settle, comprise, pay, or otherwise adjust the claim or controversy with the General Contractor. The Director, or designee, shall promptly issue a decision in writing. A copy of the decision shall be mailed or otherwise furnished to the General Contractor. The decision rendered shall be final and conclusive unless the General Contractor files suit pursuant to KRS 45A.245. If the Director, or designee, does not issue a written decision within one hundred and twenty (120) days after written request for a final decision, or within a longer period as may be established by the parties to the Contract in writing, then the General Contractor may proceed as if an adverse decision had been received.

39.2 Any legal action on the Contract shall be brought in the Franklin Circuit Court and shall be tried by the Court sitting without a jury. All defenses in law or equity, except the defense of government immunity, shall be preserved to the Owner. The Owner shall recover from the General Contractor all attorney's fees, costs and expenses incurred to the extent the Owner prevails in defending or prosecuting each claim in litigation of disputes under the Contract. The Owner is the prevailing party under this provision and is entitled to recover attorneys' fees, costs and expenses on a claim-by-claim basis to the extent the Owner successfully defeats or prosecutes each claim. A recovery of a net judgment by the General Contractor shall not be determinative of the Owner's right to recover attorneys' fees, expenses and costs. Rather, such a determination shall be made based on the extent that the Owner successfully defends or prosecutes each distinct claim in litigation under the Contract, even if the Owner does not prevail on every claim. The General Contractor shall be liable to the Owner for all attorney's fees, costs and expenses incurred by the Owner to enforce the provisions of the Contract.

ARTICLE 40 - LIENS

40.1 The filing and perfection of liens for labor, materials, supplies, and rental equipment supplied on the Work are governed by KRS 376.195 et seq.

40.2 Statements of lien shall be filed with the Fayette County Clerk and any action to enforce the same must be instituted in the Fayette Circuit Court, pursuant to KRS 376.250 (2).

40.3 The lien shall attach only to any unpaid balance due the General Contractor for the improvement from the time a copy of statement of lien, attested by the Fayette County Clerk, is delivered to the Owner, pursuant to the provisions of KRS 376.240.

ARTICLE 41 - ASSIGNMENT

41.1 Neither party to the Contract shall assign the Contract, or any portion thereof without the prior written consent of the other, which consent may be granted or withheld in the granting party's sole and absolute discretion. The General Contractor shall not assign any amount or part of the Contract or any of the funds to be received under the Contract unless the General Contractor has the prior written approval of the Owner (which approval may be granted or withheld in the Owner's sole and absolute discretion) and the Surety on the General Contractor's bond has given written consent to any such assignment.

ARTICLE 42 - SEPARATE CONTRACTS

42.1 The Owner reserves the right to enter into other Contracts in connection with the Project or to perform any work with the Owner's forces in the normal sequence of the work as depicted in the then current construction schedule. Except for work performed by University personnel, such contracts shall be assignable to the General Contractor and shall contain the same terms and conditions as the contracts between the General Contractor and the Sub-contractors. The General Contractor will be entitled to a maximum of 7% total fee on the value of such assigned contracts. The General Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate its Work with theirs in such manner as the Consultant may direct.

42.2 Should the General Contractor cause damage to any separate contractor on the Work, and the separate contractor sues the Owner on account of any damage alleged to have been so sustained, the General Contractor shall be responsible for all costs, attorney's fees and expenses incurred by the Owner for defending such proceedings unless the Owner prevails on behalf of the General Contractor in which case fees and expenses will be the responsibility of the separate contractor and if any judgment against the Owner arises therefrom, the General Contractor shall pay or satisfy it and shall pay all costs, attorney's fees and expenses incurred by the Owner.

42.3 If any part of the General Contractor's Work depends upon the work of any other separate contractor, the General Contractor shall promptly report to the Consultant any observed defects in such work that render it unsuitable for proper execution connection. The failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the work, except as to defects which may develop in the other contractor's work after the execution of the work.

42.4 Whenever work being done by the Owner's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various parties involved shall be established by the Owner to secure the completion of the various portions of the Work in general harmony.

ARTICLE 43 - GENERAL CONTRACTOR/SUB-CONTRACTOR RELATIONSHIP

43.1 The General Contractor is fully responsible to the Owner for the acts and omissions of the Sub-contractors and of persons either directly or indirectly employed by them. The General Contractor is responsible for the acts and omissions of persons employed directly by the General Contractor and for the coordination of the Work, including placement and fittings of the various

component parts. No claims for extra costs as a result of the failure to coordinate the Work, or by acts or omissions of the various Sub-contractors, will be paid by the Owner.

43.2 Except as otherwise provided in these Contract Documents, the General Contractor agrees to bind every Sub-contractor by the terms and conditions of the Contract Documents as far as applicable to their portion of the Work. Upon request, the General Contractor shall provide copies of any subcontracts and purchase orders to the Owner or Consultant.

43.3 The General Contractor shall make no substitution or change in any Sub-contractor listed and accepted by the Consultant or Owner except as approved in writing by the Owner. The General Contractor shall not employ any Sub-contractor or supplier against whom the Owner or the Consultant has made reasonable and timely objection.

43.4 Nothing contained in the Contract Documents shall create any contractual relationship between the Owner and any Sub-contractor, Trade Contractor or Supplier, nor shall the General Contractor include any language in their contracts with any Sub-contractor, Trade Contractor and/or Supplier that might imply such a relationship. The General Contractor is hereby notified that it is the General Contractor's contractual obligation to settle disputes between Sub-contractors, Trade Contractors, and/or Suppliers. Neither the Owner nor the Consultant will settle disputes between the General Contractor and any Sub-contractor, Trade Contractor, and/or Supplier or between Sub-contractors, Trade Contractors, and/or Suppliers.

43.4.1 The Owner does not waive sovereign immunity under KRS 45A.245(1) for any claim or claims made by parties not having a written contract with the University of Kentucky.

43.4.2 Third party and/or flow-through type claims, from Sub-contractors and/or suppliers or any other entity not having a written contract directly with the University, are specifically prohibited by this Contract and no provision of the General Contractor's contracts with such entities shall indicate otherwise.

43.4.3 The General Contractor shall indemnify and hold harmless the Owner and its agents and employees from any claims relating to the Project brought against the Owner by any of the General Contractor's Sub-contractors or suppliers, or between their sub-contractors or suppliers.

ARTICLE 44 - CASH ALLOWANCE

44.1 The General Contractor is to provide or require the Sub-contractor(s) to include in the Contract Amount all costs necessary to complete the Work. Costs based on "allowances" shall be permitted only for objectively quantifiable material items and only with the prior written approval of the Owner.

ARTICLE 45 - PROJECT SITE LIMITS

45.1 The General Contractor shall confine the apparatus, the storage of materials, and the operations of Workmen to Project site limits indicated in the Contract Documents and as permitted by law, ordinances, and permits, and shall not unreasonably encumber the site with materials and equipment.

ARTICLE 46 - CLEAN UP

46.1 The General Contractor shall at all times keep the premises free from accumulation of waste material or rubbish caused by the operations in connection with the Work. All corridors and exit

doors must be kept clear at all times. All exit ways, walks, and drives must be kept free of debris, materials, tools and vehicles.

46.2 At the completion of the Work, and prior to final inspection and acceptance, the General Contractor shall remove all remaining waste materials, rubbish, General Contractor's construction equipment, tools, machinery, and surplus materials and shall leave the Work in a clean and usable condition, satisfactory to the Consultant and the Owner. If the General Contractor fails to clean up as provided in the Contract Documents, the Owner may perform the cleaning tasks and charge the cost to the General Contractor.

ARTICLE 47 - POINTS OF REFERENCE

47.1 The General Contractor shall carefully preserve bench marks, reference points and stakes, and in case of willful or careless destruction, the General Contractor shall be charged with the resulting expense of replacement and shall be responsible for any mistake that may be caused by their loss or disturbance.

ARTICLE 48 - SUBSTITUTION - MATERIALS AND EQUIPMENT

48.1 Reference to or the listing of items to be incorporated in the construction without referring to any specific article, device, equipment, product, material, fixture, patented process, form, method or type of construction, or by name, make, trade name, or catalog number shall be interpreted as establishing the general intent of the Contract and the general standard of quality for that item.

48.2 Specific references in the Contract Documents to any article, device, equipment, product, material, fixture, patented process, form, method or type of construction, or by name, make, trade name, or catalog number, with the words "or equal", shall be interpreted as establishing a minimum standard of quality, and shall not be construed as limiting competition.

48.2.1 Substitution of other equipment and materials as "or equal" to items named in the specifications will be allowed provided the proposed substitution is approved by the Consultant and will perform the functions called for by the general design, be similar and of equal quality to that specified and be suited to the same use and capable of performing the same function of that specified. The Contractor has the burden to prove equality of any substitution requested.

48.3 Specific references in the Contract Documents to any article, device, equipment, product, material, fixture, patented process, form, method or type of construction, or by name, make, trade name, or catalog number, without the words "or equal", shall be interpreted as defining an item or source that has after careful consideration been determined by the University as necessary to be compliant with, and/or to function properly within, the University operational system. No substitutions will be allowed.

48.3.1 In the event the Contract Documents contain specific reference to two (2) or more items as described in Article 48.3, any of those listed will be acceptable.

48.4 Substitution of equipment and materials previously submitted by the Contractor and approved by the Consultant will be considered only for the following reasons:

48.4.1 Unavailability of the materials or equipment due to conditions beyond the control of the supplier.

48.4.2 Inability of the supplier to meet Contract Schedule.

48.4.3 Technical noncompliance to specifications.

48.5 In substituting materials or equipment, the Contractor assumes responsibility for any changes in systems or modifications required in adjacent or related work to accommodate such substitutions, despite consultant approval, and all costs associated with the substitution shall be the responsibility of the Contractor. The Consultant shall be reimbursed by the Contractor for any architectural or engineering revisions required as the result of such substitutions.

48.6 Inclusion of a certain make or type of materials or equipment in the Contractor's bid proposal shall not obligate the Owner to accept such materials or equipment if they do not meet the requirements of the Contract Documents and any such substitutions in the preparation of the bid without written approval shall be at the sole risk of the Contractor.

ARTICLE 49 - TEST AND INSPECTION

49.1 Regulatory agencies of the government having jurisdiction may require any Work to be inspected, tested or approved. The General Contractor shall assume full responsibility therefore, pay all costs in connection therewith, unless otherwise noted, and furnish the Consultant the required certificates of inspection, testing or approval.

49.2 The General Contractor shall give the Consultant timely notice of readiness of the Work for all inspections, tests or approvals.

49.3 The technical specifications may indicate specific testing requirements to be performed by the General Contractor. Unless otherwise provided in the Contract Documents, the cost of all such testing shall be the responsibility of the General Contractor. Testing shall be completed using a testing facility or laboratory approved by the Owner.

49.4 The costs of all inspection fees as may be required to construct and occupy the Work shall be the responsibility of the General Contractor.

ARTICLE 50 - WARRANTY

50.1 The General Contractor warrants to the Owner and the Consultant that all materials and equipment furnished under this Contract shall be new and in accordance with the requirements of the Contract Documents, and that all Work shall be of good quality, free from faults and defects and in conformance with the Contract Documents. If required by the Consultant or the Owner, the General Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If the General Contractor requests approval of a substitution of material or equipment, the General Contractor warrants that such installation, construction, material, or equipment will equally perform the function for which the original material or equipment was specified. The General Contractor explicitly warrants the merchantability, the fitness for a particular purpose, and quality of all substituted items in addition to any to any warranty given by the manufacturer and/or supplier. Approval of any such substitution is understood to rely on such warrant of performance. Prior to the Substantial Completion inspection, the General Contractor shall deliver to the Consultant all warranties and operating instructions required under the Contract or to which the General Contractor is entitled from manufacturers, suppliers, and Sub-contractors. All warranties for products and materials incorporated into the Work shall begin on the date of Substantial Completion. The warranty provided in this Article 50 shall be in addition to and not a limitation of any other warranty or remedy required by law or by the Contract Documents, and such warranty shall be interpreted to require the General Contractor to replace defective material and equipment and re-execute defective Work which

is disclosed to the General Contractor by or on behalf of the Owner within a period of one (1) year after Substantial Completion of the entire Work in addition to other warranty obligations beyond one (1) year from Substantial Completion as provided for by law or by the Contract Documents.

50.2 Neither the final payment, any provision in the Contract Documents nor partial or entire use or occupancy of the premises by the Owner shall constitute an acceptance of Work not done in accordance with Contract Documents or relieve the General Contractor or its Sureties of liability with respect to any warranties or responsibilities for faulty materials and workmanship. The General Contractor or its sureties shall remedy any defects in Work and any resulting damage to Work at the General Contractor's own expense. The General Contractor shall be liable for correction of all damage resulting from defective Work. If the General Contractor fails to remedy any defects or damage, the Owner may correct Work or repair damages and the cost and expense incurred in such event shall be paid by or be recoverable from the General Contractor or the surety. The Owner will give notice of observed defects with reasonable promptness.

50.3 The General Contractor shall guarantee that labor, material, and equipment will be free of defects for a period of one (1) year from the date shown on the Certificate of Substantial Completion unless special conditions or additional warranty periods are required by the contract pursuant to Article 23 in addition to warranty obligations which extend beyond one year from Substantial Completion. The Owner will give notice of observed defects with reasonable promptness. Expendable items and wear from ordinary use are excluded from this warranty.

50.4 Should the General Contractor be required to perform tests that must be delayed due to climate conditions, it is understood that such tests will be accomplished by the General Contractor at the earliest possible date with provisions of the general warranty beginning upon satisfactory completion of said test. The responsibility of the General Contractor under this Article will not be abrogated if the Owner should elect to initiate final payment. If the Owner initiates final payment, consent of General Contractor's surety acknowledging that Work not yet tested is required. The General Contractor shall warrant that the entire Project will conform to the Contract Documents.

50.5 In addition to the foregoing, the General Contractor shall warrant for a period of one (1) year that all buildings and other improvements constructed as a part of the Work shall be watertight and leak proof at every point and in every area. The General Contractor shall, immediately upon notification by or on behalf of the Owner of water penetration, determine the source of water penetration and, at the General Contractor's expense, (a) do any work to be necessary to make such buildings or improvements watertight and (b) repair and replace any other damaged material, fences and furnishings damaged as a result of such water penetration and return the buildings or other improvements to their original condition.

50.6 The General Contractor shall address and resolve to the Owner's satisfaction any warranty claims made by or on behalf of the Owner during the above described warranty period and all repairs and replacements made by the General Contractor pursuant to this Article 50 shall be warranted by the General Contractor, on the terms set forth in this Article 50, for a period of time commencing upon the completion of such repairs and replacements and ending on the later of (a) the expiration of the one (1) year warranty period provided for above or (b) six (6) months after the date such repair or replacement is completed.

50.7 All costs, attorney's fees and expenses incurred by the Owner as a result of the General Contractor's failure to honor any warranty for the Work shall be paid by or recoverable from the General Contractor.

ARTICLE 51 - PREVAILING WAGE LAW REQUIREMENTS (NO LONGER USED AS OF 1/9/2017)

ARTICLE 52 - APPRENTICES

52.1 Apprentices (for all classifications of work) shall be permitted to work only under an apprenticeship agreement approved by the Kentucky Supervisor of Apprenticeship and by the Kentucky Apprenticeship and Training, United States Department of Labor.

ARTICLE 53 - GOVERNING LAW

53.1 This Contract and all issues and disputes arising out of this Contract shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Kentucky without consideration of its conflicts of laws principles.

ARTICLE 54 - NONDISCRIMINATION IN EMPLOYMENT

54.1 During the performance of the Contract, the General Contractor agrees as follows:

54.1.1 The General Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin, or disability in employment. The General Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, age, national origin, or disability in employment. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The General Contractor agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

54.1.2 The General Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the General Contractor; state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, national origin or disability in employment.

54.1.3 The General Contractor will send to each labor union or representatives of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representatives of the General Contractor's commitments under this Article, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

54.2 Failure to comply with the above nondiscrimination clause constitutes a material breach of Contract.

ARTICLE 55 - AFFIRMATIVE ACTION; REPORTING REQUIREMENTS

55.1 The General Contractor and any Sub-contractor is exempt from any affirmative action or reporting requirements, under the Kentucky Equal Employment Opportunity Act of 1978, KRS 45.550 to KRS 45.640 "The Act", if any of the following conditions are applicable:

55.1.1 The sub-contract awarded is in the amount of two hundred and fifty thousand dollars (\$250,000.00) or less, and the amount of the sub-contract is not a subterfuge to avoid compliance with the provisions of the Act;

55.1.2 The General Contractor or Sub-contractor utilizes the services of fewer than eight (8) employees during the course of the Contract;

55.1.3 The General Contractor or Sub-contractor employs only family members or relatives;

55.1.4 The General Contractor or Sub-contractor employs only persons having a direct ownership interest in the business and such interest is not a subterfuge to avoid compliance with the provisions of The Act.

55.2 The General Contractor and any Sub-contractor, not otherwise exempted, shall:

55.2.1 For the length of the Contract, hire DBE's from within the drawing area to satisfy the agreed upon goals and timetables. Should the union with which the General Contractor or Sub-contractor have collective bargaining agreements be unwilling to provide sufficient DBE's to satisfy the agreed upon goals and timetables, the General Contractor and Sub-contractors shall hire DBE's from other sources within the drawing area.

Diverse Business Enterprises (DBE) consist of minority, women, disabled, veteran and disabled veteran owned business firms that are at least fifty-one percent owned and operated by an individual(s) of the aforementioned categories. Also included in this category are disabled business enterprises and non-profit work centers for the blind and severely disabled. MBE, WBE, Veterans, Disabled Veterans and Disabled make up Diverse Business Enterprises (DBE)

55.2.2 The equal employment provisions of The Act may be met in part by the General Contractor contracting to a Diverse Business Enterprise (DBE) contractor or Sub-contractor.

55.2.3 Each General Contractor shall, for the length of the Contract, furnish such information as required by The Act and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to its employment practices and Work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with The Act and such rules, regulations and orders issued pursuant thereto.

55.3 If the General Contractor is found to have committed an unlawful practice against a provision of The Act during the course of performing under this Contract, a subcontract covered under The Act, the Owner may cancel or terminate the Contract, conditioned upon a program for future compliance approved by the Owner. The Owner may also declare such General Contractor ineligible to submit proposals on further contracts until such time as the General Contractor complies in full with the requirements of The Act.

55.4 Any provisions of The Act notwithstanding, no General Contractor shall be required to terminate an existing employee, upon proof that employee was employed prior to the date of the Contract, nor hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

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UNIVERSITY OF KENTUCKY
SPECIAL CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION BY A GENERAL CONTRACTOR

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ARTICLE 01 GENERAL INFORMATION

1.1 These Special Conditions are intended to modify, supplement, or delete from applicable Articles of the General Conditions.

1.2 Where any Article of the General Conditions is supplemented by these Special Conditions, the Article shall remain in effect and the supplement shall be added thereto.

1.3 Where Special Conditions conflict with General Conditions, provisions of the Special Conditions take precedence.

ARTICLE 02 FIELD CONDITIONS

2.1 General Contractor will secure all data at the site of the building such as grades of lot, convenience of receiving and sorting material, location of public services, and other information which will have a bearing proposal or on the execution of the Work and shall address these issues in the preparation of their bid. No allowance shall be made for failure of the General Contractor to obtain such site information prior to submitting their proposal, and no adjustment to the General Contractor's Contract amount or stipulated time for completion shall be allowed when due to failure by the General Contractor to do so.

ARTICLE 03 (NOT USED)

ARTICLE 04 CONSULTANT

4.1 Wherever in these Contract Documents reference is made to the Consultant, it shall be understood to mean KFI or their duly authorized representatives. (See Article 2 of the General Conditions.)

ARTICLE 05 GEOTECHNICAL REPORT

5.1 No subsurface or geotechnical survey information is available at this time.

ARTICLE 06 TIME FOR COMPLETION

6.1 The time for Substantial Completion as further defined in Article 1 of the General Conditions shall be 392 consecutive calendar days from the date of commencement as specified in the Work Order letter, and Final Completion shall be thirty (30) days thereafter.

ARTICLE 07 LIQUIDATED DAMAGES

7.1 Should the General Contractor fail to achieve Substantial Completion of the Work under this Contract on or before the date stipulated for Substantial Completion (or such later date as may result from extensions in the Contract Time granted by the Owner), he agrees that the Owner is entitled to, and shall pay the Owner as liquidated damages the sum of \$ 520 Dollars (**Five Hundred and twenty dollars**) for each consecutive calendar day that Substantial Completion has not been met. See Article 3 of the Agreement.

7.2 Should the General Contractor fail to achieve Final Completion of the Work under this Contract on or before the date stipulated for Final Completion (or such later date as may result from extensions in the Contract Time granted by the Owner), he agrees that the Owner is entitled to, and shall pay the Owner as liquidated damages the sum of \$ 390 Dollars (**Three hundred and ninety dollars**) for each consecutive calendar day until Final Completion is reached. See Article 3 of the Agreement.

ARTICLE 08 SUBMITTALS AND SHOP DRAWINGS

8.1 SUBMISSIONS - GENERAL

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8.1.1 The General Contractor shall submit each set of Shop Drawings, product data, samples, and test and/or certification reports as a separate item in UK E-Communication®. Projects not utilizing UK E-Communication® must submit all items electronically to the Consultant and the UK Project Manager and Administrative Coordinator.

8.1.2 All sample selections for color shall be submitted for approval at the same time. Color selections shall not be submitted individually.

8.1.3 Any deviation from the Contract Documents shall be noted on the transmittal form comment section.

8.1.4 All submittals are to be reviewed by the General Contractor for compliance with the Contract Documents before submission for approval. All submittals are to be initiated by the General Contractor. Submittals made directly to the Consultant by sub-contractors, manufacturers or suppliers will not be accepted or reviewed.

8.1.5 Re-submittals shall conspicuously note all changes from earlier submissions. Special notation by the General Contractor shall be made to any changes other than those in response to the Consultant's review.

8.1.6 Manufacturers shall, when requested by the Consultant, submit test reports prepared by reputable firms or laboratories certifying as to performance, operation, construction, wearability, etc., to support claims made by the manufacturer of the equipment or materials proposed for inclusion in the Work. General Contractor shall also submit a list of three (3) installations where said equipment or materials have been in service for a minimum of five (5) years.

8.2 SUBMISSIONS - REVIEW

8.2.1 Review of submittals is only for compliance with the design concept and the contract documents. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR CHECKING DEVIATIONS FROM CONTRACT DOCUMENT REQUIREMENTS OR CHANGES FROM EARLIER SUBMISSIONS NOT SPECIFICALLY NOTED.

8.2.2 The following shall be verified prior to making submittals:

Field Measurements, Field Construction Criteria, Catalog numbers and similar data, Quantities and Capacities, and Compliance with requirements, including verification of all dimensions,

8.2.3 Review Stamp designations shall be as follows:

8.2.3.1 "NET = No Exceptions Taken": Proceed with the Work, no corrections needed.

8.2.3.2 "FC= Furnish as Corrected": Proceed with the Work, noting the corrections/conditions of the approval.

8.2.3.3 "RR = Revise and Resubmit": Do not proceed with the Work, as the submittal does not comply with the Contract Documents. Revisions to the submittal are required for approval. On projects utilizing UK E-Communication, "Send Back a Step" is used in lieu of "Revise and Resubmit."

8.2.3.4 "R = Rejected": Do not proceed with the Work, the submittal is rejected.

8.3 SUBMISSIONS - SPECIAL PROVISIONS

8.3.1 In making a submittal, the General Contractor shall be deemed to be making the following representations:

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8.3.1.1 The General Contractor understands and agrees that he shall bear full responsibility for the products furnished. The General Contractor expressly warrants that products described in the attached submittal will be usable and that they conform to the Contract requirements unless specifically noted otherwise.

8.3.1.2 The General Contractor understands and agrees that, without assuming design responsibility, he expressly warrants that products described in the attached submittal are capable of being used in accordance with the intent of the design documents and that they conform to the Contract requirements unless specifically noted otherwise.

8.3.1.3 The General Contractor acknowledges that the Owner will rely on the skill, judgment, and integrity of the General Contractor as to conformance requirements and subsequent usability.

8.4 SHOP DRAWING AND PROCUREMENT SUBMITTAL LOG

8.4.1 The General Contractor, within ten (10) days after the Pre-Construction meeting, shall begin uploading submittals using UK E-Communication[®], to generate a log fixing the dates for submission of Shop Drawings, special order material items, certifications, guarantees, and any other items required to be submitted to the Consultant for review, approval or acceptance. Projects not utilizing UK E-Communication[®] will submit a Shop Drawing Log provided by the Owner during the Pre-Construction Meeting.

8.4.2 The log shall track all submittals to date. The updated log shall then be reviewed and discussed at each progress meeting to determine items that may impact the construction schedule.

8.5 Shop Drawings

8.5.1 The General Contractor shall review, approve, and submit Shop Drawings to the Consultant, in accordance with the Consultant's Shop Drawing & Procurement Submittal Log or UK E-Communication[®], as herein detailed. By approving and submitting Shop Drawings, the General Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

8.5.2 The General Contractor shall submit Shop Drawings required for the Work and the Consultant will review and take appropriate action. The review and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The approval of a separate item will not indicate approval of the assembly in which the item functions.

8.5.3 The General Contractor shall make any corrections required by the Consultant for compliance with the Contract and shall return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. The General Contractor shall direct specific attention, in writing, or on resubmitted Shop Drawings, to revisions other than the corrections called for by the Consultant on previous submissions. The General Contractor's stamp of approval on any shop drawing or sample shall constitute a representation to Owner and Design Consultant that the General Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar date, or he assumes full responsibility for doing so, and that he has reviewed or coordinated each shop drawing or sample with the requirements of the Work and the Contract Documents.

8.5.4 Where a shop drawing or sample submission is required by the specifications, no related Work shall be commenced until the submission has been approved by the Design Consultant. A copy of each approved shop drawing and each approved sample shall be kept in good order by the General Contractor at the site and shall be available to the Consultant.

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8.5.5 The Consultant's approval of Shop Drawings or samples shall not relieve the General Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the General Contractor has in writing called the Consultant's attention to such deviation at the time of submission and the Consultant has given written approval to the specific deviation. Any approval by the Consultant shall not relieve the General Contractor of responsibility for errors or omissions in the Shop Drawings.

8.5.6 All submittals are to be submitted electronically by the contractor. Shop Drawings submitted through UK E-Communication® shall be scanned and submitted in color. Mark-ups must be made using visible color when printed. Workflow in UK E-Communication® will be established during the workflow meeting. Each individual Shop Drawing shall have its respective specification number and description highlighted.

8.5.7 Where Shop Drawings include fire alarm, communication systems schematics, sprinkler systems, etc., a set of each drawing shall be submitted to the Consultant as part of the "Record" set of drawings.

8.6 SUBMISSIONS - SAMPLES

8.6.1 Office samples shall be of sufficient size and quantity to clearly illustrate functional characteristics of the product with integrally related parts and attachment devices, and full range of color, texture, and pattern.

8.6.2 Products shall not be used until the sample has been submitted to and approved by the Consultant.

8.6.3 A minimum of two (2) samples are required to be submitted to the Consultant for review and approval and will be distributed as follows:

- a) One (1) to be retained by the University.
- b) One (1) to be returned to the Design Consultant.
- c) An additional sample or samples may be submitted, at the General Contractor's option, for distribution to a third party.

8.6.4 Field samples (block, brick, etc.) of materials to be constructed at the site shall be submitted for review as required by the individual section of the Contract Documents.

8.7 SUBMISSIONS - OPERATION AND MAINTENANCE MANUALS

8.7.1 The University requires a minimum of one (1) digital copy of the final installation, training, operation, maintenance, and repair manuals to be turned over to the Owner's Project Manager and approved for content by the Consultant by or before the time construction is 75% complete. Projects utilizing e-Communication will create digital copy from the Document Library (Closeouts) in e-Communication. Operation and maintenance manuals and materials, where specified, for mechanical and electrical equipment and for operating items other than mechanical and electrical equipment must be submitted in PDF format with a separate PDF file for each item. In the event the Construction Manager fails to provide these required electronic submittals prior to reaching seventy-five (75%) completion, it is agreed that the Owner at its sole discretion may deduct from the current and subsequent Applications for Payment an amount deemed by the Owner to be sufficient to encourage prompt compliance with this contractual requirement, until such time as acceptable O&M manuals are received.

8.7.2 Manuals provided must be of sufficient detail to enable the Owner or others to install, calibrate, train, operate, maintain, service and repair every system, subsystem, and/or piece of equipment installed on or as part of this Contract. Manuals submitted through UK E-Communication® shall be scanned and submitted in color. Mark-ups must be made using visible color when printed. Each manual must contain:

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8.7.2.1 Project Title, Project number, Location, dates of submittals, names, addresses and phone number for the Consultant, Construction Manager, and Construction Manager's Subcontractors;

8.7.2.2 An Equipment Index that includes vendors' names, addresses, and telephone numbers for all equipment purchased on the Project.

8.7.2.3 Emergency instructions with phone numbers and names of contact persons on warranty items shall be uploaded to UK E-Communication®.

8.7.2.4 Copies of each system's air balancing record and each system's hydronic balancing record (1) digital copy in eCommunication.

8.7.2.5 Copy of valve tag list.

8.7.2.6 Copy of As-Built temperature control system drawings and components and sequence of operation.

8.7.2.7 Original copies of the following provided by the manufacturer:

Installation manuals	Instruction Manuals
Training manuals	Calibration manuals
Service Manual	Operation manuals
Parts list	Repair manuals
Reviewed Shop Drawings	Wire list
Keying Bit List	

8.7.2.8 Any Computer, Micro controller, and/or Microprocessor equipped equipment installed shall be provided with source code copies of all software and firmware (prom, eprom, rom, other) supplied on this Contract; and

8.7.2.9 Copies of all inspection and guarantee certificates, manufacturers' warranties with the University of Kentucky listed as the Owner for all equipment provided and/or installed.

8.7.2.10 Refer to the Official Design Standards 017800S01 – Closeout Submittals for full details <https://www.uky.edu/cpmd/download/file/fid/78986>

8.7.2.11 If the O&M manuals from any one vendor covering several different model numbers, the model used on the Project must be highlighted.

8.7.2.12 Included in the front of the "Operation and Maintenance Manual" shall be a copy of the Interior and Exterior Finish plan and Schedule listing all finish materials, the manufacturer, the finish color, and the manufacturer's paint number.

8.7.2.13 Photograph album containing photos and negatives or digital images (.pdf format) showing buried utilities and concealed items shall be included.

8.7.3 SUBMISSIONS – OWNER TRAINING VIDEOS

8.7.3.1 Owner training shall be provided for all new and modified electrical and mechanical systems. Video recordings shall be made for each training session. All training videos must be provided to UK Project Coordinator prior to Final Completion.

8.9 SUBMISSIONS – AS - BUILT SET OF DRAWINGS

8.9.1 The General Contractor shall submit one (1) electronic copy of As - Built set of drawings in .pdf format indicating all deviations of construction as originally specified in the Contract Documents. These As-Built Drawings will compile information from the General Contractor as well as all Sub-contractors. The General Contractor shall provide a qualified representative to update the As - Built set of drawings as

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construction progresses. As-Builts submitted through UK E-Communication® shall be scanned and submitted in color. Mark-ups must be made using visible color when printed.

8.9.2 The General Contractor shall provide and utilize a camera to photograph the installation of buried utilities and concealed items. The General Contractor shall provide standard 3 1/2" x 5" photographs with negatives, or digital images (.jpeg format), which shall be submitted as part of the Operation and Maintenance Manuals submission. These photos should be mounted in a bound album or stored on a new flash drive with labeling as to subject of photo, date, and Project. Such album or drive is to be kept at job site with the As - Built set of drawings until submittal of same.

8.9.3 Approval of the Final Payment request will be contingent upon compliance with these provisions. The General Contractor's As – Built set of drawings shall be delivered to the Consultant at their completion so that the Consultant may make any changes on the original contract drawings.

8.10 SUBMISSIONS - SAP EQUIPMENT LIST

8.10.1 Complete equipment list for use with SAP software in electronic spreadsheet format. Data is to be provided in Unifomat format with the information being provided for individual locations as noted in Attachment A – Unifomat Component List. Information is to be provided as follows (PPDMC or CPPD will provide blank Excel spreadsheets in electronic form for use in compiling the information, if desired)

8.10.2 All materials that require preventative maintenance (PM) are listed as in Attachment A. The equipment list is to be provided in Excel spreadsheet format and is to include the information listed in Attachment B

8.10.3 Required maintenance procedure listing each work task in Excel spreadsheet format as shown in Attachment C.

8.10.4 Required frequency of maintenance for the work tasks outlined in 8.9.3 above and included in the Attachment C spreadsheet.

8.10.5 Listing of maintenance parts and items: i.e., filters, lubricants, etc. for each work task listed in 8.9.3 above.

8.11 SUBMISSIONS – MAINTENANCE MATERIALS

8.11.1 If specified, Maintenance/Replacement Materials, Spare Parts, and special maintenance tools for proper maintenance shall be provided by the General Contractor.

ARTICLE 09 PLANS, DRAWINGS, AND SPECIFICATIONS

9.1 The successful General Contractor will receive 1 (**One**) sets of plans and specifications. General Contractor will be required to pay for cost of duplication for all sets required over and above this amount. Payments for Plans, Specifications and Official Contract Documents must be made to Lynn Imaging, Lexington, Kentucky (<http://www.ukplanroom.com/> or phone Lynn Imaging @ 1.800.888.0693 or 859.255.1021) before a set of documents will be issued.

ARTICLE 10 PROGRESS MEETINGS (NOT USED)

ARTICLE 11 CONSTRUCTION SCHEDULE – BAR CHART

11.1 The General Contractor shall prepare construction schedules as a bar chart, with separate divisions for each major portion of the work, and in sufficient detail to identify the plan and sequence of construction to be followed in meeting the requirements of the Contract. Schedules shall include divisions for Work to be accomplished remote from the central construction site, e.g., utilities from outside the construction site to the site for chilled water, steam, electrical, communications, and/or fire service. Such Work shall be

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scheduled so that disruption resulting from construction will be minimized. Start dates and completion dates for such Work must be maintained and completed in the shortest reasonable time. The sequence of listings shall follow the Table of Contents of the Specifications. Maximum sheet size shall be 30" x 42". The schedule shall show the complete sequence of construction, by activity, with dates for beginning and completion of each element of the Work.

11.1.1 For projects requiring a bar chart schedule instead of a Critical Path Method (CPM) schedule, the following Articles of the General Conditions are amended as follows:

11.1.2 Article 21.4.2 of the General Conditions to the Contract is amended to read as follows:

21.4.2 Requests for an extension of time due to unusually bad weather shall be considered for approval only if it is shown that a) the unusual weather event delayed work on a specific weather sensitive activity or activities that had been planned to be underway on the date(s) on which the weather event occurred, as shown in the most recent update to the Project schedule that had been submitted to the Owner prior to the date of the event and b) that the delay to that activity or activities is shown to be the proximate cause of a corresponding delay to the contractually required completion dates for the Project that were shown in the most recent update to the Project schedule. The actual dates on which the delay(s) occurred must be stated and the specific activities that were directly impacted must be identified. In the event of concurrent delays, only those activities actually impacting the Project contractually required completion dates will be considered in evaluating the merit of a delay request and in adjusting the schedule. Time extensions will not be considered for concurrent delays not caused by the Owner. Requests for an extension of time which are not supported by this information shall not be considered for approval by the Owner.

11.1.3 Article 21.4.3 of the General Conditions to the Contract is amended to read as follows:

21.4.3 In anticipation of the possibility of delay due to unusual bad weather, the General Contractor shall identify those activities in the schedules, and those activities subsequently added to updated schedules, that might reasonably be expected to be delayed by bad weather.

11.1.4 Article 21.7 of the General Conditions to the Contract is amended to read as follows:

21.7 The Contract Time will only be adjusted for causes specified above. Extensions of time will only be approved if the General Contractor can provide justification supported by the Project schedule or other acceptable data that such changes extend the contractually required date of Substantial Completion, and that the General Contractor has expended all reasonable effort to minimize the impact of such changes on the construction schedule. No additional extension of time will be granted subsequently for claims having the basis in previously approved extensions of time.

11.1.5 Article 21.8 of the General Conditions to the Contract is amended to read as follows:

21.8 In support of requests for an extension of time not caused by unusual inclement weather, and concurrently with the submittal of any such request, the General Contractor shall submit to the Consultant and the Owner a written impact analysis showing the influence of each such event on contractually required completion dates as shown in the updated Project schedule most recently submitted to the Owner prior to the event. The analysis shall include the sequence of new or revised activities and/or durations that are proposed to be added to the existing schedule including related logic. This impact analysis shall include the new activities and/or activity revisions proposed to be added to the existing schedule and shall demonstrate the claimed impact on the contractually required completion dates. The General Contractor will not be granted an extension of time and/or relief from liquidated damages when the delay to completion of the work is attributable to, within the control of, or due to the fault, negligence, acts, or omissions of the General Contractor and/or the General Contractor's contractors, subcontractors, suppliers, or their respective employees and agents. Time extensions will not be considered for concurrent delays not caused by the Owner. In the event of concurrent delays, only that event actually impacting contractually required completion dates will be considered in adjusting the schedule and evaluating

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the merit of a delay claim. Requests for an extension of time which are not supported by this information shall not be considered for approval.

11.1.6 Article 32.1 of the General Conditions to the Contract is amended to read as follows:

32.1 The General Contractor shall prepare and submit to the Owner and the Consultant a bar-chart type construction schedule for the Work. The schedules shall include all activities necessary for performance of the work showing the duration and the planned start and finish dates for each activity. The schedules shall include, but not be limited to, submittal processing, fabrication and delivery of materials, construction, testing, clean-up, work and/or materials to be provided by the Owner, dates and durations for major utility outages requiring coordination with the Owner and the Owner's operations, and significant milestones related to the completion of the Project.

11.2 The schedule shall be submitted to the Consultant and to the Owner for review within thirty (30) calendar days after the date established for the start of Work on the Project as stated in the official Work Order and Notice to Proceed. Review will be only for general conformance to the requirements of the contract. Review comments and/or acceptance of the Contractor's schedule shall not relieve the Contractor of any obligation for compliance with all requirements of the Contract Documents. Such review and comments shall not constitute interference with the Contractor's means and methods of construction, which shall remain solely the responsibility of the Contractor.

11.3 Schedules shall be revised no less frequently than monthly to coincide with regular monthly Project progress meetings and submission of Applications for Payment and shall be updated to indicate progress of each activity to the date of submittal, the projected completion of each activity, any activities modified since previous submittal, any major changes in scope, and all other identifiable changes, and further shall be accompanied by a narrative report to define problem areas, anticipated delays, impact on the progress of the Work, and to report corrective action taken or proposed.

11.4 Initial schedules shall be submitted within thirty (30) calendar days after the date established in Notice to Proceed. After review, required revisions to the schedule shall be completed and incorporated in the schedule within ten (10) calendar days. Up-dated Progress Schedules shall be submitted with each Application for Payment. Submissions must include one (1) opaque reproduction and one (1) electronic copy (disk or CD) along with a transmittal letter.

11.5 Copies of reviewed Schedules are to be provided to the job site file and, as appropriate, to sub-contractors, suppliers, and other concerned entities, including separate contractors. Recipients are to be instructed to promptly report, in writing, problems anticipated by projections shown in schedules.

11.6 The processing of all progress payments is contingent upon the submission of updated schedules.

11.7 The processing of all Change Orders requesting a time extension to the contract is contingent upon the submission and approval of a revised schedule demonstrating that the change order does impact the date of completion for the entire project. Time extension requests associated with Change Orders that do not impact the date of completion for the entire project will be rejected.

ARTICLE 12 WALK-THROUGH (NOT USED)

ARTICLE 13 OWNER'S CONSTRUCTION REPRESENTATIVE (NOT USED)

ARTICLE 14 FIELD OFFICE (NOT USED)

ARTICLE 15 TELEPHONE SERVICE

15.1 General Contractor shall arrange through UK ITS Communications and Network Systems for installation of on-site phone, internet and other communications services. Telephone service during the

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length of construction shall be paid for by the General Contractor. (Cell phone/Nextel service in lieu of UK ITS Communications and Network Systems phone service may be utilized at General Contractor's option.)

ARTICLE 16 CONSTRUCTION FENCE (NOT USED)

ARTICLE 17 PROJECT SIGN (NOT USED)

ARTICLE 18 PARKING

18.1 No on-campus parking is available. The Contractor shall develop a parking plan as part of the required Pre-Construction Services element of this Contract in anticipation that the majority of required parking will have to be off campus.

ARTICLE 19 SANITARY FACILITIES

19.1 Restroom facilities in one of the surrounding buildings will be designated at the Pre-Construction Meeting for use by the General Contractor's workforce during construction. The designated restroom(s) and areas accessible to General Contractor must be kept clean and neat during construction. Failure to keep them clean will result in the General Contractor being required to provide portable toilets at his cost at the site. Drinking water shall be provided from an approved safe source so piped or transported as to be kept clean and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing governing health regulations.

ARTICLE 20 RULES OF MEASUREMENT

20.1 Rules of Measurement shall be established by the Consultant in the field. Actual measurement shall be taken in the field. These amounts shall become binding upon the General Contractor and be adjusted as before mentioned.

20.2 The General Contractor shall pay for and coordinate through the Consultant and/or the Owner's Project Manager all associated Work by utility companies including relocation of utility poles, installation of new streetlights, relocation of overhead or underground lines, and any other Work called for on the Plans and in the Specifications.

ARTICLE 21 ALLOWANCES (NOT USED)

ARTICLE 22 SEQUENCE OF CONSTRUCTION

22.1 This contractor shall construct the boiler offsite and ship to the local rail site. Another contractor shall move from the rail site to the site, rig into the building, set in place along with the fuel supply line rack, the FD fan and FD VFD. Provide a competent service technician for 15 days on site (over 3 trips) to help with final checkout, startup, boil out, turning, commissioning and owner's training.

22.2 All materials and equipment are to be brought into the project site from the approved staging location and are not to be brought through the existing buildings or loading docks. Any and **all** exceptions shall be approved by, and closely coordinated with, the Owner's Project Manager in advance of scheduling or performing the work.

22.2.1 The General Contractor shall coordinate any road and sidewalk closings, utility disruptions, etc. which will affect the use of the existing building(s) with the Owner's Project Manager prior to commencing that Work.

22.3 The adjacent buildings and public areas will remain in use and the Owner shall have access to the existing building(s) throughout the duration of the Project. The General Contractor shall coordinate construction activity to assure the safety of those who must cross the Project site and shall provide and

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maintain the necessary barriers and accommodations for a completely safe route of accessibility. The General Contractor is to ensure that all exits provide for free and unobstructed egress. If exits must be blocked, prior arrangements must be made with the Owner's Project Manager.

22.4 The General Contractor shall cooperate with the Owner to minimize inconvenience to, or interference with normal use of existing buildings and grounds by staff, students, other Contractors, or the public. General Contractor shall conduct operations to prevent damage to adjacent building structures and other facilities and in such a manner to protect the safety of building's occupants.

22.5 Special effort shall be made by the General Contractor to prevent any employee from entering existing buildings for reasons except construction business. In particular, use of toilets, drinking fountains, vending machines, etc. is strictly prohibited.

ARTICLE 23 CRANE & MATERIAL HOIST OPERATIONS

23.1 General Contractor shall provide appropriate barriers around crane and material hoist to protect pedestrian-and vehicular traffic around operating area. When crane is operating or moving, flag men provided by General Contractor shall be utilized to prevent pedestrian and vehicular traffic from crossing the pathway of crane lift. General Contractor's flag men shall coordinate these activities with the appropriate security personnel.

23.2 Cranes and material hoists shall be safely secured and inaccessible during non-operating hours. General Contractor shall coordinate operation or erection of a crane or material hoist in the vicinity of the Medical Center with Medical Center Aeromedical Operations (Med-evac helicopter).

23.3 Any damage to trees, shrubs, or plant material at the placement of crane or material hoist shall be repaired by tree surgery or replaced as directed by Consultant.

ARTICLE 24 UTILITIES

24.1 This Article modifies Article 8 of the General Conditions. The Owner will provide water and electricity for this Project. The General Contractor shall provide for all temporary taps, hoses, lines, boxes, lighting, and installation of the same for construction operations. Electricity shall not be used for heating purposes. In the event that the General Contractor is wasteful with these utilities, the Owner shall charge the General Contractor accordingly.

24.2 UTILITY OUTAGES

24.2.1 Interruption of Utilities and Services: No utilities or services may be interrupted without full consent and prior scheduling of the Owner. Owner approval is required in writing for each disruption.

24.2.1.1 ENTIRE BUILDING OUTAGE

The Owner's Project Manager is the General Contractor's contact with the University for requesting Utility Outages. The Owner's Project Manager will contact the proper departments and divisions within the University and receive approval from those units prior to allowing a planned outage to occur. The established standard within the University Departments and Divisions of an entire building or group of buildings shall be three weeks written notice. The written notice shall include the type of utility to be interrupted, reason for outage, length of outage, what will be affected by the outage and a statement of whether or not the materials are on hand to complete the Work. If a specific time is desired for the outage, it should be included. The Owner's Project Manager will ensure that all parties affected are contacted and that a time which is least disruptive to all parties is selected. At the appointed outage time, Work shall begin and proceed continuously with all required manpower until Work is complete at no added cost to the University. The Owner's Project Manager will then notify all affected departments or divisions.

24.2.1.2 SECTION OF A BUILDING OUTAGE

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The Owner's Project Manager is the General Contractor's contact with the University for requesting Utility Outages. The Owner's Project Manager will contact the proper departments and divisions within the University and receive approval from those units prior to allowing a planned outage to occur. The established standard within the University Departments and Divisions of a section of a building shall be a written request one week prior to outage. The written request shall include the type of utility to be interrupted, when the outage is desired, reason for outage, length of outage, and what will be affected by the outage. The Owner's Project Manager will ensure that all parties affected are contacted and that a time which is least disruptive to all parties is selected. At the appointed outage time Work shall begin and proceed continuously with all required manpower until Work is complete at no added cost to the University. The Owner's Project Manager will then notify all affected departments or divisions.

ARTICLE 25 CLEANING AND TRASH REMOVAL

25.1 The General Contractor shall keep clean the entire area of new construction and shall keep streets used as access to and from the site free of mud and debris.

25.2 All exit ways, walks, drives, grass areas, and landscaping must be kept free from debris, materials, tools, and vehicles at all times. Trim weeds and grass within the site area.

25.3 Upon completion of the Work, General Contractor shall thoroughly clean and re-sod grass areas damaged to match existing areas.

26.4 All utility markings are to be made with water-based marking paint with low Volatile Organic Compounds (VOC's) and high solids.

26.5 Upon Completion of the project, buried utility paint markings sprayed on walks and hardscapes are to be removed by non-destructive means such as pressure washing. Do not use chemicals. If a washed area is noticeable, the entire surface must be washed and or blended to match surrounding areas.

25.6 The General Contractor shall be responsible for removal from the site of all liquid waste or other waste (i.e., hazardous, toxic, etc.) that requires special handling on a daily basis.

25.7 Dumpsters will be provided and maintained by the General Contractor.

25.8 During Work at the Project site, the General Contractor shall clean and protect Work in progress and adjoining Work on a continuing basis. General Contractor shall apply suitable protective covering on newly installed Work where needed to prevent damage or deterioration until the time of Substantial Completion. General Contractor shall clean and perform maintenance on newly installed Work as frequently as necessary through remainder of construction period.

25.9 The General Contractor shall be responsible for daily cleaning of spillage's and debris resulting from his and his Sub-contractor's operations, (includes removal of dust and debris from wall cavities), and for providing closed, tight fitting (dustproof if required), waste receptacles to transport construction debris from the work area to the dumpster. Broom clean all floors no less than once a week. The General Contractor shall empty such receptacles into the trash container when full or when directed to be emptied by the Consultant and/or Owner's Project Manager, but not less than weekly. The use of hospital waste and trash receptacles is strictly prohibited, except as otherwise provided by the project specifications.

25.10 Failure to comply with the above requirements shall be cause of stopping work until the condition is corrected.

ARTICLE 26 BLASTING

26.1 There shall be no blasting under any conditions on University of Kentucky property unless specified in these Special Conditions.

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ARTICLE 27 CUTTING AND PATCHING - NEW AND EXISTING WORK

27.1 New Work - Cutting and patching shall be done by craftsmen skilled and experienced in the trade or craft that installed or furnished the original Work. Repairs shall be equal in quality and appearance to similar adjacent Work and shall not be obviously apparent as a patch or repair. Work that cannot be satisfactorily repaired shall be removed and replaced.

27.2 Existing Construction - Refer to Architectural, Mechanical, and Electrical drawings for cutting and patching. All new Work shall be connected to the existing construction in a neat and workmanlike manner, presenting a minimum of contrast between old and new Work. Do all patching of the existing construction as may be required for the new construction to be done. Necessary patching, closing of existing openings, repairing, and touching up shall be included as required for a proper, neat, and workmanlike finished appearance. Any existing item that is to remain and is damaged during construction shall be replaced at the General Contractor's expense.

ARTICLE 28 UNRELATED PROJECTS

28.1 Unrelated construction Projects may be under way in the vicinity of this Project or the site utility work during the course of the Work related to this Project. The General Contractor for this Project must coordinate with any other contractors regarding overlapping areas. See Article 42 - Separate Contracts of the General Conditions.

ARTICLE 29 OWNER SUPPLIED MATERIALS

29.1 Owner, in an effort to expedite this Project, has pre-ordered certain long lead time items. The following is the list of material that has been pre-Ordered:

1. None

ARTICLE 30 REMOVED ITEMS

30.1 The following is a list of items to be turned over to the Owner by the General Contractor after removal by the General Contractor. If there are additional items listed in the drawings to be turned over to the Owner, but not listed here, it shall be construed as being listed here.

1. None

30.2 All items which are identified to be turned over to the Owner must be treated with the utmost care and protected during removal and transport from damage.

30.3 Materials to be turned over to the Owner by the General Contractor shall be delivered to a warehouse within a five (5) mile radius of the Project site.

ARTICLE 31 INTERIOR ENCLOSURE AND DUST ENCAPSULATION (NOT USED)

ARTICLE 32 UK ITS COMMUNICATIONS AND NETWORK SYSTEMS (NOT USED)

ARTICLE 33 EMERGENCY VEHICLE ACCESS

33.1 Emergency Vehicle Access must be maintained during construction. The General Contractor shall coordinate with the local Fire and Emergency Medical Services department(s) that would respond to an emergency during the initial start-up of construction to ensure a complete understanding of their requirements.

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ARTICLE 34 SMOKE DETECTORS / FIRE ALARM SYSTEMS- EXISTING AND/OR NEW FACILITIES

34.1 General Contractor shall protect all smoke detectors in Work areas to prevent false alarms. The General Contractor will be responsible for any false alarm caused by dust created in their Work areas or dust traveling to areas beyond the Work past inadequate protection barriers. If there is a need for an existing or newly installed fire alarm system or parts of that system to be serviced, turned off, or disconnected, prior approval must be obtained from the Owner's Project Manager and notification given to the Campus Dispatch Office. The General Contractor must follow the procedure outlined for Utility Outages and any documented costs charged by the responding fire department due to a false alarm shall be paid by the General Contractor. As soon as all Work is completed, notification must be given to the Owner's Project Manager and to the Campus Dispatch Office prior to reactivation of the system. Prior to Final Payment to the General Contractor, all protected smoke detectors will be uncovered and tested.

34.1.1 When the function of any fire alarm, detection or suppression system is impaired, a temporary system shall be provided. General Contractor shall provide daily reports indicating the Superintendent has walked through the project at the end of each work period, to satisfy himself there are no present conditions that may result in an accidental fire. Portable fire extinguishers shall be on site during this time. The General Contractor is responsible for inspecting and testing any temporary systems on a monthly basis.

ARTICLE 35 SURVEYS, RECORDS, and REPORTS

35.1 General: Working from lines and levels established by property survey, and as shown in relation to the Work, the General Contractor will establish and maintain bench marks and other dependable markers to set lines and levels for Work at each area of construction and elsewhere on site as needed to properly locate each element of the entire Project. The General Contractor shall calculate and measure from the benchmarks and dependable markers required dimensions as shown (within recognized tolerances if not otherwise indicated) and shall not scale drawings to determine dimensions. General Contractor shall advise Sub-contractors performing Work of marked lines and levels provided for their use in layout of Work.

35.2 Survey Procedures: The General Contractor shall verify layout information shown on drawings, as required for his own Work. As Work proceeds, surveyor shall check every major element for line, level, and plumb (as applicable), and maintain an accurate Surveyor's log or Record Book of such checks available for General Contractor or Design Consultant's reference at reasonable times. Surveyor shall record deviations from required lines and levels, and advise Design Consultant or General Contractor promptly upon detection of deviations exceeding indicated or recognized tolerances. The General Contractor shall record deviations which are accepted (not corrected) on Record Drawings.

ARTICLE 36 TOBACCO PRODUCTS PROHIBITED

36.1 For areas located within Fayette County, Kentucky, the use of all tobacco products is prohibited on all property that is owned, operated, leased, occupied, or controlled by the University. "Property" for purposes of this paragraph includes buildings and structures, grounds, parking structures, enclosed bridges and walkways, sidewalks, parking lots, and vehicles, as well as personal vehicles in these areas. To view the Lexington campus boundaries: <http://www.uky.edu/TobaccoFree/files/map.pdf>.

36.2 For areas not located within Fayette County, Kentucky, smoking is prohibited in all owned, operated, leased, or controlled University buildings and structures, parking structures, enclosed bridges and walkways, and vehicles. Smoking is also prohibited outside buildings and structures within 20 feet of entrances, exits, air intakes, and windows, unless further restricted by division policy.

36.3 General Contractor employees violating this prohibition will be subject to dismissal from the Project.

36.4 For the full Administrative Regulation see University AR 6:5.
<http://www.uky.edu/Regs/files/ar/ar6-5.pdf>

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ARTICLE 37 ALTERNATES

37.1 Alternate(s) will be accepted in the sequence of the Alternates listed on the Bid Form, and the lowest Bid Sum will be computed on the basis of the sum of the base Bid and any alternates accepted, within the budgeted amount.

37.2 Schedule of Alternates:

1. Boiler Efficiency Tuning Event – One Year after start-up of the boiler, or upon owner request, an efficiency improvement tuning event may occur. Vendor is to include the optional pricing for a tuning event to improve efficiency based upon operating results.
2. Provide an alternate price for 0.00314 lb/MMBtu Particulate Matter emissions guarantee with the same output of steam and options.
3. Provide an alternate price for 9 PPM NOx boiler and burner with the same output of steam and options.
4. Provide additional price for "best available control technology" on both options above.

ARTICLE 38 FIELD CONSTRUCTED MOCKUPS (NOT USED)

ARTICLE 39 PROJECT COORDINATION VIA COMPUTER (NOT USED)

ARTICLE 40 HOT WORK PERMITS

40.1 All work involving open flames or producing heat and/or sparks in occupied buildings on the University of Kentucky campus will require the General Contractor to obtain approval to perform "Hot Work" on site. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing, and Cadwelding. A copy of the Hot Work Permit and the Hot Work Permit Procedure will be passed out at the Preconstruction Conference for the General Contractor's use.

ARTICLE 41 INSURANCE

41.1 Employers' Liability Insurance. The General Contractor shall acquire and maintain Employers' Liability insurance with at least \$500,000/\$500,000/\$500,000 limits of liability for all employees who will be working at the Project site.

41.2.1 Commercial General Liability Insurance. If the work involved requires the use of helicopters, a separate aviation liability policy with limits of liability of \$100,000,000 will be required. If cranes and rigging are involved, a rigger's liability policy with liability limits of \$20,000,000 is required in addition to an inland marine policy covering the value of the contents being moved.

41.2.1.1 The limits of liability shall not be less than \$5,000,000 each occurrence combined single limits for bodily injury and property damage.

41.2.2 Comprehensive Automobile Liability Insurance. Policy limits shall not be less than \$2,000,000 for combined single limits for bodily injury and property damage for each occurrence.

41.2.3 Umbrella Liability Insurance. This policy shall have a minimum of \$5,000,000 combined single limits for bodily injury and property damage for each occurrence in excess of the applicable limits in the primary policies.

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41.2.4 Workers' Compensation - Statutory Requirements (Kentucky)

ARTICLE 42 KEY ACCESS

42.1 If Construction Cores are NOT utilized, then one set of keys for access to the renovation project area will be provided to the General Contractor by the University's Project Manager. The General Contractor assumes responsibility for the safekeeping of the key(s) and its use. When leaving the renovation area all doors must be secured.

42.2 All keys must be returned to the University's Project Manager upon completion of project work as one of the requirements for Final Payment. Failure to return the keys may require re-keying of all doors in the work area up to and including the entire building if master keys are issued. The cost of re-keying of the door(s) accessed by the key(s) will be subtracted from the remaining contract dollars including contract retainage.

42.3 All lost or stolen keys must be reported immediately to the University's Project Manager.

ARTICLE 43 CEILING CLEARANCE (NOT USED)

ARTICLE 44 METAL ANCHORS

44.1 All anchoring devices utilized to secure materials to the building shall be metal. Plastic or plastic expansion components shall not be used. This shall include all fasteners for mechanical/electrical hangers.

ARTICLE 45 CONTRACTOR/SUPERINTENDENT EXPERIENCE (NOT USED)

ARTICLE 46 LOADING DOCK (NOT USED)

ARTICLE 47 CONSTRUCTION PATH (NOT USED)

ARTICLE 48 HOSPITAL PROJECT PROCEDURE (NOT USED)

ARTICLE 49 WORKING HOURS/ACCESS: FOR MEDICAL CENTER/HOSPITAL (NOT USED)

ARTICLE 50 SECURITY BADGES AND MEDICAL CENTER SECURITY (NOT USED)

ARTICLE 51 HOSPITAL CONSTRUCTION CERTIFICATION (NOT USED)

ARTICLE 52 APPEARANCE (NOT USED)

ARTICLE 53 HIPAA (The Health Insurance Portability and Accountability Act) (NOT USED)

ARTICLE 54 SAFETY & FIRE PROCEDURES (NOT USED)

ARTICLE 55 INTERIM LIFE SAFETY MEASURES (ILSM) (NOT USED)

ARTICLE 56 TREE PROTECTION STANDARDS (NOT USED)

ARTICLE 57 COVID-19 POLICY

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Any and all companies/organizations working on the University of Kentucky's campus shall have in place for the period of the contract a COVID-19 policy that is consistent with the University of Kentucky's current COVID-19 policy.

REVISION DATE	PAGES	REMARKS
March 2022	ALL	Design Guidelines updated
December 2023	12	Video Training Documentation Requirement added.
August 2024	ALL	Changed construction fence mesh color to blue. Revised documentation requirements. Additional content and grammatical changes.

SECTION 017900 - DEMONSTRATION AND TRAINING SPECIFICATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawing and General Provisions of the contract, including general and supplementary conditions and other Division 01 specifications sections, apply to this section.

1.2 SUMMARY

- A. This section includes administrative and procedural requirements for instructing owner's personal, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training video.
- B. Related sections include the following:
 - 1. Divisions 02 through 49 Sections for specific requirements for demonstration and training for products in those sections.

1.3 SUBMITTALS

- A. Instruction program: Submit Outline of instructional program for demonstration and training, include topic of training, instructor's name and title, and expected duration. Include learning objective and outline for each training module. This submission is due when the project is 75% complete.
- B. Qualification data: For instructor and photographer. Photographer shall be acquired and coordinated by the general contractor or construction manager.
 - 1. If it is decided that a professional photographer will not be required due to the size of a project (at the discretion of the Project Manager), the proposed video and audio recording equipment shall be submitted for approval.
- C. Attendance record: For each training module, submit list of participants, sign-in sheet, and length of instruction time.
- D. Demonstration and training video files: Submit files within seven days of each training module.

1.4 QUALIFICATIONS

- A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Requirements", experienced in operation and maintenance procedures and training.
- B. Photographer Qualifications: A professional photographer who is experienced photographing construction projects.

- C. Pre-Instruction Conference: Conduct conference at project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content for instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavourable.

1.5 COORDINATION

- A. Coordinate instruction schedule with project manager. Adjust schedules as required to minimize disrupting owner's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
 - 1. Do not schedule owner training to coincide with the start-up of a piece of equipment or system. The university staff may be invited to watch a start-up, but the formal training shall occur on a date after the equipment or system has been started-up and is operating correctly. All integration to the campus BAS monitoring and control system shall be complete prior to owner training.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by architect.

PART 2 – PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows but not limited to:
 - 1. Boiler, safeties, burner and controls.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. Systems, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.

- h. Performance curves.
- 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Drawings.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
- 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
- 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
- 5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
 - a. Diagnostic Instructions.
 - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
- 8. Inspection procedures:
 - a. Types of cleaning agents to be used and methods of cleaning.
 - b. List of cleaning agents and methods of cleaning detrimental to product.
 - c. Procedures for routine cleaning.
 - d. Procedures for preventive maintenance.

- e. Procedures for routine maintenance.
- f. Instruction on use of special tools.
- 9. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and re-assembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials for instruction, including documentation and training module. Assemble training modules into a combined training manual. Provide handouts of pertinent training information for each class attendee.
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Engage qualified instructors to instruct owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- B. Scheduling: Provide instruction at mutually agreed on times. At least two sessions of the same information for each training module for accommodation of the maintenance staff are required. This requirement accounts for staff working off-shifts. This second training will be required during the off-shift. More sessions may be required for specific modules which will be noted in project specifications when warranted by equipment type.
- C. Schedule training with owner with at least 30 days advance notice.
- D. Cleanup: Collect used and leftover educational materials and remove from project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.3 DEMONSTRATION AND VIDEO

- A. General: Engage a qualified commercial photographer to record demonstration and training video. The photographer shall be consistent across all trainings. For this reason, the photographer services shall be acquired and coordinated by the general contractor or construction manager. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video Format: High definition video format in MP4 files.

- C. Recording: Mount Camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
- D. Audio: Audio of instruction must be clear and understandable – whether filming takes place in a classroom or an operational mechanical room. Instructor is required to wear a lapel mic or similar.

END OF SECTION 017900

SECTION 235233 - WATER-TUBE BOILERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes 100,000 lbs/hr water-tube boiler for generating steam with combination gas and #2 fuel oil, low NOx (<30ppm NOx) with no EFGR.
- B. Provide additional price for ultra low NOx (<9ppm NOx) boiler and burner.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, include the following:
 1. Construction details, material descriptions, dimensions, and weights of individual components, profiles, and finishes for boilers.
 2. Rated capacities, operating characteristics, and furnished specialties and accessories.
 3. Predicated boiler efficiency while operating at design capacity and at varying part loads with basis indicated.
 4. Predicated emissions levels while operating at design capacity and at varying part loads with basis indicated. Indicate operation that produces worst-case emissions.
 5. Technical data for refractory and insulation, including temperature rating, thermal performance, attachment, and arrangement.
 6. Calculations showing predicated surface temperature of boiler jacket with basis indicated.
 7. Force and moment capacity of each piping and flue connection.
 8. Dimensioned location of low, high, and normal water level, showing operating set point and each alarm set point.
 9. Temperature and pressure rating, size, and materials of construction for boiler trim components, including piping, fittings, flanges, unions, and valves. Provide valve manufacturer's product data for each valve furnished. For safety valves, include trip and reset settings and flow capacity.
 10. Manufacturer's product data showing size, scale range, and accuracy of thermometers and pressure gages.
 11. Pressure ratings, size, and materials of construction for boiler fuel train components, including piping, fittings, flanges, unions, switches, and valves. Provide manufacturer's product data for each valve and switch furnished.
 12. Detailed information of controls, including product data with technical performance, operating characteristics, and sequence of operation.
 13. Product data for each motor, including performance, operating characteristics, and materials of construction.

- B. Shop Drawings: For boilers, boiler trim, and accessories.
 - 1. Including plans, elevations, sections, and mounting details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Design calculations and base details, signed and sealed by a qualified professional engineer.
 - a. Base Details: Details fabrication, including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - 4. Include diagrams for power, signal, and control wiring. Differentiate between factory and field installation.
 - 5. Include piping diagrams of factory-furnished piping that indicate size and each piping component.

1.4 INFORMATIONAL SUBMITTALS

- A. Installation instructions.
- B. Source quality-control reports.
- C. Field quality-control reports.
- D. Tuning Report indicating all setup values and results for all fuels and modes of operation.
- E. Sample Warranty: For special warranty.
- F. Other Informational Submittals:
 - a. ASME "S" Stamp Certification and Report: Submit "S" stamp certificate of authorization as required by authorities having jurisdiction, and document hydrostatic testing of piping external to boiler.
 - b. Startup service reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For boilers, components, and accessories to include in emergency, operation, and maintenance manuals.
- B. Spare Parts List: Recommended spare parts list with quantity for each.
- C. Touch-up Paint Description: Detailed description of paint used in application of finish coat to allow for procurement of a matching paint.
- D. Instructional Videos: Including those that are prerecorded and those that are recorded during training.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Tool kit to include the following (if specialty tools required):
 - 1. A tool kit specially designed by boiler manufacturer for use in servicing boiler(s) furnished.
 - 2. Special tools required to service boiler components not readily available to Owner service personnel in performing routine maintenance.
 - 3. Lockable case with hinged cover, marked with large and permanent next to indicate the special purpose of tool kit, such as "Boiler Tool Kit." Text size shall be at least 1 inch (25 mm) high.
 - 4. A list of each tool furnished. Permanently attach the list to underside of case cover. Text size shall be at least 0.5 inch (13 mm) high.
- B. Touch-up Paint: 32-oz. (1-L) container of paint used for finish coat. Label an outside of container shall have a detailed description of paint to allow for procurement of a matching paint in the future.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Ship boilers from the factory free of water. Drain water and blow dry with compressed air if required to remove all water before shipping.
- B. Cover and protect flue, electrical controls, and piping connections before shipping. Protect and seal openings and connections with blinds, caps, plugs, and other materials during delivery, storage, and handling.
- C. Protect boiler components with removable temporary enclosures to prevent damage during shipping, storage, and installation.
- D. Package boiler for export shipping and totally enclosed.

1.8 WARRANTY

- A. Warranty: All parts and materials shall be warrantied for 12 months after successful startup.
- B. Special Warranty: Manufacturer agrees to repair or replace "pressure parts" (drums, tubes, headers,...) of boilers that fail in materials or workmanship within 5 years.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Kentucky Boiler Code: Provide boilers in accordance with Kentucky Boiler Code.
- B. Fuel-to-steam efficiency shall be based on the following:
 - 1. Efficiency Testing Method: ASME Performance Test Code (PTC) 4, Input-Output method.
- C. Gas-Fired Boiler Emissions: Not to exceed allowable ambient-air quality standards in governing jurisdiction and indicated values. All emissions are guarantees will be from 25% to 100% MCR (maximum continuous rating).

1. Carbon monoxide:
 - a. 50 parts per million at any point listed above.
 2. Nitrogen compounds: 30 parts per million (dry volume basis and corrected to 3 percent oxygen) at any point listed above.
 3. Sulfur compounds: One part per million (dry volume basis and correct to 3 percent oxygen) at any point listed above.
 4. Hydrocarbon and Volatile Organic Compounds: 10 parts per million (dry volume basis and corrected to 3 percent oxygen) at any point listed above.
 5. Particulate Matter: 0.01 lb/MMBtu.
 6. Smoke: Not visible and not exceed 10% opacity.
- D. Oil-Fired Boiler Emissions: Not to exceed allowable ambient-air quality standards in governing jurisdiction and indicated values. All emissions are guarantees will be from 25% to 100% MCR.
1. Carbon monoxide:
 - a. 50 parts per million at any point listed above.
 2. Nitrogen compounds: 90 parts per million (dry volume basis and corrected to 3 percent oxygen) at any point listed above.
 3. Sulfur compounds: One part per million (dry volume basis and corrected to 3 percent) at any point listed above.
 4. Hydrocarbon and Volatile Organic Compounds: 10 parts per million (dry volume basis and corrected to 3 percent oxygen) at any point listed above.
 5. Particulate Matter: 0.03 lb/MMBtu.
 6. Smoke: Not visible and not exceed 10% opacity.
- E. Steam Quality: 99.9 percent dry.
- F. Operation Following Loss of Normal Power:
1. Equipment, associated factory- and field-installed controls, and associated electrical equipment and power supply connected to back-up power system shall automatically return equipment and associated controls to the operating state occurring immediately before loss of normal power without need for manual intervention by an operator when power is restored either through a back-up power source or through normal power if restored before back-up power is brought online.
 2. Refer to Drawings for equipment served by back-up power systems.
 3. Provide means and methods required to satisfy requirement even if not explicitly indicated.
- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- H. ASME Compliance: Fabricate and label boilers to comply with 2023 ASME Boiler and Pressure Vessel Code.
- I. ASHRAE/IES 90.1 Compliance: Boilers shall have minimum efficiency according to "Gas and Oil Fired Boilers - Minimum Efficiency Requirements."
- J. DOE Compliance: Minimum efficiency for boilers with capacity of 300,000 Btu/h (87.9 kW) shall comply with 10 CFR 430, Subpart B, Appendix N, "Uniform Test Method for Measuring the

Energy Consumption of Furnaces and Boilers."

2.2 STEEL WATER-TUBE BOILERS

A. Scope of Work

1. This specification covers the manufacture; shop assembly and delivery of the boiler complete with accessories as herein described in further detail.
2. Design, construction and materials shall conform to ASME Power Boiler Code, latest revision.
3. The Engineer and Owner's Representative shall be notified 30 days before the shell is installed so that a factory visit can be performed to review the quality of construction. Expenses shall be paid by the owner.
4. The following items should be provided with this bid:
 - a. Fan Silencer.
 - b. Data Logging and Collection System.
 - c. Boil-out gauge glasses.
 - d. Boil-out chemicals.

B. Description of Work

1. Equipment to be furnished.
2. Furnish one (1) shop assembled, water tube package boiler, complete with appurtenances and accessories as outlined below to provide the rated capacity with a maximum NO_x level of 30ppm. All main boiler parts and accessory items for each unit must be located for easy attendance at the front of the boiler. All components that will be in contact with the steam should be rated for 300 psig and 500°F.
3. The boiler manufacturer shall be responsible for the correct wiring and piping of the system. They shall coordinate the work described below to ensure a completely operational system when the project is complete. Piping between panel and valve rack and between valve rack and boiler; insulation of piping provided; wiring between terminal blocks on control panel and boiler, wiring of fans, shall be provided by the boiler manufacturer. All field installations shall be performed by licensed pipefitters and electricians and inspected by the authorities having jurisdiction in the Commonwealth of Kentucky.
4. It is the intent of this specification that only the following will be done on site by the Installing Contractor.
 - a. Installation of boiler and valve rack housekeeping pads.
 - b. Rigging of boiler, control panel, valve rack, non-wind box mounted FD fans.
Rigging of boiler, control panel, valve rack, non-wind box mounted FD fans.
 - c. Installation of the Burner.
 - d. Installation of the Forced draft fan.
 - e. Provide and installation of the Forced draft fan VFD.
 - f. Connection of boiler
 - g. Installation of feedwater control valve bypass valves.
 - h. Installation of the Fuel supply lines to valve rack.
 - i. Installation of the Air supply to control panels.
 - j. Installation of the Electrical connections to panels.

- k. Installation of the Steam piping, valves and fittings from boiler main steam outlet.
- l. Installation of the Exhaust piping from safety valves.
- m. Installation of safety valves (safety valves shipped loose).
- n. Installation of blowoff valves (valves shipped loose).
- o. Piping leaving blowoff valve outlet.
- p. Installation of flues and ducts.
- q. Moving of the boiler from the rail site to the boiler house.

C. Required Operating Conditions

Each boiler shall have a maximum continuous capacity to produce 100,000 pounds of steam per hour at 150 PSIG operating pressure at the boiler outlet when supplied with 228o F feed water at teh economizer inlet. Average solids in the steam leaving the boiler shall not exceed 3 PPM with a boiler water solids concentration of 3500 PPM or less.

1. Design and Operating Conditions:

- a. Boiler capacity: LB/HR 100,000
- b. Design pressure: PSIG 300
- c. Design pressure of piping and trim: PSIG 300
°F 500
- d. Operating pressure: PSGI 150
- e. Operating temperature: °F 366
- f. Elevation above Sea Level: 988 Ft.
- g. Combution Air Temperature: 80°F
- h. Natural Gas Supply Pressure: 40 psig
- i. No. 2 Fuel Oil Supply Pressure: 130 psig
- j. Nitrous Oxide emissions less than 30 ppm (firing Natural Gas)
- k. Feed water temperature leaving deaerator: °F 228
- l. Electrical characteristics: 460V/3PH/60HZ
120V/1PH/60HZ

2. When firing the indicated fuel at full load the efficiency of the boiler at specified capacity shall not be less than:

- a. Natural gas: 83.5%

3. Fuel

- a. In determining the performance of the boiler and in the absence of specific fuel analysis, the following ultimate analyses shall be used.

	Natural Gas
BTU	1000 BTU/Cu. Ft.
Methane, CH ₄	90% by volume
Ethane, C ₂ H ₆	5% by volume
Nitrogen, N ₂	5% by volume

4. Boiler

- a. The boiler shall be of the two drum, "D" or "Ds" type frame water tube integral furnace type, with the furnace rear walls, front walls, side walls, roof and floor all water cooled. Both furnace sidewalls, roof and furnace rear wall must be totally water-cooled. All walls shall be membrane water cooled. "Totally" water-cooled is intended to mean flat studded tube or membrane wall type construction covering the entire

surface area. No refractory shall be permitted on the furnace side or rear walls.

- b. For those boilers using flat studded tubes, the tube thickness must be a minimum of 0.135" thick. For those boilers using membrane wall design, the furnace tubes shall be arranged so that the membrane bar between each tube shall be no greater than 2" in width and 1/4" thick. The minimum tube thickness for membrane design is to be 0.135". The boiler baffle or furnace division wall, regardless of the boiler tube wall construction, shall be the membrane type to prevent bypassing of flue gas.
- c. Boilers shall be designed with a minimum of refractory. All tubes shall not be less than 2.0" OD and shall be constructed in accordance with ASME Boiler Code. To ensure positive circulation, all downcomer tubes must be located in the coolest gas area or protected from the flow of combustion gases. Minimum tube thickness on these tubes is 0.135".
- d. To insure easy cleaning, all boiler tubes shall be vertical and in-line to inhibit the collection of combustion residues. To insure proper drum protection, refractory shall be used to protect the drum surface exposed to radiant heat or the generating tubes shall so enter the steam drum that the latter will not expose open surface to furnace radiation. All boiler tubes shall be completely drainable, no bends below the horizontal.
- e. All furnace water wall tubes shall enter the steam drum below the water level for startup protection, and to ensure that effective water cooling of all tubes is maintained under normal operating conditions.
- f. Provide the boiler with a mud drum heater coil.

5. Drums

- a. The boilers shall be provided with one upper steam drum, 48" diameter, complete with internal feed, chemical feed and continuous blowdown pipes and one lower drum not less than 30" in diameter. Both drums shall be of fusion welded construction, stress relieved with all seams X-rayed fabricated from steel plate of 70,000 ultimate tensile strength.
- b. For the purpose of adding extra holding power to the expanded tube joints between the tube ends and the drum, the cylindrical portions of the tube seats shall be arranged with circular grooves into which the tubes are rolled in the expanding process.
- c. Both ends of each drum shall be fitted with 14" x 18" manway covers.
- d. The steam drum or lower drum shall be provided with the connections of the number and purposes listed below:
 - 1 - for setam outlet
 - 2 - for water column assembly
 - 2 - for drum level transmitter
 - 1 - for boiler feed
 - 1 - for boiler vent
 - 1 - for continuous blowdown
 - 1 - for chemical feed
 - 2 - for safety valves (number per ASME)
 - 1 - for auxiliary steam outlet
 - 1 - for lower drum blowoff valve

6. Boiler Supports and Supports for Appurtenances

- a. The boiler manufacturer shall furnish all structural steel for the proper bottom support of the boiler together with all-necessary braces, stiffeners and buckstays.
 - b. The boiler shall have lifting lugs welded to the steam drum to be used when lifting and setting the boiler in place.
 - c. For lifting and rolling the boilers on their base frame, four jacking pads and/or jacking collars shall be provided, located two each at the front and rear structural cross members.
7. Casing
- a. The entire unit shall be enclosed with box ribbed outer steel or aluminum lagging. This casing shall be weather-resistant but not necessarily pressure tight. Suitable openings shall be provided for access, observation, burner and gas outlet. Steel pipe alcove-type connections shall be provided in the boiler and furnace walls for connection to the combustion controls, instrument and safety equipment
8. Boiler Accessories
- a. The boiler shall be equipped with the following accessories:
 - 1) Water column with 11-1/2" vision round gage glass fitted with quick closing water gage valves with the necessary chains from the base line of the unit. The gage glass shall be reinforced and provided with a reflective backing and illumination. The water column shall be equipped with electrode type probes for high-low water level alarm and low water fuel cutout. The required relays, alarm and alarm water silencing pushbuttons are essential items for this type column. A second low water cut-off of the Reliance float type connected to the water column piping will be provided so that the unit will be equipped with dual low water cut-out switches to be provided as an auxiliary. Water column and related equipment shall be completely factory mounted, piped and wired.
 - 2) Safety valves.
 - 3) One set (2) tandem blowoff valves.
 - 4) Boiler feed stop/check valves.
 - 5) One 3/4" steam drum vent valve.
 - 6) Continuous automatic blowdown stop valve and manual control valve.
 - 7) Chemical feed stop and check valves.
 - 8) Steam non-return valve (NRV). Sized for less than 10 PSI pressure drop at full load.
 - 9) Feedwater regulator by-pass and isolating valves.
 - 10) Main steam stop valve.
 - 11) Economizer vent and drain valves.
 - 12) Atomizing steam shut-off valve and check valve.
 - 13) Blowdown valves for water column, water gage, low water cutoff and feedwater regulator.
 - 14) Drum level transmitter shutoff valves.
 - 15) Steam gage shutoff and test valves.
 - 16) Provide adequate number of access and observation doors. They shall be refractory lined where required. At least one observation door shall be provided in the furnace rear wall.
 - 17) Connect to the existing E-Stops.

- 18) Acceptable manufactures for devices include Rosemount, Yokogawa, Endress & Hauser or approved equivalent.
 - 19) Include new Control Room Eye-Hye level indicator station.
9. Boiler Setting
- a. Brickwork and refractories will be supplied for the conditions encountered. All brickwork, tile and insulation shall be furnished and shop assembled to properly enclose all walls.
 - b. The furnace front wall will be constructed membrane wall tubes.
 - c. A 3" minimum blanket insulation (3 lbs. per ft³ glass wool) shall be applied immediately inside the outer casing on the furnace side and rear walls, roof, steam drum and boiler sidewall.
 - d. The furnace and boiler are covered by a minimum of 22 gauge non-pressurized galvanized steel ribbed or aluminum lagging except such area as the steam drum, joints and bent tube portions of the walls which are covered by a 12 gauge carbon steel casing.
 - e. The boiler unit will be shop-painted with enamel.
 - f. The installing contractor shall provide the insulation and lagging covers for the field installation on the drum ends.

2.3 LOW EMISSIONS BURNER

- A. The burner shall be a dual fuel natural gas and No.2 oil (Diesel).
- B. 30 ppm NOx with no EFGR.
- C. Minimum of 10:1 fuel turn down on natural gas.
- D. Burner shall be Zeeco, FreeJet or equal.

2.4 BURNER WINDBOX

- A. A windbox shall be provided to house the single burner and to distribute the combustion air equally to the burner. The windbox shall be designed of sufficient volume capacity to convert the inlet velocity to static pressure. Baffles and deflector plates shall be installed internally inside the windbox to balance and to equally distribute the air into the burner's air sleeve equally over 360°.

2.5 BURNER MANAGEMENT SYSTEM (BMS)

- A. BMS to be based on the Rockwell Control Logix platform or approved equivalent.
- B. The BMS panel to include a minimum 19" HMI. If the controls option is a combined BMS/CCS solution only one 19" HMI is required locally.
- C. The BMS PLC system is to include a FMS ethernet connection port and internal cabinet ethernet switch (if required). This ethernet connection is to be on the general plant process network and separate from any IO control network.

- D. The BMS programming shall have provision for remote start, stop, FD Fan run request and alarm acknowledge with a FMS system. In addition, all operator interface information available at the BMS panel shall be made available for the FMS system. Data table provision and all necessary documentation to facilitate an ethernet communication network link to the BMS PLC is to be provided.
- E. BMS controls shall include auxiliary contacts for automatic and immediate shut down of the boiler if the emergency stop pushbuttons located locally and in the control room are pushed.
- F. New E-Stop station for the control room to be included in scope of supply.
- G. The FD Fan VFD (by others) shall in addition to any hard-wired controls is to include a communication link for monitoring purposes. The VFD data is to be made available to the FMS through the PLC data structure/data table. Applicable if FD fan VFD is directly integrated with the BMS.
- H. Provide a narrative for the burner management system describing the sequences and order of operation when starting, in operation and shut down.

2.6 COMBUSTION CONTROL SYSTEM

- A. Boiler control system to include, as a minimum, combustion controls; continuous blowdown control; boiler water level control; furnace draft control; drum heater controls (if needed); and will be a parallel position and fully metered system with O₂ trim.
- B. The control system to be based on the Rockwell Control Logix platform or approved equivalent.
- C. The boiler local control panel to include a minimum 19" HMI with Ethernet communications.
- D. The system is to include a remote minimum 19" HMI with ethernet communications, located in the control room.
- E. Control system is to be set up for both local and external control interactions. Setpoints, push buttons, control loops, etc. points to be made available for operators to run the system from the local/control room control panel HMI(s) or an external FMS system. Either could be operated at any time so the control software needs to support these points being modified from any location. The remote/local selector switch option is not considered acceptable.
- F. The CCS PLC system is to include a FMS ethernet connection port and internal cabinet ethernet switch (if required). This ethernet connection is to be on the general plant process network and separate from any IO control network.
- G. The boiler controls should be on isolated network(s) integrated within the boiler control system.
- H. The FD Fan VFD (by others) shall in addition to any hard-wired controls is to include a communication link for monitoring purposes. The VFD data is to be made available to the DCS/Scada through the PLC data structure. Applicable if FD fan VFD is integrated through the CCS.
- I. Three element feedwater control (steam flow, feedwater flow, and drum level).

- J. Boiler master pressure control (firing rate), fully metered and cross-limited, with switch to allow operation in parallel positioning mode without meters.
- K. Draft control
- L. Oxygen trim
- M. Provide a narrative for the combustion control system describing the sequences and order of operation when starting, in operation and shut down.

2.7 FUEL SKID:

- A. PID drawing to be submitted with a Bill of Materials.
- B. The main burner's fuel piping as applicable, natural gas, No. 2 fuel oil, atomizing steam and the pilot's fuel train shall be fully assembled, electrically wired, and pneumatically tubed and mounted on a robust steel framed skid. All fuel trains shall be shop assembled and shall contain all of the recommended components to comply with NFPA-8501 for a single burner or NFPA 85 B or D for multiple burner system if applicable designated as a supervised manual system and manufactured per ASME Code B31.1 for process piping. The skid will contain the following fuel trains:
 - 1. Main fuel gas piping train per NFPA 85, shall be 4 inch (Maximum gas velocity shall be equal to or less than 150 feet/second) minimum sch. 40 seamless carbon steel piping containing 150 PSIG flanged components, namely a manual ball valve, an inlet strainer with 100 mesh screen, a 4-1/2 inch pressure gage, a Fisher gas pressure regulator, a 4-1/2 inch pressure gage, a V-Cone gas flow meter, a low gas pressure switch, a pair of double block and bleed pneumatically actuated full ported ball valves with open and closed limit switches, a 3 inch Fisher diaphragm actuator globe control valve with a minimum down stop, limit switches, an air set, and designed to receive a 4-20ma input signal, a high gas pressure switch, a full ported manual ball valve, and a 4-1/2 inch burner pressure gage.
 - 2. A raw gas pilot gas train, 3/4 inch sch. 80 seamless carbon steel screwed piping train consisting of the following screwed components, namely a screwed manual shut off valve, an inlet "Y" strainer with a 100 mesh screen, a gas pressure regulator, a pressure gage, a set of ASCO RED HAT solenoid valves of aluminum construction without limit switches used for double block and bleed valves, a manual full ported ball valve, a pressure gage, and a 3/4 inch stainless steel flexible hose to connect the train to the pilot assembly.
 - 3. A No. 2 fuel oil pipe flanged or socket welded piping train, 1-1/2 inch (maximum oil velocity shall be limited to 12 ft/sec) minimum sch 80 seamless carbon steel piping, consisting of a 1-1/2 inch manual ball valve, a duplex strainer , an oil pressure regulator, a fuel oil mass flow Coriolis (Rosemount Emerson) Micro-Motion flow meter flanged, pressure gauge, low fuel oil pressure switch, automatic double block full ported ball shut off valves, a 1" flanged Globe Fisher Diaphragm actuator control valve with a 1/2 " sch 80 by-pass with an orifice assembly for lite-off , a 1-1/2 inch manual shut off valve, a pressure gauge, and a flanged 1" flexible stainless steel hose connecting to the burner block.
 - 4. An atomizing steam train, 2 inch minimum (Maximum 200 ft/sec) sch 80 seamless carbon steel piping train shall be provided with flanged or socket welded components consisting of a manual shut off ball valve, a "Y" strainer, a condensate steam trap with isolation valves and with a by-pass, a pressure gage, an electrically operated solenoid shut off

valve with an open/closed limit switch, a low atomizing steam pressure switch, an atomizing steam pressure differential regulating valve with a setpoint from the fuel oil burner pressure downstream of the control valve or a constant pressure regulator depending on the oil gun design, a pressure gage, and a 1-1/2"-150 PSIG RF flanged stainless steel flexible hose connecting the train to the burner receiver block mounted on the guide tube.

5. A 1" screwed sch 80 instrument air header train shall be provided on the skid to provide control air to the air sets and control and safety trip automatic valves. The header will be provided with a manual valve, a pressure regulator, a pressure gage, a low instrument air pressure switch, and a manifold valved to each of the users with a root shut off valve in each supply line to the user.
- C. The skid and piping trains mounted thereon shall be all shop assembled, electrically wired from the components to the TB terminal strips in the BMS local control panel which will be also mounted thereon. The skid shall be located within 15 feet of the burner mounted near the windbox. The skid's envelope shall be approximately 4 feet wide, 6 feet high, and 16 feet long. The local control panel shall be mounted on the front end of the skid where the fuel lines and atomizing steam lines exit the skid connecting to the burner via interconnecting piping with full view of the burner from the local panel.
- D. The piping trains shall fully comply with NFPA 85 and ASME B31.3 for process piping and shall be pressure tested in the shop after completed, including final painting, using air pressure or nitrogen as the test medium. The skid's frame shall be rigid in construction and blasted to SP-10 and painted with an inorganic zinc primer with one final finish top coat grey in color. The skid shall be designed to be bolted to studs anchored in a poured foundation at site and be grouted 1" above grade. The piping shall be cleaned to SSPC-SP-6 and painted with one coat of primer and with one final top coat. The color shall be approved by the owner.
- E. The valves and components within the piping train shall remain as received from the manufacturer with respect to paint and color. All piping trains shall be suitably supported and anchored on the skid to prevent vibrations or sagging sections.

2.8 FORCED DRAFT BLOWER:

- A. The forced draft blower shall be a Chicago Blower or equal and shall be mounted remote. The fan shall be provided with an inlet screen, a silencer, a set of opposed parallel blade fresh air dampers, and a mix box with a flanged 16" connection for future FGR. The fan shall have inlet VIV's with an actuator and positioner for air flow control on the inlet side of the blower. An outlet damper, of the parallel blades design, shall also be furnished with a lever arm connected to an automated actuator with positioner. The motor shall be inverter duty rated and a VFD shall be provided and incorporated into the control sequence. The VFD will be installed and wired by others. An air monitoring air flow measuring device shall be furnished and factory installed in the silencer's lanes to measure air flow using a differential transmitter.
- B. The blower shall have backward inclined blades with the following characteristics:
 - Model.....PDF/SW
 - Fan Arrangement.....Arrgt, 4
 - Fan Size/Selection.....40-1/4/4014D/1903
 - Fan Wheel Width.....85%

Fan Discharge.....Horizontal
Fan Rotation.....CW
Design RPM.....1800
Design Inlet Temperature.....100 degrees F
Design Static Pressure.....24.00 inches H₂O
Design lbs/hr, (SCFM).....102,400 (27,390)
Motor Installed HP..... 200.00
Actual Horsepower at Test Block..... 185
Fan Efficiency at Design.....70%
Air Density @ 100 degrees F.....0.0685 lbs/ft³
Motor Service Factor.....1.15
Motor Voltage.....460 Volts
Phase.....3
Frequency.....60 htz
Motor Brand Name.....TECO-Westinghouse
Motor Type.....Premium efficiency
Silencer.....AeroAcoustic Ci-36-5A
Motor Frame.....449T
Future Variable Speed Duty Range....6 Hz to 60 Hz
Elevation.....988 ft. abv SL

2.9 ECONOMIC SPECIFICATION

A. GENERAL

1. Furnish one (1) economizer for each boiler, as described below, to recover the waste heat from the boiler exhaust stack. The economizer shall be a rectangular box type, completely packaged unit, utilizing either extended surface or bare tube.
2. The economizer shall be a counter flow type arranged to allow the boiler exhaust gas to travel vertically upward, while the feedwater travels vertically downward.
3. Structural steel, inlet and outlet transitions shall be provided with the economizer. The structural steel shall be designed to support the economizer, inlet and outlet transitions.

B. CONSTRUCTION FEATURES:

1. All pressure parts shall conform to the applicable provisions of the current ASME Power Boiler Code. The economizer shall be properly name plated and code stamped. The design pressure shall meet or exceed the design pressure of the boiler
2. Tubes shall be 2" O.D. with a minimum wall thickness of 0.135".
3. Return bends and welding fittings shall be hot forged. **Cold bends are not acceptable.**
4. Terminal connections, where flanged, shall be 300-lbs. RFWN minimum. Headers shall be A106 material. Vent, drain, temperature and pressure connections minimum 3/4" shall be included. All such connections shall be threaded and plugged.
5. All coils shall be completely drainable by gravity.
6. Method of tube supports shall allow for free flow of hot gases around the welds, return bends and manifolds.

7. The unit shall be non-steaming*, suitably arranged for tube internal acid cleaning, and tube external sootblowing with air or steam water washing.
 - a. *Economizer outlet feedwater temperatures should be at least 30°F below the saturation temperature.
8. Wallboxes, distal bearing and sootblowers shall be provided and installed where the economizer is designed for any fuel other than clean natural gas or similar fuel. Sootblowers shall be installed transverse to the tubes. On those units to be fired only by natural gas and/or No. 2 fuel oil, wallboxes and distal bearings shall be provided, only.
9. A gas tight inner seal welded 10 Ga. steel shall be insulated and covered with 0.016 minimum thickness corrugated galvanized steel metal lagging.
10. Spiral Fin tube Economizers:
 - a. The tube pitch shall be square to insure ease in cleaning
 - b. Fin Pitches - Maximums:
 - 1) Maximum of 4.5 fins/inch.
 - 2) Minimum Clearance Between Fin Tips - 5/8 inch.
 - c. Fins shall be either welded or extruded. Tension wrapped, embedded, cast iron or brazed fin tubes are not acceptable
 - d. Fin material may be carbon steel for all fin tip temperatures 900°F and cooler. Above 900°F fin tip temperature, alloy materials must be used.
11. Fin material may be carbon steel for all fin tip temperatures 900°F and cooler. Above 900°F fin tip temperature, alloy materials must be used.
12. All exterior surfaces, not galvanized, shall be painted with one coat of high temperature aluminum paint.
13. Insulation shall be medium temperature mineral wool.
14. Insulation thickness shall be not less than 2". Calculated insulation thickness shall be such to maintain a maximum surface temperature of 130°F with 80°F ambient air.

2.10 PERFORMANCE GUARANTEES

- A. The boiler manufacturer shall make the following guarantees:
 1. The boilers can be operated at a rated output capacity of 100,000 pounds of steam per hour when burning natural gas.
 2. The boiler efficiency shall be at least 83.5% at MCR when burning natural gas and operating at 100,000 pounds of steam per hour.
 3. The NO_x emission limits of 30 ppm (corrected to 3% "O₂ dry), or less, must be maintained from 25% to 100% of burner design heat input, and while operating with between 3% and 5% excess O₂ when firing natural gas.

PART 3 EXECUTION

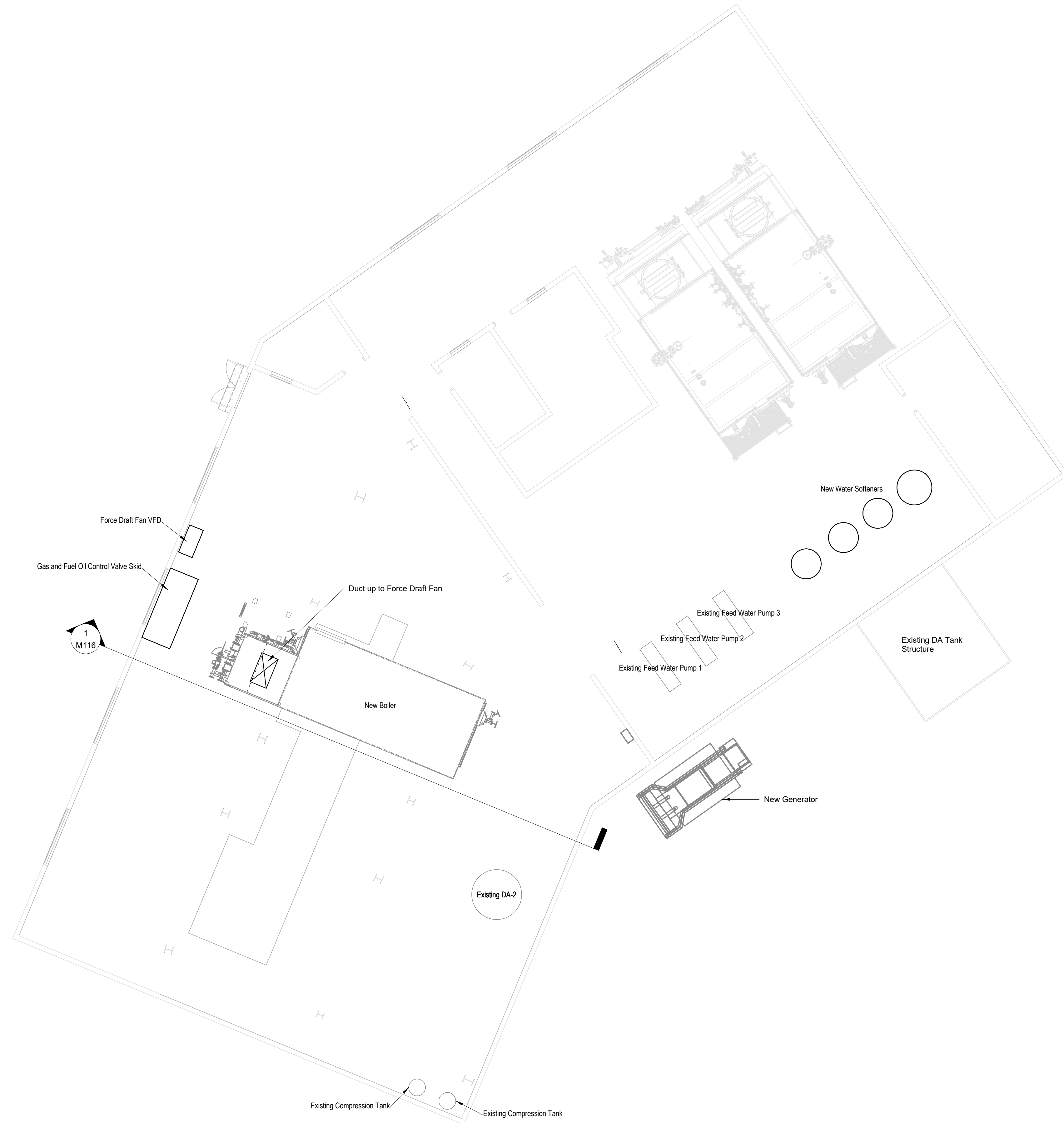
3.1 TEST

- A. Demonstration tests shall be performed under the direction of the manufacturer's engineers and the owner's representative, with the owner's operation crew operating the boilers. The owner will supply all fuel, water, labor, etc. for such tests.

- B. During shop assembly of the boiler unit, manufacturer shall conduct the following tests to insure the integrity of the boiler:
1. Hydrostatic tests of pressure parts conducted at one and one-half times design pressure.
 2. Pneumatic pressure test of boiler setting (gas side) conducted at a pressure of 20 inches water gauge, with no more than a 1 inch drop in a 20 minute period being allowed.
- C. On-site services, including testing and commissioning support, provided by a competent service technician for duration of 15 days on site spread out over 3 trips (within a 90-day window.)
1. Field review of piping, duct and electrical connections prior to insulation and/or startup.
 2. Verify installation is complete and meets manufacturer's requirements.
 3. Verify readiness for boil out, startup, and operation.
 4. Observe boil out, initial operation, and direct personnel to make adjustments as required for proper operation of the unit and its accessories and appurtenances.
 5. Advise in the proper start-up procedures and conduct the manufacturer's standard tests and checks of safety devices.
 6. Commissioning assistance.
 7. Performance testing. Provide written report after the test is complete.
 8. Technical training of Owner's personnel in the proper operation, lubrication, and care of the supplied equipment. Record key portions of training and provide video training recording for future use by Owner.
- D. Boiler Tuning – A full range system tuning is to be provided. After initial tuning (full range achieved 0 to 100% and 100% to 0%) in parallel positioning mode is completed a second tuning event is to immediately follow (typically next day). The second event is to fine tune and confirm consistency of results with the tuning parameters and the owner. The boiler is to be stepped through the range confirming repeatability and making any fine-tuning changes. If repeatability is not demonstrated corrections must be made and an additional tuning event to demonstrate repeatability is required. Multiple events may be required if repeatability cannot be demonstrated (for example, do not get through the range without trips, oxygen levels make big jumps and do not repeat). Fine tuning (small) adjustments to tuning parameters made during the second tuning event are not considered a failure of repeatability. This tuning requirement will be the same for each fuel being utilized. Since this is a dual fuel boiler a full range tuning and repeatability demonstration is required for each fuel. Provide a report to the owner of the tuning event.
- E. Alternate #1 - Boiler Efficiency Tuning Event – 11 months start-up of the boiler and during cold weather, or upon owner request, an efficiency improvement tuning event may occur. Vendor is to include the optional pricing for a tuning event to improve efficiency based upon operating results.
- F. Alternate #2 - Boiler Efficiency Tuning Event – 23 months start-up of the boiler and during cold weather, or upon owner request, an efficiency improvement tuning event may occur. Vendor is to include the optional pricing for a tuning event to improve efficiency based upon operating results.

- G. As far as it is possible for the Purchaser to accommodate the load conditions of the above guarantees, these guarantees shall be demonstrated to the satisfaction of the Purchaser or his Engineers during the first thirty (30) days after the boiler installation is completed and before final acceptance.

END OF SECTION 235233



1 LEVEL 1 - MECHANICAL PLAN
M114 1/8" = 1'-0"

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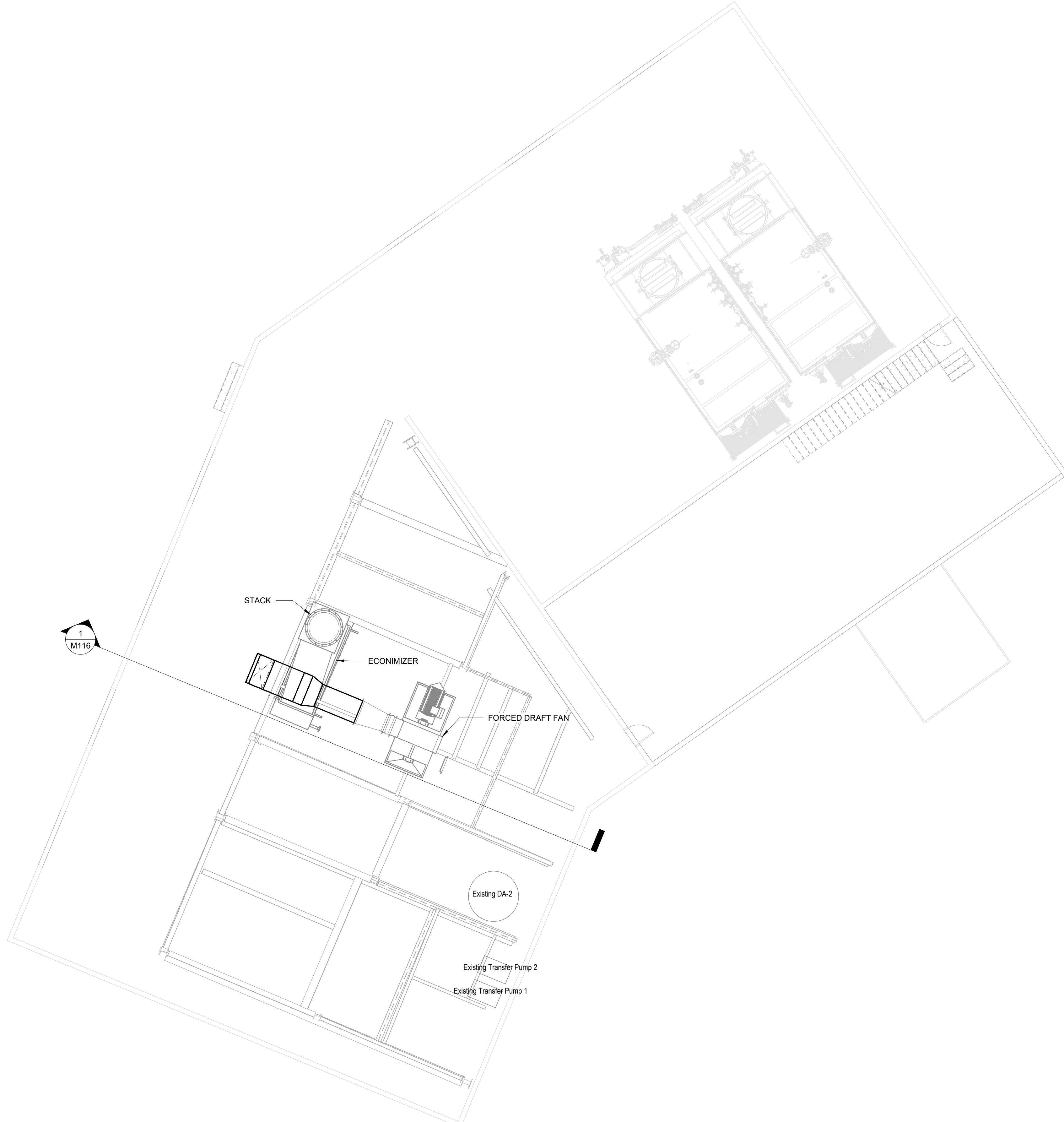
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Project Title: UNIVERSITY OF KENTUCKY
CENTRAL HEATING PLANT NO.2 - BOILER REPLACEMENT
598 SOUTH UPPER STREET
LEXINGTON, KENTUCKY 40508

Sheet Title: LEVEL 1 - GENERAL ARRANGEMENT

Date: 04/27/20
Drawn By: Mech Designer
Checked By: Mech Proj Eng
Project No: XXXXXXXX
DWG Scale: AS NOTED
Sheet Size: 30x42

Revision Number:
Sheet Number: M114



1
M116

STACK

ECONIMIZER

FORCED DRAFT FAN

Existing DA-2

Existing Transfer Pump 2

Existing Transfer Pump 1

1
M115
LEVEL 2 - MECHANICAL PLAN
1/8" = 1'-0"

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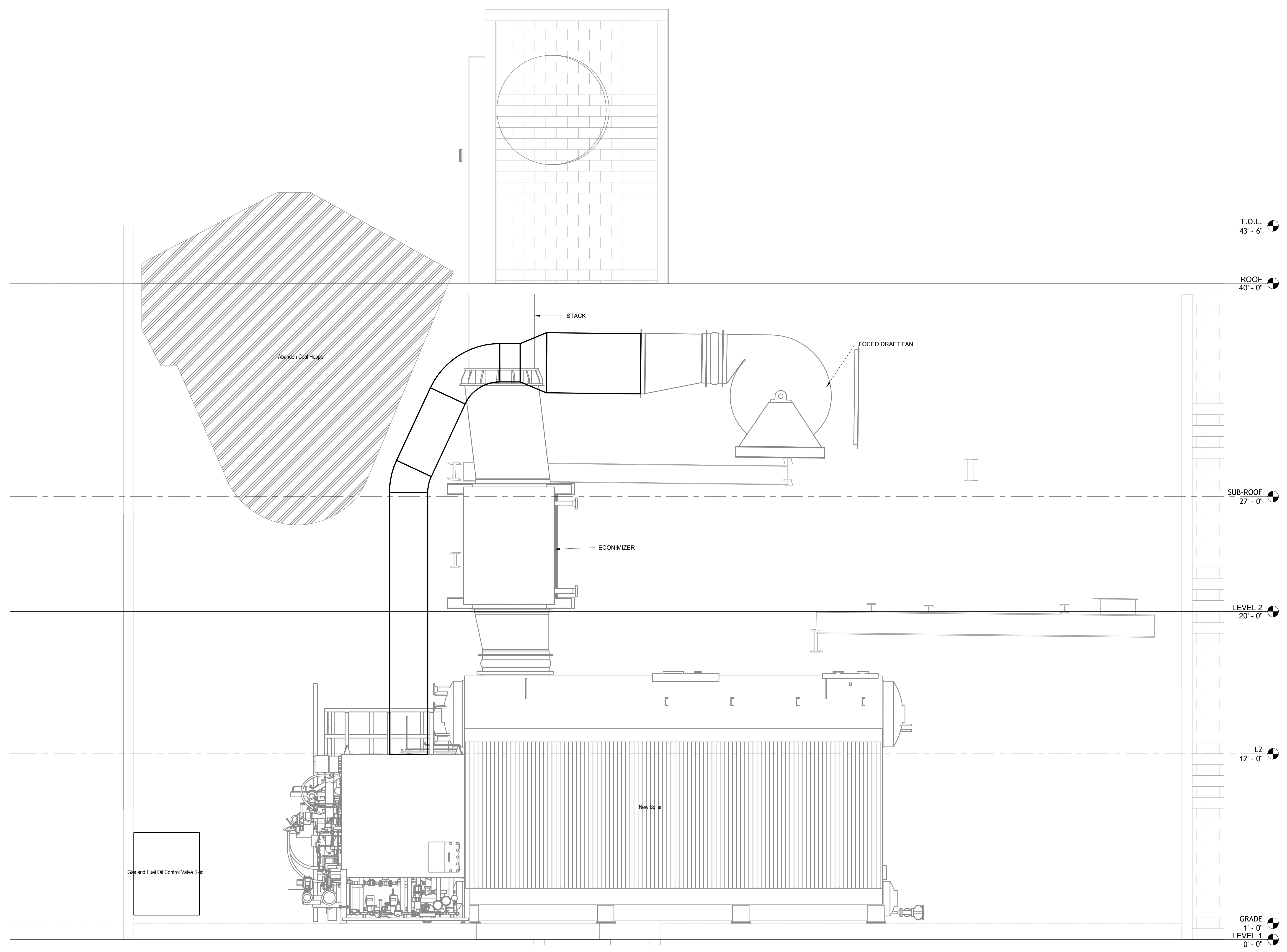
Project Title: UNIVERSITY OF KENTUCKY
CENTRAL HEATING PLANT NO.2 - BOILER REPLACEMENT
598 SOUTH UPPER STREET
LEXINGTON, KENTUCKY 40508

Sheet Title: LEVEL 2 - GENERAL ARRANGEMENT

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Revision Number:
Sheet Number: **M115**

9/10/2024 8:08:48 AM Address: 2024-09-10 08:08:48 UK Central Htg Boiler Plant Boiler @ M204 - UK Central Heating Boiler Replacement.rvt



1 Section 6
M116 3/8" = 1'-0"

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LEXINGTON, KENTUCKY 40508

Sheet Title: GAR ENLARGED SECTION

Date: 04/27/20
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DWG Scale: AS NOTED
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Sheet Number: **M116**