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HVAC (DOAS) REPLACEMENT BLDG 10A – NEW IBERIA RESEARCH CENTER

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UNIVERSITY OF LOUISIANA AT LAFAYETTE
Lafayette, Louisiana
SOLICITATION FILE No. 20208

PROPOSAL FOR FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SUPERVISION, PERMITS, ETC. NECESSARY TO REPLACE THE DEDICATED OUTDOOR AIR SYSTEM (DOAS) AT BUILDING 10A AT THE NEW IBERIA RESEARCH CENTER, LOCATED ON THE UL LAFAYETTE CAMPUS, NEW IBERIA, LOUISIANA.

BID OPENING
Proposals will be received up to 2:00PM Thursday, December 5, 2019 by the Purchasing Office, University of Louisiana at Lafayette, Lafayette, Louisiana. Proposals will not be received after this specified hour and date. At this time, the proposals will be publicly opened and read in the Purchasing Office, Room 123, Martin Hall, 104 University Circle, on the University Campus.

This is a Competitive Sealed Bid; bids SHALL be submitted in a sealed envelope. Complete details for submitting bid, etc. are contained in the attached INSTRUCTIONS TO BIDDERS. Vendors submitting bids in the amount of $10,000.00 or more SHALL show their license number on the front of the sealed envelope in which their bid is enclosed; bids not submitted in accordance with this requirement, SHALL be rejected and shall not be read.

Bid must be received by the due date and time in the Purchasing Office at the University of Louisiana at Lafayette, 104 University Circle, Martin Hall, Room 123, Lafayette, LA, 70503. Bid is to be in a SEALED ENVELOPE with the BID NUMBER and DUE DATE ON THE OUTSIDE OF THE ENVELOPE.

All inquiries regarding this request shall be directed to: Director of Purchasing
UL Lafayette Purchasing Department
(337) 482-5396
purchasing@louisiana.edu

TO: University of Louisiana at Lafayette
Purchasing Office, Martin Hall Room 123
104 University Circle
P O Box 40197
Lafayette LA 70504 0197
Fax – 337-482-5059

To Whom It May Concern:
Attached is the completed proposal of the firm listed below. The undersigned certifies that he/she (or they) has/have carefully examined the Instructions to Bidders, the General Conditions, and the Specifications hereto attached and made part herein, and agrees to comply with the instructions, conditions, and specifications, as covered by the attached papers. On the basis of the specifications, the undersigned proposes to furnish any or all items listed in the schedule of items hereto attached, upon which prices are requested, and at the price stated for each item.

Firm Name ___________________________ Signature _____________________________
[By signing this bid, bidder certifies compliance with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(0)]
Name (Printed) ___________________________ Title ___________________________
City, State, Zip Code ___________________________ Date ___________________________
Telephone No. including area code ___________________________ E-Mail ___________________________
FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SUPERVISION, PERMITS, ETC. NECESSARY TO REPLACE THE DEDICATED OUTDOOR AIR SYSTEM (DOAS) AT BUILDING 10A AT THE NEW IBERIA RESEARCH CENTER, LOCATED ON THE UL LAFAYETTE CAMPUS, NEW IBERIA, LOUISIANA AS SHOWN ON THESE SPECIFICATIONS...

SCOPE OF WORK

1. Removal and Replacement of (2) HVAC units along with misc. electrical and plumbing improvements along with associated demolition, in Building 10A at the NIRC facility, as specified in the plans and specifications provided by Associated Design Group, Inc. dated September 2019.

COMPLIANCE TO SCHEDULE/LIQUIDATED DAMAGES

DUE TO THE IMPORTANCE OF THE SCHEDULE, LIQUIDATED DAMAGES IN THE AMOUNT OF ONE HUNDRED DOLLARS ($100.00) PER DAY WILL BE ASSESSED FOR EVERY CALENDAR DAY THAT THIS PROJECT IS NOT COMPLETE BEYOND ONE HUNDRED EIGHTY (180) DAYS OF THE NOTICE TO PROCEED.

BID SECURITY REQUIREMENTS

Each bidder MUST accompany his/her proposal with a bid security for five percent (5%) of the total maximum amount of his/her bid. The bid security shall be drawn in favor of the University of Louisiana at Lafayette and SHALL be in the form of a Bid Bond (Insurance Company), Bank Money Order, Certified Check or Cashier’s Check. It shall become the property of the Owner in the event the contract and any performance bond are not executed within the time set forth. Bid bond shall be written by a surety or insurance company currently on the US Department of the Treasury Financial Management Service List of Approved Bonding Companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an “A-“ Rating in the latest printing of the AM Best’s Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders’ surplus as shown in the AM Best’s Key Rating Guide. Successful bidder WILL BE required to execute and deliver within ten (10) days of notification, a satisfactory performance bond and payment bond in the amount of one hundred percent (100%) of the contract price. Performance Bond, with Power of Attorney, shall be secured by a surety or insurance company currently on the US Department of the Treasury Financial Management Service List of Approved Bonding Companies, and in accordance with restrictions set by them or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds. In addition, any surety bond written for a public works Project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana. Also, to be provided at the same time is a Labor and Materials payment Bond in an amount equal to one hundred percent (100%) of the contract amount.

LOUISIANA CONTRACTORS LICENSE REQUIREMENTS

Contractors or contracting firms submitting bids in the amount of $10,000.00 or more shall certify that they are licensed contractors under Chapter 24 of Title 37 of the Louisiana Revised Statutes 1950 and show their license number on the front of the sealed envelope in which their bid is enclosed. Bids shall be accepted from Contractors who are licensed under L.A. R.S. 37:2150-2163 in the following classification: MECHANICAL WORK. Bids in the amount of $10,000.00 or more, not submitted in accordance with this requirement, shall be rejected and shall not be read. Additional information relative to licensing may be obtained from the Louisiana State Licensing Board for
Contractors, Baton Rouge, Louisiana.

In accordance with La. R.S. 38:2227, LA. R.S. 38:2212.10 and LA. R.S. 23:1726(B) each bidder on this Project must submit a completed Attestations Affidavit (Past Criminal Convictions of Bidders, Verification of Employees and Certification Regarding Unpaid Workers Compensation Insurance) form found within this bid package. The Attestations Affidavit form shall be submitted to the Purchasing Department within 10 days after the opening of bids. **Affidavits submitted with the Bid Documents, prior to the opening of bids, will not be accepted in accordance with stated Revised Statute.**

**PROHIBITION OF DISCRIMINATORY BOYCOTTS OF ISRAEL**
In accordance with LA R.S. 39:1602:1, for any contract for $100,000 or more and for any contractor with five or more employees, Contractor, or any Subcontractor, shall certify it is not engaging in a boycott of Israel, and shall, for the duration of this contract, refrain from a boycott of Israel.

The State reserves the right to terminate this contract if the Contractor, or any Subcontractor, engages in a boycott of Israel during the term of the contract.

**BUSINESS HOURS – FOR BID SUBMISSIONS**
Delivery of any document(s) will NOT be accepted during non-business hours. Business hours are Monday through Thursday, 7:30 am to 11:45 am, 12:30 pm to 5:00 pm, and Friday, 7:30 am to 12:30 pm. The Purchasing Office will be closed during Federal, State and University holidays. It is the responsibility of the prospective bidder to be aware of such closures.

In making this bid, each bidder represents that: They have read and understand the bid documents and the bid is made in accordance herewith, and the bid is based upon the specifications described in the bid documents without exception.

**SITE VISIT/CONTACT INFORMATION**
It is the responsibility of the prospective bidder to visit and examine jobsite, take measurements to his/her own satisfaction and determine conditions under which work is to be done. Owner will not accept responsibility for conditions which careful examination of premises would have shown existed.

To visit jobsite and for further information, prospective bidder is to contact Scott Hebert, 337-482-2001.

**PRE-BID MEETING INFORMATION**
A pre-bid meeting will be held at **9:00AM, Wednesday, November 13, 2019** at Ackal Hall, 4401 West Admiral Doyle Drive, New Iberia, LA at the New Iberia Research Center, at which time details of plans and specifications will be discussed.

**TAX RELATED INFORMATION**
It is the responsibility of the prospective bidder to pay taxes on materials purchased for this project. The University of Louisiana at Lafayette is a tax exempt State Agency. However, that tax exempt status does not transfer to its contractors, subcontractors, suppliers, or vendors for their use.

For further information, prospective bidder is to contact Purchasing, Roxanne Formeller, 337-482-2955.
VENDOR CHECK LIST

REQUIRED FORMS/ITEMS UPON BID SUBMISSION
____ Louisiana Uniform Public Works Bid Form
____ Bid Security Equal to 5% of Bid
____ Louisiana Contractor’s License Number (If Applicable) on Envelope Exterior

REQUIRED FORMS AFTER BID OPENING/UPON BID AWARD
____ Attestation Affidavit (ALL BIDDERS, WITHIN 10 DAYS OF BID OPENING)
____ Non-Collusion Affidavit (LOW BIDDER, WITHIN 10 DAYS OF REQUEST)
____ Disclosure of Ownership Affidavit (LOW BIDDER, WITHIN 10 DAYS OF REQUEST)
____ Performance and Payment Bond (LOW BIDDER, WITHIN 10 DAYS OF REQUEST)
____ Certificate of Insurance (Insurance requirements revised February 2019)
____ Certificate of Recordation of Contract and Bonds
____ Clear Lien Certificate

DETAILED SPECIFICATIONS

BASE BID

SCOPE OF WORK

1. Removal and Replacement of (2) HVAC units along with misc. electrical and plumbing improvements along with associated demolition, in Building 10A at the NIRC facility, as specified in the plans and specifications provided by Associated Design Group, Inc. dated September 2019.

Contractor shall not perform any construction or demo until ULL is contacted to have the fire alarm devices removed or covered and the system put in TEST mode.

DEMOLITION
Contractor shall perform any and all demolition necessary to prepare the entire area, including but not limited to, doors, cabinets, ceilings, electrical, HVAC, etc., as necessary for construction and finishes called for in the specifications for the new floor plan and finishes.

Contractor shall do all other incidental work, not listed, for the proper and complete performance of this contract.

The existing electrical panel shall be removed and replaced with a new panel. All existing data cables and outlets shall be re-used so the contractor shall take precautions when doing the demo to protect them from damage. They shall be rolled up and tie to structure and reinstalled in the new walls.

Contractor shall demo existing doors, ceilings, electrical raceways not used, electrical panel in block wall, light fixtures, receptacles and switches, etc. and all other items as indicated on plans and specs.

Remove and dispose of all cabinets not being reused in room 149 or 151. The University has first refusal of
such cabinets and equipment.

Contractor shall demo existing 6’ x 2’-3” x 16” concrete pedestal in room 149 and patch all floor deficiencies for floor coating.

CONSTRUCTION
DOORS AND HARDWARE

Contractor shall furnish and install (4) new solid core birch veneer wood doors with half glass at the existing main entrances to rooms 149 and 151 and door between 149 and 151, and (1) solid core birch veneer door blank to room 151A with new hardware selected by the University. Door wood shall match that species of the existing door in the corridor at room 150. Stain to match.

All existing frames shall remain.

Contractor shall furnish and install all new door locks and hardware, to include but not limited to hinges, locks, floor mounted doorstops, etc.. No doors shall receive closures.

Contractor shall furnish and install new heavy-duty cylindrical locks on all new doors. New locks shall receive figure 8, 7-pin cores. New cores shall be provided and installed by the University.

All locks shall be BEST, 9K Series, heavy-duty locks with Figure 8 cores. Cores supplied by the contractor.

The contractor shall include in his bid an allowance of $225.00 for locks and the University will select the brand and model of lock preferred to be purchased and installed by the contractor.

Wall Construction
Contractor shall carefully layout for new partitions by placing chalk lines on the existing floor. Ken Savage shall be called to verify and approve locations prior to beginning wall construction.

Contractor shall furnish all materials etc. to install new 3 ½” x 10’ metal studs and 5/8” HIGH IMPACT (PURPLE ROCK) rock, drywall partitions as indicated in drawings. One side of the stud walls shall receive a layer of 5/8” PURPLE ROCK. Drywall shall extend to 6” above the new ceiling height. The final wall thickness will be as indicated on plans. It is very critical that the finish wall thickness is achieved for the cabinet sizes.

Column wraps shall be constructed with 1-1/2” metal studs anchored to the existing columns and floor 36” on center.

New partitions shall be braced to the block walls and columns at 36” on center and to the floor slab below.

All drywall shall be 5/8” HIGH IMPACT PURPLE ROCK.
Contractor shall furnish and install a 2” x 2” x 8’ Stainless Steel protective corner at ALL exposed outside corners of new walls and columns. Contractor shall apply beads of liquid nail, one on each side along with the peel and stick adhesive that comes on the protective corner guards. Temporarily tape guards in place until adhesive dries.
Contractor shall repair all holes on existing block wall with like materials to an unnoticeable finish in room 151 prior to any paint.

Contractor shall patch and/or seal all penetrations in all walls above and below ceilings.

**CONCRETE**
Contractor shall saw cut and break out concrete floor for the installation of new floor drains. Pour back to seal with 6000 psi non-shrink grout around floor drain. Form up below drain housing 2” to seal and support drain. Install 3/8” rebar or threaded rod from drain housing to existing concrete for reinforcement.

**PAINTING**
Where existing doors and frames, walls, ceilings, or any other previously painted objects of any kind are to remain, the contractor shall be required to properly prepare and paint them.

Window trim remaining shall be painted.

Contractor shall patch, putty, tape, float, sand, skim coat, prime, and paint new and existing walls to match the new paint type and colors.

Contractor shall tape, float, skim coat, sand, prime, and paint new drywall partitions.

Contractor shall refinish existing frames both sides at the hall, in a finish to closely match the existing (original) finish and color.

Wood Surfaces (existing “natural” finished doors)
Sand the entire door, both sides, fill cracks and defects with natural paste filler (if necessary tinted with oil stain before final finishing). First, second, and third coats, polyurethane, satin, clear plastic varnish. Buff lightly with extra fine steel wool between coats.

All paint preparation and application shall be according to manufacturer recommendations for application on the substrates to receive paint.

Contractor shall remove existing flaking paint, by blowing and brushing, on existing structure above in room 151. Prep, prime, and paint existing structure and second floor decking white.

All wall paint shall be Satin or Eggshell.

Colors shall be selected by the University.

**FERROUS METALS**
First coat PPG inhibitive metal primer, tinted with desired color. Second coat, Speedhide, Exterior-interior Alkyd Semi-gloss enamel. Roughen pre-finished items as required for good paint adhesion. (frames, metal doors, AC grilles, etc.)

**GYPSUM BOARD AND EXISTING PLASTER WALLS**
First coat, Latex primer-sealer. Second coat, Sherwin Williams, Ultracrete A44W801, fine texture, applied
uniformly with a sprayer. Third and fourth coat Acrylic Latex Satin enamel Super paint, class A.

Contractor shall make samples of texture for University approval.

**SUSPENDED CEILING SYSTEM**

Contractor shall provide and install a new suspended ceiling system according to reflected ceiling plan in room 149.

New suspended ceilings shall be 9’- 0” AFF (or as high as possible) in room 149.

Contractor shall furnish and install a new suspended ceiling system throughout the area of work.

All work shall be square, straight, level and true to a line.

Ceiling grid shall be secured to wall molding with pop rivets painted to match the grid. No scratched bent or damaged grid or ceiling tiles shall be used in this project.

Tiles which require cutting shall be cut to fit the opening with a minimum of slack.

All materials shall be new and shall be installed undamaged, without visible finger prints.

Contractor shall install, at the end of the project, hold down clips for each ceiling panel.

**LAY-IN TILE**

Contractor shall furnish and install Armstrong, Glasliner, (24" x 24" x 0.100 inches min) FRP panels (Pebble Finish), square lay-in, ceiling tile. ULL shall select from a full range of ceiling tile designs.

Tile shall have UL acoustical values of, NRC .50, CAC 35, a fire rating of Class A, a light reflectance value of .82, and a sag resistance and durability rating of Standard. Only tiles with these ratings or better shall be considered.

Bidders may submit specifications and details for USG for approval as equal.

**GRID SYSTEM**

Contractor shall furnish and install an ALUMINUM grid system, Donn Brand, Armstrong, or approved equal Suspension Systems DX/DXL exposed 15/16" face, ceiling grid components. All components shall have exposed faces painted in the same matching color and finish. All components shall be by the same manufacturer. Comparable Armstrong and USG grid systems are considered equals for the purposes of this bid.

Main Tees shall be ALUMINUM DX/DXL24 intermediate duty, 12' length, 1 ½" height, class 3 fire rated, standard flat white color, rated for 12 lbs. /LF at 4' hanger spacing.

Two foot Cross Tees shall be ALUMINUM DX/DXL216, 2' in length, 1" height, class 3 fire rated, standard flat white color.

Four foot Cross Tees shall be ALUMINUM DX/DXL424, 4' in length, 1 ½" in height, class 3 fire rated,
standard flat white color.

Wall molding shall be ALUMINUM 7/8" x 7/8" x 12' in length, standard flat white color.

Hanger wire shall be industry standard, 12 ga., galvanized steel, hangers in 12' lengths. Hanger wires can be attached to existing structure but shall not exceed 4’ 0” on center each way.

Provide ceiling wires at each corner of light fixtures and at ceiling power outlets.

Contractor may reuse existing ceiling wires and add additional wires as required.

Bidders may submit specifications and details for Armstrong or USG for approval as equal.

Ceiling grid damaged in this project shall be replaced at no cost to the owner.

FLOORING

FLOOR COATINGS
Contractor shall furnish and install new floor coatings in all areas as indicated on plans and specs.
Contractor shall provide and install coatings using the 6-coat process as follows:
Stoneshield HRI – trowel applied epoxy mortar base with quartz broadcast for floors.

---OR---
Dur-A-Flex Hybriflex Q28 (trowel applied) decorative quartz chip.
(OR APPROVED EQUAL)
Flooring affected by the removal of the existing partitions, walls, existing holes in floors, existing pit, and existing electrical raceways, shall be patched with materials that are compatible with the new floor coatings.

Contractor shall ensure that all floor substrate surfaces are checked for irregularities and inconsistent surface elevations prior to the installation of the new floor coatings.

Contractor shall float the entire area as necessary to achieve manufacturer’s recommended minimum elevation variations prior to flooring installation (and preferably prior to painting of walls) and shall include those expenses in his bid price.

Contractor shall furnish and install black vinyl cove base, 1/8" x 4”, made by Johnsonite. Installed with Ardex/Henry “System One” products and adhesives on all walls in the construction area.

Contractor shall provide a metal transition strip at the main entrance door to create a smooth and straight line.

Contractor shall provide samples of texture and colors of flooring and base prior to ordering.

ELECTRICAL

ALL ELECTRICAL WORK SHALL BE BY A LICENSED AND/OR CERTIFIED ELECTRICIAN.
ALL WORK SHALL BE INSPECTED AND APPROVED BY THE UNIVERSITY’S REPRESENTATIVE PRIOR TO ACCEPTANCE AND BEFORE ANY PANEL IS ENERGIZED.

The contractor shall include in his bid all labor, materials and work to perform all of the electrical work indicated in the plans and specifications.

All work shall be done as per NEC.

Contractor shall install temporary lighting sufficient for the General Contractor’s needs.

Contractor shall provide labor and materials for the electrical requirements for all owner provided cabinets, and power panels in ceiling. All switches, receptacles, cover plates, and wiring shall be by the electrical contractor.

ALL CIRCUITS FOR ROOMS 149 AND 151 SHALL BE FED FROM NEW PANEL “149-A”. RESEARCH, TRACE, AND INTERCEPT EXISTING CIRCUIT FEED AT NEAREST JUNCTION BOX AND REFEED FROM PANEL “149-A”. REMOVE UNUSED RACEWAYS AND WIRING AND CORRECT EXISTING PANEL DIRECTORIES AS REQUIRED.

Contractor shall furnish and install a new 125 amp, 42 space, surface mount, single section panel board on existing wall in room 149A. Panel shall be 120-208v/3/60 fed from the existing Panel “L1Z” in room 150. Provide a 125 amp single main breaker and all breakers and wiring in and from panel. Label new Panel “149-A”. Label panel directory by typing. Install a 125 amp, 3-pole breaker in Panel “L1Z” in room 150 and run a 1-1/2” EMT conduit to new Panel “149-A” with (4) #2 copper wires with (1) # 4 ground. Install breaker in spaces 63, 65, and 67. Label panel directory.

Contractor shall furnish and install a new 30 amp flush mount, 208v/3/60, disconnect with EMT and wiring on wall in room 149A for new air compressor as indicated in the plans.

Contractor shall trace, verify, and label all circuit changes on existing panel directories and junction boxes made when relocating existing and new circuits for room 149 and 151.

Contractor shall furnish and install Lithonia LED light fixtures with lamps (2FSL4 40L EZ1 LP835) as shown on drawings.

Contractor shall furnish and install new EXIT SIGNS at each exit (3 TOTAL) (LITHONIA-LQC W 1 G EL N - LED).

Contractor shall furnish new rough-ins in new walls and install the existing data outlet at each original location as indicated in plans. Install a 4” x 4” x 2” deep boxes with a 1” conduit turned out of wall above ceiling. Provide a 4” x 2” trim ring on box. All outlets shall be 48” above finish floor. Contractor shall hang or otherwise support new and existing conduits, junction boxes etc. to meet code requirements.

Contractor shall furnish all wiring, labor etc. to install the new light fixtures.
Contractor shall provide 20 amp rated switches, 20 amp rated receptacles, and 30 amp rated twist lock receptacles where indicated in plans.

Contractor shall provide stainless steel cover plates on all new and existing switches and receptacles. Where rough-in boxes are not used, data or power, contractor shall provide a stainless steel blank cover plate.

All switches and receptacles shall be white.

Contractor shall provide and install new receptacles in the newly created partitions as indicated in plans.

Contractor shall furnish and install all conduit, wiring, and motorized switch for indoor a/c units. Provide a pilot light type switch for all exhaust fans for room 151.

Mc cable is acceptable for power feed above ceiling to receptacles and lighting. Run EMT for power to receptacles and switches exposed in room 151.

Any faulty wiring or unsafe conditions shall be reported to the University representative for this project.

WIRING DEVICES

GENERAL
Submittals: Product Data for each product specified.

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

Comply with NEMA WD 1.

Comply with NFPA 70.

PRODUCTS

Straight-Blade and Locking Receptacles: General-Duty grade.

GFCI Receptacles: Feed-through type, with integral NEMA WD 6, Configuration 5-20R duplex receptacle arranged to protect connected downstream receptacles on same circuit. Design units for installation in a 2-3/4-inch (70-mm) deep outlet box without an adapter.

Snap Switches: Heavy-duty, quiet type

EXECUTION

Install devices and assemblies plumb and secure.

Connect wiring device grounding terminal to outlet box with bonding jumper.

Connect wiring device grounding terminal to branch-circuit equipment grounding conductor.

Tighten electrical connectors and terminals according to manufacturer’s published torque-tightening values. If
manufacturers torque values are not indicated, use those specified in UL 486A and UL 486B.

Test wiring devices for proper polarity and ground continuity. Operate each device at least six times.

Replace damaged or defective components.

**SUBMITTALS:**
Product Data: For each type of lighting fixture indicated, arranged in order of fixture designation. Include data on features, accessories, and the following:

- Dimensions of fixtures.
- Certified results of laboratory tests for fixtures and lamps for photometric performance.
- Types of lamps: LED.

Coordination Drawings: Reflected ceiling plans and sections drawn to scale and coordinating fixture installation with ceiling grid, ceiling-mounted items, and other components in the vicinity. Include work of all trades that is to be installed near lighting equipment.

**QUALITY ASSURANCE:**
Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
Comply with NFPA 70.
NFPA 101 Compliance: Comply with visibility and luminance requirements for exit signs.

**COORDINATION:**
Fixtures, Mounting Hardware, and Trim: Coordinate layout and installation of lighting fixtures with ceiling system and other construction.

**WARRANTY:**
General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

**PRODUCTS MANUFACTURERS:**
Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products indicated in the Lighting Fixture Schedule on drawings.

**FIXTURES AND FIXTURE COMPONENTS, GENERAL:**
Metal Parts: Free from burrs, sharp corners, and edges.

Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and when secured in operating position. Delete paragraph below except for special applications where freedom from conducted electromagnetic interference is critical. Coordinate with Drawings.

**FINISHES:**

Fixtures: Manufacturer's standard, unless otherwise indicated.

Paint Finish: Applied over corrosion-resistant treatment or primer, free of defects.

Metallic Finish: Corrosion resistant.

**EXECUTION**

**INSTALLATION**

Fixtures: Set level, plumb, and square with ceiling and walls, and secure according to manufacturer's written instructions and approved submittal materials. Install lamps in each fixture.

Support for Fixtures in or on Grid-Type Suspended Ceilings: Use building structure for support.

**Install a minimum of four ceiling support system rods or wires for each fixture. Locate not more than six inches (6") from fixture corners.**

Support Clips: Fasten to fixtures and to ceiling grid members at or near each fixture corner.

Fixtures of Sizes Less Than Ceiling Grid: Arrange as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4 inch metal channels spanning and secured to ceiling tees.

**CONNECTIONS:**

Ground equipment.

Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

**FIELD QUALITY CONTROL**

Inspect each installed fixture for damage. Replace damaged fixtures and components.

Tests: As follows:

Verify normal operation of each fixture after installation.

Emergency Lighting: Interrupt electrical supply to demonstrate proper operation. Verify normal transfer to battery source and retransfer to normal. Report results in writing.
Malfunctioning Fixtures and Components: Replace or repair, then retest. Repeat procedure until units operate properly.

Corrosive Fixtures: Replace during warranty period.

**CLEANING AND ADJUSTING**

Clean fixtures internally and externally after installation. Use methods and materials recommended by manufacturer.

**EXIT SIGNS**

Contractor shall furnish and install new LED exit signs with battery back-up (replace existing fixtures one for one in the existing locations except that he shall make height adjustments to allow for new ceiling height). Fixtures shall be Lithonia LQCW1GELN or approved equal.

**EMERGENCY LIGHTING UNITS**

Contractor shall furnish and install new emergency lighting units using Lithonia 2FSL4 40L EZ1 LP835) fixtures with lamps but include a field installed Bodine B100 battery ballast (or approved equal) in the light fixtures indicated on the plans.

**FIRE ALARM SYSTEM**

**CONTRACTOR SHALL CONTACT THE UNIVERSITY TO DISARM THE FIRE ALARM SYSTEM AND PUT IN TEST MODE PRIOR TO ANY AND ALL WORK.**

Contractor shall take precautions during demo to protect the existing fire alarm system. Existing wiring and devices shall be reused in its entirety. Contractor shall make any and all modifications needed for the new wall and ceiling installation.

**GENERAL CLEAN-UP**

The general Contractor shall be responsible for providing a dumpster and for the proper disposal of all work associated debris at an appropriate (for the type of debris), approved landfill.

The general Contractor shall be responsible for leaving the space, free of dust and mopped clean.

All surfaces shall be wiped down and free of dust.

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**Special Requirements Specific to the New Iberia Research Center**

**ENHANCED SECURITY CLEARANCE (CONTRACTORS):**

The Contractor shall have all technicians/crew members submit to an Enhanced Security Clearance screening, prior to granting the individual access to the University of Louisiana at Lafayette’s New Iberia Research Center’s (NIRC) Facility. The screening of technicians/crew members will be conducted through Information Network Associates (INA), [www.ina-inc.com](http://www.ina-inc.com) and will be the sole responsibility of the Contractor. The Contractor will contact INA directly to request the “UL-NIRC Enhanced Security Clearance screening” be performed.
Eligibility for contracted employment with NIRC and access to the Facility, will be classified as a “Security Clearance”, and will be granted only to those individuals whom have undergone the appropriate Enhanced Security Screening. Continued association with NIRC and access to the Facility is contingent upon maintaining a satisfactory Security Clearance.

A successful Security Clearance shall be considered a condition of the Contract. Any existing and/or new technician/crew member failing to satisfactorily pass the Enhanced Security Clearance will not be allowed to enter the Facility. The Contractor shall use its best efforts to assign technicians/crew members reasonably believed to be able to meet the Enhanced Security Clearance requirements.

END OF SECTION

ALTERNATES

Alternate No. 1 – N/A

Alternate No. 2 – N/A

Alternate No. 3 – N/A

END OF SECTION
INSTRUCTIONS TO BIDDERS
https://www.doa.la.gov/.../24_Instructions_to_Bidders_July2018.docx

ARTICLE 1

DEFINITIONS

1.1 The Bid Documents include the following:

Advertisement for Bids (if applicable)
Instructions to Bidders
Bid Form
Bid Bond
General Conditions of the Contract for Construction,
AIA Document A201, 2017 Edition
Supplementary Conditions
Contract Between Owner and Contractor
and Performance and Payment Bond
Affidavit
User Agency Documents (if applicable)
Change Order Form
Partial Occupancy Form
Recommendation of Acceptance
Asbestos Abatement (if applicable)
Other Documents (if applicable)
Specifications & Drawings
Addenda issued during the bid period and
acknowledged in the Bid Form

1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201 and the Supplementary Conditions are applicable to the Bid Documents.

1.3 Addenda are written and/or graphic instruments issued by the Architect prior to the opening of bids, which modify or interpret the Bid Documents by additions, deletions, clarifications, corrections and prior approvals.

1.4 A bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein supported by data called for by the Bid Documents.

1.5 Base bid is the sum stated in the bid for which the Bidder offers to perform the work described as the base, to which work may be added, or deleted for sums stated in alternate bids.

1.6 An alternate bid (or alternate) is an amount stated in the bid to be added to the amount of the base bid if the corresponding change in Project scope or materials or methods of construction described in the Bid Documents is accepted.

1.7 A Bidder is one who submits a bid for a prime Contract with the Owner for the work described in the Bid Documents.

1.8 A Sub-bidder is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.

1.9 Where the word "Architect" is used in any of the documents, it shall refer to the Prime Designer of the Project, regardless of discipline.
ARTICLE 2

PRE-BID CONFERENCE

2.1 A Pre-Bid Conference shall be held at least 10 days before the date for receipt for bids. The Architect shall coordinate the setting of the date, time and place for the Pre-Bid Conference with the User Agency and shall notify in writing the Owner and all who have received sets of the Bid Documents to attend. The purpose of the Pre-Bid Conference is to familiarize Bidders with the requirements of the Project and the intent of the Bid Documents, and to receive comments and information from interested Bidders. If the Pre-Bid Conference is stated in the Advertisement for Bids to be a Mandatory Pre-Bid Conference, bids shall be accepted only from those bidders who attend the Pre-Bid Conference. Contractors who are not in attendance for the entire Pre-Bid Conference will be considered to have not attended.

2.2 Any revision of the Bid Documents made as a result of the Pre-Bid Conference shall not be valid unless included in an addendum.

ARTICLE 3

BIDDER’S REPRESENTATION

3.1 Each Bidder by making his bid represents that:

3.1.1 He has read and understands the Bid Documents and his bid is made in accordance therewith.

3.1.2 He has visited the site and has familiarized himself with the local conditions under which the work is to be performed.

3.1.3 His bid is based solely upon the materials, systems and equipment described in the Bid Documents as advertised and as modified by addenda.

3.1.4 His bid is not based on any verbal instructions contrary to the Bid Documents and addenda.

3.1.5 He is familiar with Code of Governmental Ethics requirement that prohibits public servants and/or their immediate family members from bidding on or entering into contracts; he is aware that the Designer and its principal owners are considered Public Servants under the Code of Governmental Ethics for the limited purposes and scope of the Design Contract with the State on this Project (see Ethics Board Advisory Opinion, No. 2009-378 and 2010-128); and neither he nor any principal of the Bidder with a controlling interest therein has an immediate family relationship with the Designer or any principal within the Designer’s firm (see La. R.S. 42:1113). Any Bidder submitting a bid in violation of this clause shall be disqualified and any contract entered into in violation of this clause shall be null and void.

3.2 The Bidder must be fully qualified under any State or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, Revised Statutes 37:2150, et seq. will be considered, if applicable.

The Contractor shall be responsible for determining that all of his Sub-bidders or prospective Subcontractors are duly licensed in accordance with law.

ARTICLE 4

BID DOCUMENTS

4.1 Copies

4.1.1 Bid Documents may be obtained from the Architect for a deposit as stated in the Advertisement for Bids. The deposit will be refunded as stated in the Advertisement for Bids. No deposits will be refunded on Bid Documents returned later than
ten days after receipt of bids.

4.1.1.2 As an alternative method of distribution, the Designer may provide the Bid Documents in electronic format. They may be obtained without charge and without deposit as stated in the Advertisement for Bids.

4.1.1.2.1 If electronic distribution is available, printed copies will not be available from the Designer, but arrangements can be made to obtain them through most reprographic firms and/or plan rooms.

4.1.1.2.2 If electronic distribution is available, the reproduction cost on the first paper plan set acquired by bona fide prime bidders will be fully refunded by the Designer upon delivery of the documents to the Designer in good condition no later than ten days after receipt of bids.

4.1.1.2.3 If electronic distribution is available, all other plan holders are responsible for their own reproduction costs.

**4.1.2 Complete sets of Bid Documents shall be used in preparing bids; neither the Owner nor the Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.**

4.1.3 The Owner or Architect in making copies of the Bid Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

4.2 Interpretation or Correction of Bid Documents

4.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error which they may discover upon examination of the Bid Documents or of the site and local conditions.

4.2.2 Bidders requiring clarification or interpretation of the Bid Documents shall make a written request to the Architect, to reach him at least seven days prior to the date for receipt of bids.

4.2.3 Any interpretation, correction or change of the Bid Documents will be made by addendum. Interpretations, corrections or changes of the Bid Documents made in any other manner will not be binding and Bidders shall not rely upon such interpretations, corrections and changes.

4.3 Substitutions

4.3.1 The materials, products and equipment described in the Bid Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitutions shall be allowed after bids are received.

4.3.2 No substitution will be considered unless written request for approval has been submitted by the Proposer and has been received by the Architect at least seven (7) working days prior to the opening of bids. (La. R.S. 38:2295(C)) Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. It shall be the responsibility of the proposer to include in his proposal all changes required of the Bid Documents if the proposed product is used. Prior approval, if given, is contingent upon supplier being responsible for any costs which may be necessary to modify the space or facilities needed to accommodate the materials and equipment approved.

4.3.3 If the Architect approves any proposed substitution, such approval shall be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner.
4.4 Addenda
4.4.1 Addenda will be transmitted to all who are known by the Architect to have received a complete set of Bid Documents.

4.4.2 Copies of addenda will be made available for inspection wherever Bid Documents are on file for that purpose.

4.4.3 Except as described herein, addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening of bids, excluding Saturdays, Sundays, and any other legal holidays. If the necessity arises of issuing an addendum modifying plans and specifications within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended at least seven but no more than twenty-one (21) working days, without the requirement of re-advertising. UL Lafayette Purchasing shall be consulted prior to issuance of such an addendum and shall approve such issuance. The revised time and date for the opening of bids shall be stated in the addendum.

4.4.4 Each Bidder shall ascertain from the Architect prior to submitting his bid that he has received all addenda issued, and he shall acknowledge their receipt on the Bid Form.

4.4.5 The Owner shall have the right to extend the bid date by up to (30) thirty days without the requirement of re-advertising. Any such extension shall be made by addendum issued by the Architect.

ARTICLE 5
BID PROCEDURE

5.1 Form and Style of Bids

5.1.1 Bids shall be submitted on the Louisiana Uniform Public Work Bid Form provided by the Architect for this Project.

5.1.2 The Bidder shall ensure that all applicable blanks on the bid form are completely and accurately filled in.

5.1.3 Bid sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

5.1.4 Any interlineation, alteration or erasure must be initialed by the signer of the bid or his authorized representative.

5.1.5 Bidders are cautioned to complete all alternates should such be required in the Bid Form. Failure to submit alternate prices will render the bid non responsive and shall cause its rejection.

5.1.6 Bidders are cautioned to complete all unit prices should such be required in the Bid Form. Unit prices represent a price proposal to do a specified quantity and quality of work. Unit prices are incorporated into the base bid or alternates, as indicated on the Unit Price Form, but are not the sole components thereof.

5.1.7 Bidder shall make no additional stipulations on the Bid Form nor qualify his bid in any other manner.

5.1.8 Written evidence of the authority of the person signing the bid for the public work shall be submitted in accordance with La. R.S. 38:2212 (B)(5).

5.1.9 On any bid in excess of fifty thousand dollars ($10,000.00), the Contractor shall certify that he is licensed under La. R.S. 37:2150-2173 and show his license number on the bid above his signature or his duly authorized representative.

5.2 Bid Security

5.2.1 No bid shall be considered or accepted unless the bid is accompanied by bid security in an amount of five percent
(5.0%) of the base bid and all alternates.

The bid security shall be in the form of a certified check or cashier’s check drawn on a bank insured by the Federal Deposit Insurance Corporation, or a Bid Bond written by a surety company licensed to do business in Louisiana and signed by the surety's agent or attorney-in-fact. The surety for the bond must meet the qualifications stated thereon. The Bid Bond shall include the legal name of the bidder in favor of the University of Louisiana at Lafayette, and shall be accompanied by appropriate power of attorney. The Bid Bond must be signed by both the bidder/principal. Failure by the bidder/principal or the surety to sign the bid bond shall result in the rejection of the bid.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded the work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Bid Documents, within fifteen (15) days after written notice that the instrument is ready for his signature.

Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as penalty.

5.2.2 The Owner will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

5.3 Submission of Bids

5.3.1 The Bid shall be sealed in an opaque envelope. The bid envelope shall be identified on the outside the name, address, and license number of the Bidder.

The envelope shall not contain multiple bid forms, and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to The University at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by United States Mail, or express delivery, shall disqualify the bid.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to:

University of Louisiana at Lafayette
Purchasing Department,
P. O. Box 40197
Lafayette, LA 70504

Bids sent by express delivery shall be delivered to:

University of Louisiana at Lafayette
Purchasing Department
Martin Hall, Room 123
104 University Circle
Lafayette, LA 70503

5.3.2 Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or any extension thereof made by addendum. Bids received after the time and date for receipt of bids will be returned unopened.

5.3.3 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

5.3.4 Oral, telephonic or telegraphic bids are invalid and shall not receive consideration. Owner shall not consider notations written on outside of bid envelope which have the effect of amending the bid. Written modifications enclosed in the bid envelope, and signed or initialed by the Contractor or his representative, shall be accepted.

5.4 Modification or Withdrawal of Bid
5.4.1 A bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with R.S. 38:2214 which states, in part, "Bids containing patently obvious, unintentional, and substantial mechanical, clerical, or mathematical errors, or errors of unintentional omission of a substantial quantity of work, labor, material, or services made directly in the compilation of the bid, may be withdrawn by the contractor if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight hours of the bid opening excluding Saturdays, Sundays, and legal holidays".

5.4.2 Prior to the time and date designated for receipt of bids, bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

5.4.3 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

5.4.4 Bid Security shall be in an amount sufficient for the bid as modified or resubmitted.

5.5 Prohibition of Discriminatory Boycotts of Israel

By submitting a bid, the bidder certifies and agrees that the following information is correct:

In preparing its bid, the bidder has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israel-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder has also not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The state reserves the right to reject any bid if this certification is subsequently determined to be false and to terminate any contract awarded based on such a false response.

ARTICLE 6

CONSIDERATION OF BIDS

6.1 Opening of Bids

6.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the base bids and alternates, if any, will be made available to Bidders.

6.2 Rejection of Bids

6.2.1 The Owner shall have the right to reject any or all bids and in particular to reject a bid not accompanied by any required bid security or data required by the Bid Documents or a bid in any way incomplete or irregular.

6.3 Acceptance of Bid

6.3.1 It is the intent of the Owner, if he accepts any alternates, to accept them in the order in which they are listed in the Bid Form. Determination of the Low Bidder shall be on the basis of the sum of the base bid and the alternates accepted. However, the Owner shall reserve the right to accept alternates in any order which does not affect determination of the Low Bidder.
ARTICLE 7

POST-BID INFORMATION

7.1 Submissions

7.1.1 At the Pre-Construction Conference, the Contractor shall submit the following information to the Architect.

7.1.1.1 A designation of the work to be performed by the Contractor with his own forces.

7.1.1.2 A breakdown of the Contract cost attributable to each item listed in the Schedule of Values Form (attached). No payments will be made to the Contractor until this is received.

7.1.1.3 The proprietary names and the suppliers of principal items or systems of material and equipment proposed for the work.

7.1.1.4 A list of names and business domiciles of all Subcontractors, manufacturers, suppliers or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the work. It is the preference of the Owner that, to the greatest extent possible or practical, the Contractor utilize Louisiana Subcontractors, manufacturers, suppliers and labor.

7.1.2 The General Contractor shall be responsible for actions or inactions of Subcontractors and/or material suppliers. The General Contractor is totally responsible for any lost time or extra expense incurred due to a Subcontractor’s or Material Supplier’s failure to perform. Failure to perform includes, but is not limited to, a Subcontractor’s financial failure, abandonment of the Project, failure to make prompt delivery, or failure to do work up to standard. Under no circumstances shall the Owner mitigate the General Contractor’s losses or reimburse the General Contractor for losses caused by these events.

7.1.3 The lowest responsive and responsible bidder shall submit to the Architect and the Owner within ten days after the bid opening a letter/letters from the manufacturer stating that the manufacturer will issue the roof system guarantee complying with the requirements of Facility Planning and Control based on the specified roof system and include the name of the applicator acceptable to the manufacturer at the highest level of certification for installing the specified roof system. This manufacturer shall be one that has received prior approval or is named in the specifications.

In accordance with La. R.S. 38:2227 [references La R.S. 38:2212(A)(3)(c)(ii), which has since been renumbered as La R.S. 38:2212(B)(3)], La. R.S. 38:2212.10 and La. R.S. 23:1726 (B) the apparent low bidder on this Project shall submit the completed Attestations Affidavit (Past Criminal Convictions of Bidders, Verification of Employees and Certification Regarding Unpaid Workers Compensation Insurance) form found within this bid package to the University of Louisiana at Lafayette within 10 days after the opening of bids.

ARTICLE 8

PERFORMANCE AND PAYMENT BOND

8.1 Bond Required

8.1.1 The Contractor shall furnish and pay for a Performance and Payment Bond written by a company licensed to do business in Louisiana, which shall be signed by the surety's agent or attorney-in-fact, in an amount equal to 100% of the Contract amount. Surety must be listed currently on the U. S. Department of Treasury Financial Management Service List (Treasury List) as approved for an amount equal to or greater than the contract amount, or must be an insurance company domiciled in Louisiana or owned by Louisiana residents. If surety is qualified other than by listing on the Treasury list, the contract amount may not exceed fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance and may not exceed the amount of $500,000. However, a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A. M. Best's Key Rating Guide shall not be
subject to the $500,000 limitation, provided that the contract amount does not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide nor fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance. The Bond shall be signed by the surety's agent or attorney-in-fact. The Bond shall be in favor of the University of Louisiana at Lafayette.

8.2 Time of Delivery and Form of Bond

8.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the Contract.

8.2.2 A surety company’s bid bond form/document will be sufficient for any bid submission.

8.2.3 The Bidder shall require the Attorney-in-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of Attorney.

ARTICLE 9

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 Form to be Used

9.1.1 Form of the Contract to be used shall be furnished by the University of Louisiana at Lafayette, an example of which is bound in the Bid Documents.

9.2 Award

9.2.1 After award of the Contract, the successful Bidder, if a corporation, shall furnish to the Owner the most current copy of a Disclosure of Ownership Affidavit on file with the Secretary of State.

9.2.2 In accordance with Louisiana Law, when the Contract is awarded, the successful Bidder shall, at the time of the signing of the Contract, execute the Non-Collusion Affidavit included in the Contract Documents.

9.2.3 When this Project is financed either partially or entirely with State Bonds, the award of this Contract is contingent upon the sale of bonds by the State Bond Commission. The State shall incur no obligation to the Contractor until the Contract Between Owner and Contractor is duly executed.
These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Section, Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Section, Article, Paragraph, Subparagraph or Clause shall remain in effect.

Articles, Sections, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1. The Contract Documents
   In Section 1.1.1 delete the third sentence, and add the following sentence:
   The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.

1.1.8 Initial Decision Maker
   Delete all after the words, “shall not show partiality to the Owner or Contractor”.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE [REFER TO La R.S. 38:2317]

1.5.1 Delete the first sentence of the paragraph.

1.5.1 In the third sentence: delete the remainder after the word “publication”.

1.7 DIGITAL DATA USE AND TRANSMISSION

   In the first sentence after the words, “in digital form” delete “. The parties will use AIA Document E203 2013, Building Information Modeling and Digital Data Exhibit”.

1.8 BUILDING INFORMATION MODELS USE AND RELIANCE

   Delete Section 1.8.
ARTICLE 2

OWNER

2.2 EVIDENCE OF THE OWNER’S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

In the first sentence, delete: all before “the Owner shall secure…”

Delete Section 2.3.2 and substitute the following:

2.3.2 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

Delete the words: “to whom the Contractor has no reasonable objection and”.

ARTICLE 3

CONTRACTOR

3.4 LABOR AND MATERIALS

Delete Section 3.4.2.

Delete Section 3.4.3 and substitute with the following:

Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner’s requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner’s property, as determined by the Owner, shall be removed from the Project at the Owner’s request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner’s property pursuant to this Section. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.5 WARRANTY

Replace reference to “Section 9.8.4” with “Section 9.8.6”.

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

3.7.1 Delete Section 3.7.1.

3.7.2 In Section 3.7.2, replace the word “public” with the word “State”.

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:

Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR’S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add the following: For Projects with a contract sum greater than $1,000,000.00, the Contractor shall include with the schedule, for the Owner’s and Architect’s information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the Project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word “general”.

After the first sentence, add the following:

If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.
Add the following Sections:

3.10.4 Add the following: Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

ARTICLE 4

ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 In the first sentence, delete the phrase: “the date the Architect issues the final Certificate for Payment” and replace with the phrase “final payment is due, and with the Owner’s concurrence, from time to time during the one year period for correction of Work described in Section 12.2.”

4.2.2 In the first sentence, after the phrase: “become generally familiar with”; insert the following: “and to keep the Owner informed about”.

In the first sentence, after the phrase “portion of the Work completed”, insert the following: “to endeavor to guard the Owner against defects and deficiencies in the Work,”

4.2.4 In the first sentence, delete all after “The Owner and Contractor”, and add the following “may communicate directly with each other, when deemed necessary by the Owner, and the Owner will notify the Architect of any decision.”

4.2.10 Add the following sentence to the end of Section 4.2.10: There shall be no restriction on the Owner having a Representative.

4.2.11 Add the following sentence to the end of Section 4.2.11:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

4.2.14 Insert the following sentence between the second and third sentences of Section 4.2.14:
If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

ARTICLE 5

SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS
Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7

CHANGES IN THE WORK

7.1 GENERAL
Add the following Sections:

7.1.4 As part of the pre-construction conference submittals, the Contractor shall submit the following prior to the Contractor’s initial request for payment:

7.1.4.1 Fixed job site overhead cost itemized with documentation to support daily rates.

7.1.4.2 Bond Premium Rate with supporting information from the General Contractor’s carrier.
7.1.4.3 Labor Burden by trade for both Subcontractors and General Contractor. The Labor Burden shall be supported by the Worker’s Compensation and Employer’s Liability Insurance Policy Information Page. Provide for all trades.

7.1.4.4 Internal Rate Charges for all significant company owned equipment.

7.1.5 If the General Contractor fails to submit the aforementioned documentation as part of the pre-construction submittals, then pay applications shall not be processed until such time as the Owner receives this information.

7.2 CHANGE ORDERS

Delete Section 7.2.1, and substitute the following Sections:

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

7.2.2 “Cost of the Work” for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker’s compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the “Cost of the Work” is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which shall not be included, as these costs are already compensated by the Overhead and Profit markup.

Supervision shall not be included as a line item in the “Cost of the Work”, except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a
specific trade (i.e., shovels, saws, hammers, air compressors, etc.,) and general use vehicles, such as pickup trucks even for moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

7.2.2.4 Eligible Insurance costs shall be limited to documented increases in “Builder’s Risk” insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work.

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, except credit will not be required for Overhead and Profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall only be computed on the net extra cost to the Contractor.

7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor’s Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor’s Overhead and Profit markup, for General Contractor’s Overhead and Profit.

7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2.

Premiums for the General Contractor’s bond may be included, but after the markup is added to the Cost of the Work. Premiums for the Subcontractor’s Bond shall not be included.

7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.
7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor’s Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor’s and/or Sub-Subcontractor’s Work including quantities and unit costs for each item of labor, material and equipment.

7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities and telephone.

Extended fixed job-site costs or equitable adjustment, may be included in a Change Order due to a delay in the critical path, with the exception of weather related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time within twenty-one (21) days of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities. The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. “Replacement Work” is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

7.2.8 “Cost of the Work” whether General Contractor cost or Subcontractor cost shall not apply to the following:

7.2.8.1 Salaries or other compensation of the Contractor’s personnel at the Contractor’s principal office and branch offices.

7.2.8.2 Any part of the Contractor’s capital expenses, including interest on the Contractor’s capital employed for the Work.

7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

7.2.8.4 Cost of supervision, refer to section 7.2.2.1, with exception as provided in Section 7.2.7.
7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.3 In the first sentence after “following methods” insert: “, but not to exceed a specified amount”.

7.3.4 From .1 of the list, delete all after “Costs of labor, including” and substitute the following “social security, old age and employment insurance, applicable payroll taxes, and workers’ compensation insurance;”

Delete the following from .4 of the list: “permit fees,”
Delete Section 7.3.9 and substitute the following:

7.3.9 Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties’ agreement with part or all of such costs.

ARTICLE 8
TIME

8.1 DEFINITIONS

Add the following:

8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

8.2 PROGRESS AND COMPLETION

Add to Section 8.2.1 the following:

Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the Project within the time stated in the Contract. The Owner will suffer financial loss if the Project is not substantially complete in the time set forth in the Contract Documents. The Contractor and the Contractor’s Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and liquidated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Liquidated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

Delete Section 8.2.2.
8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 In the first sentence after the words “Owner pending” delete the words “mediation and binding dispute resolution” and add the word “litigation”, and delete the last word “determine” and add the following: “recommend, subject to Owner’s approval of Change Order. If the claim is not made within the limits of Article 15, all rights for future claims for that month are waived.”

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

Delete Section 9.1.2.

Delete Section 9.2 and substitute the following:

9.2 SCHEDULE OF VALUES

At the Pre-Construction Conference, the Contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

9.2.1 The attached Schedule of Values Format shall be used. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.

9.2.2 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor’s Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect.

9.3 APPLICATIONS FOR PAYMENT

Delete Sections 9.3.1, 9.3.1.1, and 9.3.1.2 and substitute the following:

9.3.1 Monthly, the Contractor shall submit to the Architect an Application & Certificate for Payment on the AIA Document G702-1992, accompanied by AIA Document G703-1992, and supported by any additional data substantiating the Contractor’s right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials, suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per La R.S. 38:2248:

9.3.1.1 Projects with Contract price up to $500,000.00 – 10% of the Contract price.

9.3.1.2 Projects with Contract price of $500,000.00, or more – 5% of the Contract price.

9.3.1.3 No payment shall be made until the revised schedule required by Section 3.10.1 is
received.

9.3.1.4 The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety, and invoice for retainage.

Delete Section 9.3.2 and substitute the following:

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner’s title to such materials and equipment or otherwise protect the Owner’s interest, including applicable insurance.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word “repeated”.

Delete Section 9.5.4.

9.6 PROGRESS PAYMENTS

Delete Section 9.6.1 and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within twenty days except for Projects funded fully or in part by a Federal reimbursement program. For such Projects the Owner will make payment in a timely manner consistent with reimbursement.

9.6.2 Delete the phrase: “no later than seven days” from the first sentence.

After the end of the second sentence, add the following:

La R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of 1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty.

9.6.4 Delete the first two sentences of Section 9.6.4 and add the following to the end of the Section:

Pursuant to La. R.S. 38:2242 and La. R.S. 38:2242.2, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder of mortgages of the parish where the Work has been done. When the Owner receives original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum.
Delete Section 9.7 FAILURE OF PAYMENT.

Delete Section 9.8 and substitute the following:

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the Project is substantially complete in accordance with this Section.

9.8.2 When the Contractor considers that the Work is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

9.8.3 Upon receipt of the Contractor’s list, the Architect shall make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Owner’s receipt of the executed Roofing Contractor’s and Roofing Manufacturer’s guarantees, where roofing Work is part of the Contract. Prior to inspection by the Architect, the Contractor shall notify the Architect that the Project is ready for inspection by the State Fire Marshal’s office. If the Architect’s inspection discloses any item, whether or not included on the Contractor’s list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

9.8.4 When the Architect determines that the Project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the forty-five day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Recommendation of Acceptance incorporating the punch list and submit it to the Owner. Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of Building Contract which shall establish the Date of Substantial Completion. The Contractor shall record the Notice of Acceptance with the Clerk of Court in the Parish in which the Work has been performed. If the
Notice of Acceptance has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor’s expense. All additive change orders must be processed before issuance of the Recommendation of Acceptance. The Owner shall not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Recommendation of Acceptance.

9.8.6 Warranties required by the Contract Documents shall commence on the date of Acceptance of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner’s responsibility on the Date of Substantial Completion.

9.8.7 If all punch list items have not been completed by the end of the forty-five (45) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within forty-five (45) days after notification, the Surety has not completed the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety.

9.9 PARTIAL OCCUPANCY OR USE
Delete Section 9.9.1 and substitute the following:

9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

9.10 FINAL COMPLETION AND FINAL PAYMENT
9.10.1 After the second sentence, add the following:

If the Architect does not find the Work acceptable under the Contract Documents, the Architect shall make one additional inspection; if the Work is still not acceptable, the Architect, and each of the Architect’s principal consultants, shall be paid $175.00/hour for their time at the Project site, for each additional inspection, to be withheld from the unpaid funds remaining in the Contract sum. The
payment shall be made by the Owner and deducted from the construction contract funds.

Delete Section 9.10 and replace with the following:

9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

9.10.4.1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;

9.10.4.2 failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;

9.10.4.3 terms of special warranties required by the Contract Documents; or

9.10.4.4 audits performed by the Owner, after final payment.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.2 In the first sentence, between the words: “bearing on” and “safety”, add the words: “the health and,”

10.3 HAZARDOUS MATERIALS

10.3.1 In the second sentence after (PCB) add: “or lead”.

10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: “The Contract time shall be extended appropriately.”
Delete Section 10.4 and substitute the following:

10.4 EMERGENCIES

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11

INSURANCE AND BONDS

AIA A101 – 2017 Exhibit A is not a part of these documents. Delete all of Sections 11.1, 11.2, 11.3, 11.4, and 11.5, and substitute the following:
INSURANCE REQUIREMENTS FOR NEW CONSTRUCTION, ADDITIONS AND RENOVATIONS

11.1 CONTRACTOR’S LIABILITY INSURANCE
The Contractor shall purchase and maintain without interruption for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

11.2 MINIMUM SCOPE AND LIMITS OF INSURANCE

11.2.1 Worker’s Compensation
Worker’s Compensation insurance shall be in compliance with the Worker’s Compensation law of the Contractor’s headquarters. Employers Liability is included with a minimum limit of $1,000,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included. A.M. Best’s insurance company rating requirement may be waived for Worker’s compensation coverage only.

11.2.2 Commercial General Liability
Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the Project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.
The aggregate loss limit must apply to each Project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State Project number, including part number, and Project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Projects up to $1,000,000</th>
<th>Projects over $1,000,000 up to $10,000,000</th>
<th>Projects over $10,000,000</th>
</tr>
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<tr>
<td>New Buildings:</td>
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<tr>
<td>Each Occurrence</td>
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<tr>
<td>Minimum Limit</td>
<td>$1,000,000</td>
<td>$2,000,000</td>
<td>$4,000,000</td>
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<tr>
<td>Per Project Aggregate</td>
<td>$2,000,000</td>
<td>$4,000,000</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Renovations:</td>
<td>The building(s) value for the Project is $_______________.</td>
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</tr>
<tr>
<td>Each Occurrence</td>
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<tr>
<td>Minimum Limit</td>
<td>$1,000,000**</td>
<td>$2,000,000**</td>
<td>$4,000,000**</td>
</tr>
<tr>
<td>Per Project Aggregate</td>
<td>2 times per occur limit**</td>
<td>2 times per occur limit**</td>
<td>2 times per occur limit**</td>
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</tbody>
</table>

**While the minimum Combined Single Limit of $1,000,000 is required for any renovation, the
limit is calculated by taking 10% of the building value and rounding it to the nearest $1,000,000 to get the insurance limit. Example: Renovation on a $33,000,000 building would have a calculated $3,000,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to $3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is $10,000,000 regardless of building value. The per Project aggregate limit is then calculated as twice the per occurrence limit.

11.2.3 Automobile Liability
Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned Automobiles.

11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

11.2.5 Builder’s Risk

11.2.5.1 Builder’s Risk Insurance shall be in an amount equal to the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad Form Causes of Loss (extended, if necessary, to include the perils of wind, earthquake, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects’ and engineers’ fees necessary to provide plans, specifications and supervision of Work for the repair and/or replacement of property damage caused by a covered peril, not to exceed 10% of the cost of the repair and/or replacement.

11.2.5.2 Flood coverage shall be provided by the Contractor on the first floor and below for all Projects, except as otherwise noted. The builder’s risk insurance policy, sub-limit for flood coverage shall not be less than ten percent (10%) of the total contract cost per occurrence. If flood is purchased as a separate policy, the limit shall be ten percent (10%) of the total contract cost per occurrence (with a max of $500,000 if NFIP). Coverage for roofing Projects shall not require flood coverage.

11.2.5.3 A Specialty Contractor may provide an installation floater in lieu of a Builder’s Risk policy, with the similar coverage as the Builder’s Risk policy, upon the system to be installed in an amount equal to the amount of the contract including any amendments. Flood coverage is not required.

11.2.5.4 The policy must include coverage for the Owner, Contractor and any subcontractors as their interests may appear.

11.2.6 Pollution Liability (required when asbestos or other hazardous material abatement is included in the contract)
Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than $1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

11.2.7 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

11.3 OTHER INSURANCE PROVISIONS

11.3.1 The policies are to contain, or be endorsed to contain, the following provisions:

11.3.1.1 Worker’s Compensation and Employers Liability Coverage

To the fullest allowed by law, the insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

11.3.1.2 Commercial General Liability Coverage

The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used.

The Contractor’s insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers for any and all losses that occur under the contract. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor’s insurance.

11.3.1.3 Builder’s Risk

The policy must include an endorsement providing the following:

In the event of a disagreement regarding a loss covered by this policy, which may also be covered by a State of Louisiana self-insurance or commercial property policy through the Office of Risk Management (ORM), Contractor and its insurer agree to follow the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make written demand for an appraisal of the matter in
disagreement. Within 20 days of receipt of written demand, the Contractor’s insurer and either ORM or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers shall select a competent and impartial umpire. The appraisers shall then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of the loss that must be borne by each policy. If the two appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of the loss. Each insurance company agrees that the decision of the appraisers and the umpire if involved shall be binding and final and that neither party will resort to litigation. Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

11.3.1.4 All Coverages

11.3.1.4.1 All policies must be endorsed to require 30 days written notice of cancellation to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor’s policy. In addition, Contractor is required to notify Agency of policy cancellations or reductions in limits.

11.3.1.4.2 Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

11.3.1.4.3 The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

11.3.1.4.4 Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

11.3.2 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best’s rating of A-: VI or higher. This rating requirement may be waived for Worker’s compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance within 30 days.

11.3.3 Verification of Coverage

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by
the Owner before Work commences and upon any contract renewal or insurance policy renewal thereafter. The Certificate Holder must be listed as follows:

State of Louisiana
University of Louisiana at Lafayette
PO Box 40197
Lafayette, LA 70504
Ref: Solicitation File No. ________

The Owner reserves the right to request complete certified copies of all required insurance policies at any time.
Upon failure of the Contractor to furnish, deliver and maintain required insurance, this contract, at the election of the Agency, may be suspended, discontinued, or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

11.3.4 Subcontractors
Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor’s certificates at any time.

If Contractor does not verify subcontractors’ insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

11.3.5 Worker’s Compensation Indemnity
In the event Contractor is not required to provide or elects not to provide Worker’s compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees shall have no cause of action against, and shall not assert a claim against, the state of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker’s Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.
11.3.6 Indemnification/Hold Harmless Agreement
Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor’s responsibility for the handling and expenses of all claims.

11.4 PERFORMANCE AND PAYMENT BOND

11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3 Recordation of Contract and Bond [La R.S. 38:2241 thru 38:2241.1]

The Owner shall record within thirty (30) days the Contract Between Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed.

ARTICLE 12

UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:
“If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner
finds the Contractor in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:
“If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety.”

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW
Delete all after the word “located”.

13.2 SUCCESSORS AND ASSIGNS
13.2.1 In the second sentence, delete “Except as … 13.2.2”
Delete Section 13.2.2.

13.3 RIGHTS AND REMEDIES
Add the following Section 13.3.3:

13.3.3 The Nineteenth Judicial Court in and for the Parish of East Baton Rouge, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

13.4 TESTS AND INSPECTIONS
In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory provided by the Owner, and the Owner shall bear all related costs of tests, inspections and approvals.
Delete the last two sentences of Section 13.4.1.

13.5 INTEREST
Delete Section 13.5.

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR
Delete Section 14.1.1.4.
In Section 14.1.3, after the word “profit,” delete the words “on Work not executed” and substitute the following: “for Work completed prior to stoppage.”

14.2 TERMINATION BY THE OWNER FOR CAUSE
Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

“Termination by the Owner shall not suspend assessment of liquidated damages against the Surety.”

Add the following Section:
14.2.5 If an agreed sum of liquidated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under the liquidated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem liquidated damages.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE
In Section 14.4.3, delete all after “incurred by reason of the termination,” and add “along with reasonable profit on the Work not executed.”

ARTICLE 15

CLAIMS AND DISPUTES

15.1 CLAIMS
Delete Section 15.1.2, Time Limit on Claims, (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:
“A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.”

15.1.4.2 In the first sentence of the Section, delete “Initial Decision Maker’s” and replace with “Architect’s”. In the second sentence of the Section, delete “the decision of the Initial Decision Maker” and replace with: “his/her decision”.

Delete Section 15.1.6.2 and substitute the following:
15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within twenty-one (21) days from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the Project site.

Add the following Section:
15.1.6.3 The following are considered reasonably anticipated days of adverse weather on a monthly basis:

<table>
<thead>
<tr>
<th>Month</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>11</td>
</tr>
<tr>
<td>February</td>
<td>10</td>
</tr>
<tr>
<td>March</td>
<td>8</td>
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<td>April</td>
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<td>October</td>
<td>3</td>
</tr>
<tr>
<td>November</td>
<td>5</td>
</tr>
<tr>
<td>December</td>
<td>8</td>
</tr>
</tbody>
</table>

The Contractor shall ask for total adverse weather days. The Contractor’s request shall be considered only for days over the allowable number of days stated above.

*Note: Contract is on a calendar day basis.*

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word “will” and replace with: “shall always”.

In the second sentence, delete the phrase: “, unless otherwise indicated in the Agreement.”

In the third sentence, delete the word “mediation” and replace with: “litigation”.

At the end of the third sentence, add: “arising prior to the date final payment is due”.

Delete the fourth sentence.

15.2.5 In the middle of the first sentence, delete all after the phrase: “rejecting the Claim”.

In the second sentence, delete the phrase: “and the Architect, if the Architect is not serving as the Initial Decision Maker,”.

In the third sentence, delete all after: “binding on the parties” and add the following: “except that the Owner may reject the decision or suggest a compromise or both”.
Delete Section 15.2.6.

Delete Section 15.2.6.1.

15.3 MEDIATION
Delete Section 15.3.

15.4 ARBITRATION
Delete Section 15.4.

END OF SECTION
I. Purpose and Scope

The purpose of this document is to ensure that third parties doing business with the University are adequately insured for the risk and liability associated with the goods, services, and/or work they provide to the University. This document sets forth the insurance language to be included in the bid and/or contract specifications when hiring contractors, vendors, or service providers to provide goods, perform services, and/or perform work for the University (“Contractors”). This document also sets forth the insurance language that should be included in all University contracts with Contractors (“Contracts”). This document applies to all Contracts to which the University is a party, including the individual departments and units of the University.

II. General Insurance Requirements

Except as expressly provided below with regard to Reduced Limits for Special Circumstances, the following language shall be included in (1) all Contractor bid and contract specifications, and (2) all Contracts. Requests for other variations in this language must be reviewed by the University’s Risk Manager, who will make the final decision as to the language to be used. Please note that hazardous, unusual or exceptional activities, or a change in Contract indemnification provisions, may necessitate additional insurance; questions regarding the need for other coverage should be directed to the University’s Risk Manager.

Contractor shall purchase, at its own cost and expense, and maintain for the duration of the Contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by Contractor, its agents, representatives, employees, or subcontractors. The insurance shall be obtained from a company or companies lawfully authorized to do business in the State of Louisiana with a A.M. Best’s rating of A-:VI or higher. Failure to comply with all terms of this section for the duration of the Contract places Contractor in breach of this Contract. Requests for any variation in this language will be reviewed by University’s Risk Manager, who will make the final decision.

A. Minimum Scope of Insurance and Limits

1. Workers Compensation

Contractor shall be in compliance at all times with the Louisiana Workers’ Compensation Law with respect to workers’ compensation insurance or proper certification of self-insured status.

2. Commercial General Liability

Contractor shall maintain Commercial General Liability insurance, including Personal and Advertising Injury Liability, which coverage shall have a minimum limit per occurrence of $1,000,000 and a minimum general aggregate of $2,000,000. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

Additionally, if alcohol is served in the execution of this Contract, then Contractor shall maintain Liquor Liability coverage in the minimum amount of $1,000,000 per occurrence.

Additionally, if valet parking is performed in the execution of this Contract, then Contractor shall maintain Garage Keepers Liability coverage in the minimum amount of $1,000,000 per occurrence.

3. Automobile Liability (if a Motor Vehicle owned, hired, or rented by the contractor is used in the
performance of this Contract)

Contractor shall maintain Automobile Liability Insurance, which coverage shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired, and non-owned automobiles.

B. Other Insurance Provisions

Contractor shall either (i) require each subcontractor and vendor to procure and maintain all applicable insurance of the type and limits specified in this section, or (ii) include all subcontractors as insureds under its policies.

Any deductibles or self-insured retentions must be declared to and accepted by University. Contractor shall be responsible for all deductibles and self-insured retentions. Any insurance or self-insurance maintained by University shall be excess and non-contributory of Contractor’s insurance. Contractor’s coverage shall contain no special limitations on the scope of protection afforded to University. Contractor’s insurance shall be primary as respects University, The Board of Supervisors for the University of Louisiana System (“Board”), and all of their respective officers, agents, employees, and volunteers.

Except for workers’ compensation coverage, University and Board, and all of their respective officers, agents, employees, and volunteers, shall be named as an additional insured as regards negligence by Contractor. ISO Form CG 20 10 (current form approved for use in Louisiana), or equivalent, is to be used when applicable.

Contractor shall provide to University Certificates of Insurance (“Certificates”) evidencing the foregoing coverage in advance of Contractor’s delivery of goods and/or performance of work or services, and in all events, prior to any payment by University to Contractor. In addition to Certificates, Contractor shall submit to University the declarations page and the cancellation provisions for each insurance policy. University reserves the right to request complete certified copies of all required insurance policies at any time.

Certificates and all notices regarding coverage shall be addressed to:

University of Louisiana at Lafayette
ATTN: Purchasing Department
P.O. Box 40197
Lafayette, LA 70504

Certificates of Insurance shall reflect that, to the fullest extent allowed by law, the insurer shall agree to waive all rights of subrogation against University, its officers, agents, employees, and volunteers for losses arising from work performed by the Contractor for University.

Coverage shall not be canceled, suspended, reduced, or voided by either Contractor or the insurer except after 30 days written notice has been given to University. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in Contractor’s policy.

Acceptance of goods or completed work by University, payment by University, failure of University to require proof of compliance, or University’s acceptance of a non-compliant Certificate shall not release Contractor from its obligations under these insurance requirements. Failure of Contractor to purchase and/or maintain any required insurance shall not relieve Contractor from any liability or indemnification under the Contract.

III. Additional Insurance Requirements for Special Contracts

In addition to the foregoing insurance requirements, language specifying the following insurance requirements shall be included in: (1.) all bid and contract specifications for professional services and (2.) all Contracts for professional
services, where applicable:

A. Professional Liability, Errors and Omissions, and Malpractice Insurance

If any of the following professionals provide services in the execution of the Contract, Contractor shall purchase and maintain Professional Liability Insurance, which coverage shall have minimum limits of $1,000,000:

- Medical Professionals, such as physicians, nurses, dentists, and pharmacists;
- Architects and Engineers;
- Attorneys;
- Accountants and Professional Financial Advisors;
- Real Estate Brokers and Appraisers;
- Insurance Agents; and
- Consultants.

Claims-made coverage for Professional Liability Insurance is acceptable. The date of the inception of the policy must be no later than the first date of the anticipated work under this Contract. It shall provide coverage for the duration of this Contract and shall have an expiration date no earlier than 30 days after the anticipated completion of the Contract. The policy shall provide an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy, if policy is not renewed.

B. Cyber Liability Insurance

For Contracts in which the Contractor shall be granted access to electronic data belonging to the University or others, including but not limited to corporate confidential information (CCI), personal financial information (PII), personal health information (PHI), payment card information (PCI), and all personal student information (PSI) stored in electronic format, and for which there is a risk of electronic security breaches of this confidential data, including inadvertent release, hacking, viruses, improper destruction, etc., Cyber liability insurance, including first-party costs, shall be required with a minimum limit per occurrence of $1,000,000. Claims-made coverage is acceptable. The date of the inception of the policy must be no later than the first date of the anticipated work under this Contract. It shall provide coverage for the duration of this Contract and shall have an expiration date no earlier than 30 days after the anticipated completion of the Contract. The policy shall provide an extended reporting period of not less than 36 months from the expiration date of the policy, if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

IV. Reduced Limits for Special Circumstances

The scope of work for a bid or Contract may dictate that a reduction of insurance limits is necessary in order to facilitate competition and/or ensure the University’s ability to hire qualified Contractors. Low risk activities which may justify a reduction in insurance limits include, but are not limited to:

- Services in which the owner/operator is the only Contractor employee;
- Services that do not involve the use of a motor vehicle;
- Services in which there is no use of hazardous or radioactive materials;
- Services in which there is no use of power machinery or tools;
- Services in which there is no use of high voltage equipment; and
- Services in which no work is actually performed on the University campus.

For these special circumstances, University’s Director of Purchasing, at his/her discretion, may choose to reduce the insurance
required of Contractor. If insurance requirements are so reduced, the reduction(s) must comply with the following guidelines:

A. Workers Compensation

University may waive workers’ compensation insurance requirements for sole proprietors if they are the only person(s) employed by Contractor in performing the work or services specified in the Contract.

If coverage is so waived, the Contract must include language that Contractor agrees that such persons will have no cause of action against, and will not assert a claim against, University, the Board, and/or the State of Louisiana, whether pursuant to the workers’ compensation law of Louisiana or any other state, or other similar state or federal law, under any circumstance. The Contract must also include language that the parties agree that University, the Board, and the State of Louisiana, and all of their agents and employees, shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its owners, agents, or employees. The Contract must further include language that the parties agree that Contractor is a wholly independent contractor and is exclusively responsible for its own employees, owners, and agents, and that Contractor agrees to protect, defend, indemnify and hold University, the Board, and the State of Louisiana, and all of their agents and employees, harmless from any assertion or claim that may arise from the performance of this Contract.

B. Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability, may be reduced to a minimum limit per occurrence of $100,000. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

C. Automobile Liability

Automobile Liability Insurance requirements may be waived only if the scope of work does not involve the use of a motor vehicle. Examples include but are not limited to:

1. Goods and/or services that will be delivered to University by a third party (not Contractor); and
2. Goods and/or services that will be delivered to University electronically.

D. Required Insurance Language

Notwithstanding any reduction or waiver made pursuant to this section, all bid/contract specifications and all Contracts must include the language set forth in the General Insurance Requirements section, above, subject to modification only for the specific reduction or waiver made.

END OF SECTION
GENERAL REQUIREMENTS
The Contractor shall furnish and install all labor and material necessary to provide and install the complete portion of this contract, including all materials and equipment as shown on the plans. It is the intention of these specifications that all systems be furnished complete with whatever necessary items are required to produce a satisfactory installation in a working order. The Contractor shall be responsible for bringing to the attention of the Owner any shortcomings of the design, or thereby, shall be responsible in full to meet the conditions set forth, that being, the system is to be in a satisfactory working order.

All material shall be installed in accordance with the instructions of the manufacturers. The work shall be done in strict compliance with state and local ordinances governing this class of work. The prospective bidder shall visit the job site and become familiar with all existing conditions found at the site. The Contractor shall become acquainted with all existing factors and conditions which affect the work. Failure to do so shall not relieve meeting the responsibility to install the work correctly.

The Contractor shall protect the entire installation from injury on the Project until final acceptance. Failure to do so shall be sufficient cause for the Agent to reject any work.

CONSTRUCTION FORCE
The Contractor shall provide and maintain in full operation at all times during the performance of the contract a sufficient work crew to execute the work with dispatch. The Contractor shall provide a full time superintendent who shall be on the job during all working periods.

The Contractor shall be responsible for maintenance and repair of all equipment installed by him which fails due to substandard workmanship.

PARKING
Contractor shall be responsible for all fees for temporary campus parking permits. The Facility Management department shall request the permits through the UL Parking and Transit department. Contractor shall be required to display the permit on their vehicles at all times while on campus. Failure to do so may result in parking citation.

DEQ NOTIFICATION
The Contractor shall be responsible for the proper notification of the Department of Environmental Quality whenever demolition work is to be performed. Copies of the DEQ Notification Form AAC-2 and any additional correspondence with DEQ shall be copied to the University.

STANDARDS
All materials furnished under this contract shall be designed, constructed and rated in accordance with the latest applicable standards, and shall pass tests as recommended therein.

WORKMANSHIP AND MATERIALS
The workmanship shall conform to the best accepted construction practice. Should it become evident that during the course of construction that the items indicated on the plans, are for any reason undesirable, the Contractor shall immediately bring the situation to the attention of the Agent for a decision. The Contractor shall be responsible for installing the proper materials as described by the drawings and specifications.
All materials furnished for this Project shall be new, undamaged, and bear the label of the Underwriters' Laboratories, Inc. Deliver materials in manufacturer’s original package and store on skids so that the materials are off the ground, and so that product labels are exposed for easy inspection.

The Bidder shall base the proposal on materials herein specified. Reference to specific manufacturers or trade names is not intended to limit or indicate preference to specific manufacturers, but to indicate a standard of quality. Written approval from the Agent is required on all substitutions prior to installations.

GUARANTEE
The Contractor shall guarantee new materials and workmanship for a minimum of one (1) full year after formal acceptance of the Project. The Contractor will replace defective material and repair all workmanship defects promptly, and absorb all costs.

This provision shall not override any other warranties that are specified herein.

CAMPUS SAFETY POLICY
Contractor shall adhere to the campus safety policy. Information regarding campus safety can be found on the UL Lafayette website at: http://www.louisiana.edu/ehs

LOUISIANA ONE CALL
UL Lafayette is a member in the Louisiana One Call system. At least 72 hours before digging anywhere on UL Lafayette property the contractor must call 1-800-272-3020 to verify the location of utilities.

EXISTING LANDSCAPING
Contractor is liable for any damages caused to the existing landscaping. All landscaping must be protected from root compaction and other physical damage. Contractor must provide three foot high orange construction fencing around the drip line of all trees within the construction site.

ASBESTOS
The contractor will not be required to interface with any asbestos containing material (ACM) during this Project. The State of Louisiana has conducted an asbestos survey of all buildings on the UL Lafayette campus. The results of the survey are compiled in management plans for each building. The management plans were assembled according to the requirements set forth in the Department of Environmental Quality Required Elements Index. These plans are available for review to anyone interested in the results. The plans are kept on file in the Reserve Reading Room of Edith Garland Dupre' Library.

COORDINATION OF WORK
The Contractor shall inform the Agent each day of his work location before proceeding to work, and each time the Contractor moves into a different area.

STORM WATER RUN OFF PROTECTION
Contractor shall protect the entire construction site from erosion due to storm water run-off. A retention barrier shall be constructed around the entire construction site perimeter to prevent erosion from infiltrating the storm water drainage system.
PAYMENT
The Contractor may invoice the Owner for work performed on a monthly basis. The work performed shall meet the approval of UL Lafayette. UL Lafayette shall process payment after verification of the invoice.

On Projects where a performance bond is specified, the University will withhold ten percent (10%) retainage from all payments for completed work. The retainage will be released to the contractor according to the procedures set forth in the “INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS”, section 10.

FINAL PAYMENT WILL NOT BE ISSUED UNTIL ALL UNIVERSITY KEYS HAVE BEEN RETURNED TO THE FACILITY MANAGEMENT OFFICE.

CLEAN-UP
The Contractor is responsible for the daily clean-up and disposal of all trash and construction debris relating to this Project. University dumpsters shall not be used for the disposal of debris. Should the Contractor dispose of any debris into University facilities, the cost of removal will be deducted from the University’s final payment under this contract. Occupied areas (e.g.: Classrooms, Offices, Labs, etc.) shall be broom cleaned and vacuumed at the end of the work day to allow use of the room by the University. Debris and materials shall be removed from the rooms to allow use of the room by the University.

INDEMNIFICATION
The Contractor will indemnify and hold harmless the Owner and all of their agents and employees from and against all claims, damages, losses, and expenses including attorney’s fees arising out of or resulting from operations under the Contract Documents by the Contractor, and subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, which are caused in whole or in part by any error, omission, or act of any of them. If any and all claims against the Owner or any of their agents or employees by any employee of the Contractor, subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation of the Contractor 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 Contractor or any subcontractor under Workmen’s Compensation laws.

END OF SECTION
TO: University of Louisiana at Lafayette
BID FOR: HVAC (DOAS) REPLACEMENT BLDG 10A
Purchasing Office, Martin Hall Room 123
104 University Circle
PO Box 40197
Lafayette, LA 70504

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the Project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced Project, all in strict accordance with the Bidding Documents prepared by:

University of Louisiana at Lafayette and dated: November 2019.

Bidder must acknowledge all addenda. The Bidder acknowledges receipt of the following ADDENDA: (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated “Base Bid” but not alternates) the sum of:

Dollars ($_________________________)  

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars ($_________________________)  

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars ($_________________________)  

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars ($_________________________)  

NAME OF BIDDER: ___________________________________________________________________________
ADDRESS OF BIDDER: ___________________________________________________________________________
__________________________________________________________________________________
LOUISIANA CONTRACTOR’S LICENSE NUMBER: ________________________________________________
NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____________________________________________
TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____________________________________________
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER**: _____________________________________________
DATE: _____________________________________________

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise, it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** A CORPORATE RESOLUTION OR WRITTEN EVIDENCE of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA RS 38:2218(A) attached to and made a part of this bid.
NOTE: Affidavit submitted with the Bid Documents, prior to the opening of bids, will not be accepted in accordance with LA. R.S. 38:2212.10.

____________________________   __________________________
Name of Project       Project No.

STATE OF __________________________

PARISH OF _________________________

ATTESTATIONS AFFIDAVIT

Before me, the undersigned notary public, duly commissioned and qualified in and for the parish and state aforesaid, personally came and appeared Affiant, who after being duly sworn, attested as follows:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

   (a) Public bribery (R.S. 14:118)   (c) Extortion (R.S. 14:66)
   (b) Corrupt influencing (R.S. 14:120)    (d) Money laundering (R.S. 14:23)

B. Within the past five years from the Project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

   (a) Theft (R.S. 14:67)                        (f) Bank fraud (R.S. 14:71.1)
   (b) Identity Theft (R.S. 14:67.16)             (g) Forgery (R.S. 14:72)
   (c) Theft of a business record (R.S.14:67.20)   (h) Contractors; misapplication of payments (R.S. 14:202)
   (d) False accounting (R.S. 14:70)               (i) Malfeasance in office (R.S. 14:134)
   (e) Issuing worthless checks (R.S. 14:71)

LA. R.S. 38:2212.10 Verification of Employees

A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.

B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.
L.A. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.

B. By signing this bid/proposal, Affiant certifies that no such assessment is in effect against the bidding/proposing entity.

NAME OF BIDDER ___________________________  NAME OF AUTHORIZED SIGNATORY OF BIDDER ___________________________

DATE ___________________________  TITLE OF AUTHORIZED SIGNATORY OF BIDDER ___________________________

________________________________________  SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER/ AFFIANT

Sworn to and subscribed before me by Affiant on the _____ day of __________________, 20___ .

________________________________________  Notary Public
STATE OF _____________________

[ ] PARISH OF _____________________    [ ] COUNTY OF _____________________

AFFIDAVIT ATTESTING THAT PUBLIC CONTRACT WAS NOT, NOR WILL NOT BE SECURED THROUGH EMPLOYMENT OR PAYMENT OF SOLICITOR

KNOW ALL MEN BY THESE PRESENCE, that a public contract is contemplated between

University of Louisiana at Lafayette and

____________________________________________,

represented by (print or type) ________________________________________ attests that

s/he is empowered and authorized to execute said documents.

FURTHER, (signature) _______________________________, who being duly sworn, does depose and attest that:

1) Affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or Project or in securing the public contract wherein the regular course of their duties for affiant; and

2) That no part of the contract price received by affiant was paid or will be paid to any person, Corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or Project were in the regular course of their duties for affiant.

BEFORE ME, the representing authority, personally appeared, who being duly sworn, deposes and states that the above is true and correct in all respects recited.

SWORN TO AND SUBSCRIBED before me, this _____ day of ________________, 20_____.

____________________________________
Notary Public
DETAILED SPECIFICATIONS

SECTION 15001 - MECHANICAL GENERAL PROVISIONS

RELATED DOCUMENTS
The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

Refer to Division 15, Mechanical, as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding mechanical work.

SCOPE OF WORK
Furnish all labor and material necessary to provide and install the complete mechanical portion of this Contract, including plumbing, air conditioning, heating and ventilating systems as called for herein and on accompanying drawings. Parts of the mechanical division may be bid separately or in combination, at the Contractor’s option; however, it shall be the responsibility of the Contractor to assure himself that all items covered in the Mechanical Division have been included if he chooses to accept separate bids.

It is the intent of this specification that all Division 15 materials with temperatures below ambient conditions or conveying any fluid/gas at temperatures below 70 deg. F be insulated to completely eliminate the potential for condensation.

It is the intention of these specifications that all mechanical systems shall be furnished complete with all necessary valves, controls, insulation, piping devices, equipment, etc. necessary to provide a satisfactory installation that is complete and in good working order. The HVAC system shall ensure that under all circumstances, the building shall be kept at desired temperatures and indoor space relative humidity. The maximum allowable equipment shut down for the HVAC system is 6 hours. Coordinate any shut-down of services with the owner.

Prior to bidding, the contractor shall visit the site and get acquainted thoroughly with existing facilities and conditions which would affect this portion of the work. Failure to do so shall not relieve the Contractor from the responsibility of installing his work to meet the conditions.

Protect the entire system and all parts thereof from injury throughout the project and up to acceptance of the work. Failure to do so shall be sufficient cause for the Engineer to reject any piece of equipment.

DEMOLITION
The contractor shall visit the site prior to bid to determine the extent of work required to complete the project.

Contractor shall coordinate demolition with owner. All equipment shall be salvaged for owner. Locate equipment as directed by owner. All equipment and materials not salvaged by the owner shall be removed from the site and discarded at the contractor’s expense.

Contractor shall coordinate work and phase work as required by project.

All equipment piping, etc. required to be removed to accommodate the modifications shall be removed.

Contractor shall maintain services to existing facilities which shall remain during and after construction is complete.

Contractor shall coordinate any shutdown of services with the owner. Maximum shut down period is 6 hours. It is intended that the building will remain occupied during construction. Contractor shall schedule shut down of services with the owner in order to prevent disruption of building operations.

Continued
Contractor shall be responsible for draining down of existing systems to complete demolition. All work shall be scheduled with the owner. Contractor shall also be responsible for refilling system and removing all air in order to return the systems to proper operating conditions.

Shutdown of services shall be done at a time period approved by owner. The systems shall be required to be back up and running with no exceptions.

GROUND AND CHASES
This Contractor shall see that all required chases, grounds, holes and accessories necessary for the installation of his work are properly built in as the work progresses; otherwise, he shall bear the cost of providing them.

CUTTING AND PATCHING
Initial cutting and patching shall be the responsibility of the contractor. The contractor shall be responsible for laying out and marking any and all holes required for the reception of this work. No structural beams or joists shall be cut or thimbled without first receiving the approval of the Engineer. After initial surfacing has been done, any further cutting, patching and painting shall be done at this Contractor's expense.

FILL AND CHARGES FOR EQUIPMENT
Fill and charge with materials or chemicals all those devices or equipment as required to comply with the manufacturer's guarantee or as required for proper operation of the equipment.

BIDDING REQUIREMENTS AND RESPONSIBILITIES
Prime bidder is responsible for all work, of all trades and sub-contractors bidding this project. It is the prime bidders responsibility, prior to submitting a bid to ensure that sub-contractors coordinate all aspects of the work between trades, sub-contractors, etc. to the fullest extent possible.

Prime bidder shall ensure that all sub-contractors, suppliers, equipment vendors, etc., obtain all necessary and pertinent contract document information pertaining to their work prior to the submission of a bid. Contractor shall realize that different sub-contractors may furnish equipment, accessories, devices, etc. necessary for a complete and working installation that requires provisions of services by another sub-contractor or trade.

Bidders of all or any portions of this section or division are required to review all contract documents including but not limited to Mechanical drawings and Electrical drawings to coordinate requirements and responsibilities with and through prime bidder.

Bidders of all or any portions of this section or division, by furnishing a bid on a portion of the prime contract are indicating that they have received all contract documents and coordinated services provided under their portion of the work with the prime bidder; they are indicating that they have expressed any pertinent questions (which would result from a detailed, thorough review of the entire set of contract documents) to the prime bidder in accordance with Division 1 requirements, prior to bidding.

All timely, pertinent, questions provided in writing prior to bids, in accordance with Division 1 requirements, will be clarified, defined, or otherwise explained in a written addendum and/or addendums prior to bids, in accordance in Division 1 requirements.

It is not the intention of these contract documents to leave any issue relating to coordination between trades or sub-contractors vaguely defined. The intention is to define all issues, coordination matters, equipment requirements, sizes, routing, etc. to the satisfaction of the prime bidder, prior to receipt of bids.

Bidders of all or any portions of this section or division, by virtue of the submission of a bid to the prime bidder, are indicating that they have reviewed the entire set of contract documents with due diligence and regard for the Owner's desire for a comprehensive and complete bid proposal; that they have expressed all concerns or
questions requiring clarification on matters of coordination between trades and/or sub-contractors; that they have expressed any such concerns or questions in writing in accordance with Division 1 requirements.

Prime bidders, by submission of a comprehensive bid on the project are indicating that the subcontractors selected in their bid have complied with all Division 1 requirements, that they have indicated in writing, prior to bidding, all questions or concerns requiring clarification and/or explanation and have documented any and all specific exclusions involving work that would generally be considered to be work of their trade. The prime bidder shall coordinate all work so that anything excluded by the bidder of all or any portions of this section or division, have been addressed prior to bids in one of the following manners:

1. The work has been confirmed, by the prime bidder, to be work of another trade or subcontractor (whose proposal is also being accepted).
2. Clarification of the matter has been made through the prime design professional via written addendum and is clearly and mutually understood by the prime bidder and the party raising the issue/question, or seeking clarification.
3. The work has been accepted as the responsibility of the prime contractor directly.

**MATERIAL AND EQUIPMENT**
The term "provide" means to furnish and install. The term “provide” when used in the Contract Documents includes all items necessary for the proper execution and completion of the Work.

Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgement of the Engineer expressed in writing is equal to that specified.

Coordinate and properly relate all Work of this Division to building structure and work of all other trades.

Visit premises and become thoroughly familiar with existing conditions; verify all dimensions in field. Advise Engineer of any discrepancies prior to Bid Date in accordance with Division 0.

Do not rough-in for any item or equipment furnished by others or noted "Not in Contract" (NIC), without first receiving rough-in information from physically examining the existing equipment, receiving specific cut sheet information from the Owner’s representative, other trades and/or Engineer. Rough-in services for NIC equipment as required, as the work progresses.

Provide storage and protection for all equipment and materials in accordance with requirements of Division 0 and Division 1. Replace any equipment and materials damaged by improper handling, storage, or protection, at no additional cost to Owner.

Keep premises clean in accordance with requirements of Division 0 and Division 1.

**SUBSTITUTIONS**
Substitutions are only allowed by approval of the Engineer prior to Bid Date as stipulated in Division 0 and/or Division 1.

Design of systems is based on specific equipment. If the use of other manufacturer's equipment, even though approved by Engineer, involves additional cost due to space requirements, foundation requirements, increased mechanical or electrical services, the cost of such extra work shall be borne by manufacturer of substituted equipment. Even though a manufacturer's name appears in the Contract Documents as having acceptable equipment, their equipment with different model numbers shall be classified as being a substitute to the equipment originally designed for and named in the Contract Documents. Substitute equipment, materials, etc., will not be allowed to deviate from Contract Document requirements. Furnish all options.
specified or reasonably implied from the contract documents. Specifically identify any variance is regard to submittal versus specified performance on the cover sheet of each submittal.

**DRAWINGS AND SPECIFICATIONS**

The specific intent of these Contract Documents is to provide the various systems, equipment, etc. to the Owner complete and in a thoroughly calibrated functional condition.

The Drawings shall not be construed as shop drawings. In the event of a possible interference with piping or equipment of another trade, items requiring set grade and elevations shall have precedence over other items. Should any major interference develop, immediately notify the Engineer.

In laying out Work, refer to drawings at all times in order to avoid interference and undue delays in the progress of the Work.

In the event of a conflict between drawings and specifications, the more stringent interpretation shall govern.

**CODES AND REGULATIONS**

Work shall be in full accord with the most stringent interpretation of the State Sanitary Code, local ordinances, building codes, and other applicable national, local, and state regulations.

Equipment shall conform to requirements and recommendations of the National bureau of Fire Underwriters and National Fire Protection Association (NFPA).

Items provided under this Division shall comply with the American National Standards Institute (ANSI) "Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People," ANSI A 117.1.

In the possible event of conflict between codes or regulations and Contract Documents, the most stringent interpretation of either shall govern (provided if exceeds the requirements of other codes. In the event of an irreconcilable difference between codes or regulations notify the Engineer immediately.

In addition to the codes heretofore mentioned, all mechanical work and equipment shall conform to the applicable portions of the following specifications, codes and/or regulations:

1. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
2. National Electrical Code (NEC)
3. National Fire Protection Association (NFPA)
4. American Society of Mechanical Engineers (ASME)
5. American Gas Association(AGA)
7. International Mechanical Code (IMC)
8. International Plumbing Code (IPC)
10. Underwriters Laboratories (UL)

All materials, equipment and accessories installed under this Contract shall conform to all rules, codes, etc. as recommended by National Associations governing the manufacturer, rating and testing of such materials, equipment and accessories. All materials shall be new and of the best quality and first class in every respect. Whenever directed by the Engineer, the Contractor shall submit a sample for approval before proceeding.

Where laws or local regulations provide that certain accessories such as gauges, thermometers, relief valves and parts be installed on equipment, it shall be understood that such equipment be furnished complete with the necessary accessories, whether or not called for in these Specifications.
FEES, PERMITS, AND TAXES
Obtain and pay for permits required for the Work of this Division. Pay fees in connection therewith, including necessary inspection fees.

Pay any and taxes levied for Work of this Division, including municipal and/or state sales tax where applicable.

All permits, fees, certificates, etc. for the installation, inspections, plan review, service connections locations, and/or construction of the work which are required by any authority and/or agencies having jurisdiction, shall be obtained and paid for by the Contractor.

The Contractor shall make all tests required by the Engineer or other governing authorities at no additional cost to the Owner.

The Contractor shall notify the Engineer and local governing authorities before any tests are made, and the tests are not to be drawn off a line covered or insulated until examined and approved by the authorities. In event defects are found, these shall be corrected and the work shall be retested.

Prior to requesting substantial completion review by the Engineer, the Contractor shall have a complete coordination and adjustment meeting of all of his sub-contractors directly responsible for the operation of any portion of the system. At the time of this meeting, each and every sequence of operation shall be checked to assure proper operation. Notify the Engineer in writing ten (10) days prior to this meeting, instructing him of the time, date and whom you are requesting to be present.

This project shall not be accepted until the above provisions are met to the satisfaction of the Engineer.

MANUFACTURER'S DIRECTIONS
Install and operate equipment and material in strict accord with manufacturer's installation and operating instructions. The manufacturer's instructions shall become part of the Contract Documents and shall supplement Drawings and Specifications.

SUBMITTAL DATA
Submit shop drawings, project data, and samples in accordance with requirements of Division 0/and or Division 1.

Shop drawings shall consist of published ratings or capacity data, detailed construction drawings for fabricated items, wiring and control diagrams, performance curves, installation instructions, manufacturer's installation drawings, and other pertinent data. Submit drawings showing revisions to equipment layouts due to use of alternate or substitute equipment.

Where approved manufacturers and suppliers of equipment, materials, etc. are unable to fully comply with Contract Document requirements, specifically call such deviations to attention of Owner/Engineer on submittals. Type deviations on a separate sheet; underlined statements or notations on standard brochures, equipment fly sheets, etc. will not be accepted.

Approval of submittals shall not relieve Contractor from furnishing required quantities and verifying dimensions. In addition, approval shall not waive original intent of Contract Documents.

Failure to obtain written approval of equipment shall be considered sufficient grounds for rejection of said equipment regardless of the stage of completion of the project.

REVIEW OF MATERIALS:
Whenever manufacturers or trade names are mentioned in these Plans or Specifications, the words "or approved equivalent" shall be assumed to follow whether or not so stated. Manufacturers or trade names are used to establish a standard of quality only, and should not be construed to infer a preference. Equivalent
products which meet the Owner/Engineer’s approval will be accepted; however, these products must be submitted to the Owner/Engineer a minimum of ten (10) days prior to the Bid Date.

Submission shall include the manufacturer’s name, model number, rating table and construction features.

Upon receipt and checking of this submittal, the Owner/Engineer will issue an addendum listing items which are approved as equivalent to those specified. THE CONTRACTOR SHALL BASE HIS BID SOLELY ON THOSE ITEMS SPECIFIED OR INCLUDED IN THE "PRIOR APPROVAL ADDENDUM", AS NO OTHER ITEM WILL BE ACCEPTABLE.

Prior approval of a particular piece of equipment does not mean automatic final acceptance and will not relieve the Contractor of the responsibility of assuring himself that this equipment is in complete accord with the Plans and Specifications and that it will fit into the space provided. Shop drawings must be submitted on all items of equipment for approval as hereinafter specified.

Before proceeding with work and/or within thirty (30) days after the award of the General Contract for this work, the Mechanical Contractor shall furnish to the Owner/Engineer complete shop and working drawings of such apparatus, equipment, controls, insulation, etc. to be provided in this project. These drawings shall give dimensions, weights, mounting data, performance curves and other pertinent information.

The Owner/Engineer’s approval of shop drawings shall not relieve the Contractor from the responsibility of incorrectly figured dimensions or any other errors which may be contained in these drawings. Any omission from the shop drawings or specifications, even through approved by the Owner/Engineer, shall not relieve the Contractor from furnishing and erecting same.

Seven (7) sets of bound shop drawings shall be submitted to the Owner/Engineer for approval. These submittals shall be supplied as part of this Contractor’s contract. Any drawings not approved shall be resubmitted until they are approved. SUBMIT ALL SHOP DRAWINGS AT THE SAME TIME. NO SEPARATE ITEMS WILL BE ACCEPTED.

Submit three (3) prints of the mechanical yard layouts showing locations of all equipment, piping, etc. to insure all will fit in space provided. Submit drawings at 1/4" scale.

PROJECT RECORD DOCUMENTS
Keep Project Record Documents in accordance with requirements of Division 0 and/or Division 1.

During construction period, keep accurate records of installations made under this Division, paying particular attention to major interior and exterior underground and concealed piping, ductwork, etc.

The Contractor shall obtain at his cost, two sets of prints of the original bid documents by the Engineer. One set shall be kept on the site with all information as referenced below, and shall update same as the work progresses. The other set will be utilized to record all field changes to a permanent record copy for the Owner.

If the Contractor elects to vary from the Contract Documents and secures prior approval from the Engineer for any phase of the work, he shall record in a neat and readable manner, ALL such variances on the record print in red. The original prints shall be returned to the Engineer for documentation.

All deviations from sizes, locations, and from all other features of the installations shown in the Contract Documents shall be recorded.

In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions and the like, as well as other features of the work which will be concealed underground and/or in the finished building.
Locations of underground work shall be established by dimensions to columns, lines or walls, locating all turns, etc., and by properly referenced centerline or invert elevations and rates of fall.

For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was actually installed. The Engineer's decision in this matter will be final.

The following requirements apply to all "As-Built" drawings:

1. They shall be maintained at the Contractor's expense.
2. All such drawings shall be done carefully and neatly, and in a form approved by the Engineer.
3. Additional drawings shall be provided as necessary for clarifications.
4. These drawings shall be kept up-to-date during the entire course of the work and shall be available upon request for examination by the Engineer; and when necessary, to establish clearances for other parts of the work.
5. "As-built" drawings shall be returned to the Engineer upon completion of the work and are subject to approval of the Engineer.

CUTTING AND PATCHING AND SEALING OF PENETRATIONS
Comply with requirements of Division 0 and Division 1 regarding cutting and patching. Locate and timely install sleeves as required to minimize cutting and patching.

Cutting, fitting, repairing, patching, and finishing of Work shall be done by craftsmen skilled in their respective trades. Where cutting is required, cut in such a manner as not to weaken structure, partitions, or floors. Holes required to be cut must be cut or drilled without breaking out around the holes. Where patching is necessary in finished areas of the building, the Engineer will determine the extent of such patching and refinishing.

CLEANING AND ADJUSTING:
Upon completion of his work, the Contractor shall clean and adjust all equipment, controls, valves, etc.; clean all piping, ductwork, etc.; and leave the entire installation in good working order.

OPERATING AND MAINTENANCE INSTRUCTIONS
Provide the Owner with three (3) copies of printed instructions indicating various pieces of equipment by name and model number, complete with parts lists, maintenance and repair instructions and test and balance report.

COPIES OF SHOP DRAWINGS WILL NOT BE ACCEPTABLE AS OPERATION AND MAINTENANCE INSTRUCTIONS.
This information shall be bound in plastic hardbound notebooks with the job name, Engineer names permanently embossed on the cover. Rigid board dividers with labeled tabs shall be provided for different pieces of equipment. Submit manuals to the Engineer for approval.

In addition to the operation and maintenance brochure, the Contractor shall provide a separate brochure which shall include registered warranty certificates on all equipment, especially any pieces of equipment which carry warranties exceeding one (1) year.

The operation and maintenance brochure shall be furnished with a detailed list of all equipment furnished to the project, including the serial number and all pertinent nameplate data such as voltage, amperage draw, recommended fuse size, rpm, etc. The Contractor shall include this data on each piece of equipment furnished under this contract.

GUARANTEE

Continued
The Contractor shall guarantee all materials, equipment and workmanship for a period of one (1) year from the date of final acceptance of the project. This guarantee shall include furnishing of all labor and material necessary to make any repairs, adjustments or replacement of any equipment, parts, etc. necessary to restore the project to first class condition. This guarantee shall exclude only the changing or cleaning of filters. Warranties exceeding one (1) year are hereinafter specified with individual pieces of equipment.

If the Contractor's office is in excess of a fifty (50) mile radius of the project, he shall appoint a local qualified contractor to perform any emergency repairs or adjustments required during the guarantee period. The name of the contractor appointed to provide emergency services shall be submitted to the Engineer for his approval.

LOCAL CONDITIONS

The location and elevation of all utility services is based on available surveys and utility maps and are reasonably accurate; however, these shall serve as a general guide only, and the Contractor shall visit the site and verify the location and elevation of all services to his satisfaction in order to determine the amount of work required for the execution of the Contract.

The Contractor shall contact the various utility companies, determine the extent of their requirements and he shall include in his bid all lawful fees and payments required by these companies for complete connection and services to the building, including meters, connection charges, street patching, extensions from meters to main, etc.

In case major changes are required, this fact, together with the reasons therefor, shall be submitted to the Engineer, in writing, not less than seven (7) days before the date of bidding. Failure to comply with this requirement will make the Contractor liable for any changes, additions and expenses necessary for the successful completion of the project.

MINOR DEVIATIONS

Plans and detail sketches are submitted to limit, explain and define conditions, specified requirements, pipe sizes and manner of erecting work. Structural or other conditions may require certain modifications from the manner of installation shown, and such deviations are permissible and shall be made as required. However, specified sizes and requirements necessary for satisfactory operation shall remain unchanged. It may be necessary to shift ducts or pipes, or to change the shape of ducts, and these changes shall be made as required. All such changes shall be referred to the Engineer for approval before proceeding. Extra charges shall not be allowed for these changes.

The Contractor shall realize that the drawings could delve into every step, sequence or operation necessary for the completion of the project, without drawing on the Contractor's experience or ingenuity. However, only typical details are shown on the Plans. In cases where the Contractor is not certain about the method of installation of his work, he shall ask for details. Lack of details will not be an excuse for improper installation.

In general, the drawings are diagrammatic and the Contractor shall install his work in a manner so that interferences between the various trades are avoided. In cases where interferences do occur, the Engineer is to state which item was first installed.

END OF SECTION 15001
PIPE:

CONDENSATE DRAIN LINES:

All such lines shall be Type "L" hard copper and fittings. Install trap at the DOAS condensate tie-in connection point.

NATURAL GAS LINES:

Natural gas piping shall be standard black steel, Schedule 40, National Tube Co., or equal. Fittings which are 2 inches and below shall be malleable screw fittings. Piping above 2 inches shall be electrically welded utilizing weld fittings.

Gas piping shall be coated with two coats of rust inhibitor primer. After primer has been applied, gas piping shall be painted with Yellow finish color.

INSTALLATION OF PIPING:

Piping shall be true and straight, without sags.

The Contractor shall exercise care in cleaning joints after making cuts on pipe to prevent pipe particles from entering the system.

All pipe fittings shall be same as piping specified unless indicated otherwise.

Before installing piping, check HVAC drawings with electrical drawings; make accurate layout of plumbing and HVAC piping. Where interferences may appear and departures from indicated arrangements are required, consult with other trades involved; come to agreement.

Grade condensate piping at uniform slope of 1/4 inch per foot, minimum; where this is impossible, maintain slope as directed but in no case less than 1/8 inch per foot.

Keep piping free from scale and dirt, protect open pipe ends wherever work is suspended during construction. To prevent foreign bodies entering and lodging in pipe, use temporary plugs or other approved material.

Provide shut off valves at all supply connections to all equipment. Supplier of equipment shall provide rough-in drawings and this contractor shall fully connect all items, supply necessary piping and fittings as required, unless otherwise noted individually.

Do not locate valves with stems below horizontal. Locate valves for easy access and operations.

Provide unions, screwed or flanged, where indicated, and in following locations even if not indicated.

All screwed fittings and pipe shall have threads cut to standard pipe thread dimensions. Pipe shall be properly reamed after cutting of threads.

Joint compound, Rector Seal Series 100, LACO Series Slick-tite or equal thread lubricant shall be applied to male threads of the screwed pipe and fittings only.

Continued
Standard, one-piece reducing fittings of approved design shall be used wherever a change in size is made. Changes in pipe sizes shall not be made by means of reducing flanges.

Bushings may be used only where standard, one-piece reducing fittings are not available and shall be subject to the following:

1. Bushings shall be of the face or flush type.
2. Bushings shall not be used in elbow fittings.
3. Bushings shall not be used when the reduction in size of the outlet is less than 2".
4. Bushings shall not be used in more than one outlet of any tee or two outlets of any cross fitting.

PIECE SPECIALTIES:
Dielectric unions shall be used between copper and iron pipe.

PIECE HANGERS AND SUPPORTS:
This Contractor shall furnish and install all foundations and supports required for his equipment unless indicated otherwise on the Drawings.

This Contractor shall furnish and install all escutcheons, inserts, thimbles, hangers, etc. required for the proper support and installation of his equipment and piping and he shall cooperate with other trades in locating and placing these items.

VALVES AND UNIONS:
Furnish and install all valves, unions, stops, connections, etc. shown on plans and necessary to make a complete system in working order.

All gas cocks, valves, etc. on gas lines shall have local utility company and AGA approval.

Select Valves with the following ends or types of pipe/tube connections:

1. Copper Tube Size 2 Inch and Smaller: Solder ends.
2. Steel Pipe Sizes, 2 Inch and Smaller: Threaded or grooved end.
3. Steel Pipe Sizes, 2-1/2 Inch and Larger: Grooved end or flanged.

INSTALLATION OF VALVES:
Locate valves for easy access and provide separate support where necessary. Install valves and unions for each fixture and item of equipment arranged to allow equipment removal without system shutdown. Install valves in horizontal piping with stem at or above the center of the pipe. Install valves in a position to allow full stem movement.

TEST:
Make such tests of work as specified, or required by Engineer or by State and Municipal Bureaus having jurisdiction, and under their supervision. Perform tests in presence of Engineer's representative. Notify Engineer two days prior to testing.

Provide apparatus, temporary piping connections, or other requirements necessary for tests. Take precautions to prevent damage to building or contents by tests. Contractor is required to repair and make good at his expense damage so caused.

Correct leaks, defects, or deficiencies discovered as result of tests. Repeat tests until test requirements are fully complied with.

PIPE MARKERS:
Provide pipe markers and directional arrows on piping in mechanical equipment yards.

Markers shall be as manufactured by W.H. Bradley Co., Seton or the equivalent.

All letters shall be color-coded and sized as recommended by OSHA. Samples of the type of letters to be used shall be submitted with shop drawings.

The following pipe and valves shall be identified:

<table>
<thead>
<tr>
<th>Piping</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATURAL GAS LINE   X</td>
</tr>
<tr>
<td>CONDENSATE DRAIN LINE X</td>
</tr>
</tbody>
</table>

Pipe markers with arrows shall indicate lines content and shall be located 10 feet on center and at each change of direction of line.

Identification bands shall be color coded to match pipe markers and shall be provided 10 feet on center.

Pipe identification markers shall be taped at each end and shall be taped around the entire circumference of pipe.

END OF SECTION 15100
SECTION 15150 - MOTORS, MOTOR STARTERS, AND ELECTRICAL WORK

GENERAL
The Mechanical Contractor shall furnish to the Electrical Contractor for installation, all motor starters, start-stop switches, pilot lights, etc., for each piece of motor driven equipment unless shown otherwise.

The Electrical Contractor shall install all motor starters, start-stop switches and pilot lights as furnished by the Mechanical Contractor. The Electrical Contractor shall also do all power wiring, and electrical terminations required for the installation of such mechanical equipment.

All electrical equipment shall have the UL label and shall meet the standards of the National Electrical Code and NEMA Rated. I.E.C. is not acceptable.

All starters shall have Aon-off-auto selector switches, phase failure protection, and interface with building automation controls.

MOTORS:
All motors on equipment shall be APremium High Efficiency type motors.

Motors shall be of the 40° rise type, Class F insulation, NEMA Design B and totally enclosed fan-cooled (TEFC) design as a minimum. All motors shall be wound for plus or minus 10% of the specified voltage.

Motors shall meet the following horsepower ratings, and minimum full load efficiencies (U.S. IEEE 122A):

<table>
<thead>
<tr>
<th>Motor Hp</th>
<th>Minimum Full Load Efficiency (Nominal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>84%</td>
</tr>
<tr>
<td>3</td>
<td>85%</td>
</tr>
<tr>
<td>5</td>
<td>87%</td>
</tr>
<tr>
<td>7, 5, 10</td>
<td>89%</td>
</tr>
<tr>
<td>15</td>
<td>90%</td>
</tr>
<tr>
<td>20</td>
<td>91%</td>
</tr>
<tr>
<td>25, 30</td>
<td>92%</td>
</tr>
<tr>
<td>40 and above</td>
<td>93%</td>
</tr>
</tbody>
</table>

Motors shall have 1.15 service factor rating for 3-phase motors and 1.35 for single-phase motors.

Motors shall be as manufactured by Century III E-Plus, Marathon Series Premium Blue Chip XRI or approved equivalent.

Motors which are controlled/started by variable frequency drives (Inverters) shall be Inverter Duty Motors. Motors shall be of the totally enclosed fan cooled (TEFC) type with Class F Insulation, ball bearings, Continuous Duty 40° C Ambient, Cast Iron Frame, Class H magnet wire. Motors shall comply with NEMA MG1 Part 30/Part 31 requirements/specifications.

Motors shall be as Manufactured by Marathon Blue Max Inverter Duty or approved equivalent.

All motors shall be specifically designed for specific application specified (i.e.: DOAS, AHU, pump, etc.), and shall have built-in thermal overload protection.

The supplier shall provide a list of motors with nameplate data for each new motor submitted. Submit in shop drawings with associated motor efficiency.

Continued
MOTOR STARTERS:
Refer to Electrical Plans and provide fusible type combination starter/disconnects where required.

Exception: Manual starters can be furnished for fractional horsepower motors that are not controlled automatically or remotely. Refer to Temperature Controls section of these specifications and mechanical drawings to determine if fractional horsepower motors are controlled automatically or remotely.

Microprocessor-Based Motor Control: Where specified under specific starter sizes, provide Microprocessor-based Motor Control as Specified herein. The microprocessor-based motor control shall meet the latest applicable sections of Underwriters Laboratories (UL) and National Electrical Manufacturers Association (NEMA).

1. Provide motor contactors with NEMA size 1 through 6 ratings as shown on the plans. Provide motor contactors with replaceable fixed and movable contacts. Provide contactors of the electromechanical type with the coil controlled by an application specific microprocessor. The microprocessor shall measure control circuit voltage and prevent closing of the coil on low voltage (78 volts ac) and/or high voltage (135 volts ac) conditions which are outside of the coil ratings.

Microprocessor shall apply voltage to the coil such that a guaranteed maximum of 2 milliseconds of main contact bounce occurs on contactor closure. The microprocessor shall continuously measure coil circuit voltage and current so as to maintain constant coil power at a level to maintain main contact closure and minimize coil power consumption. Provide electronic circuitry such that the coil is isolated from surges to the point where surge suppressers are not required. Manufacturer is to provide lifetime free coil replacement of any failed coil.

Microprocessor is to wait for three (3) half (1/2)-cycles of control start signal prior to activating a close to prevent starts resulting from momentary voltage spikes, switching transients, fluttering contacts, and shorted Programmable Logic Control outputs.

Provide control modules to perform the indicted input/output control functions. Module shall incorporate faceplates having membrane type pushbuttons, and LED’s. All push-button and LED functions to be furnished with clear written identification. Control Modules to be provided with individual hand, off, auto push buttons and overload alarm, overload trip with LED and reset push buttons.

In addition, provide motor starter with the below listed features:

1. Motor starters shall monitor current in each phase to provide phase loss and phase unbalance protection. Provide phase loss/unbalance protection which requires no time delay for reset.
2. Motor starters to provide Class II ground fault protection. Ground fault protection shall be set at 20% of maximum continuous ampere rating and have a start delay of 20 seconds, and a run delay of 1 second to prevent nuisance trip on starting.
3. All starters shall be complete with H-O-A (Hand-Off-Auto) selector switch.
4. All starters shall have a green "Stop" and a red "Run" pilot light.
5. All starters shall have automatic re-start after a power disturbance (power failure, blown-out, phase failure, etc.)

Single Phase AC Fractional Horsepower Manual Starters - 1HP or Less: FHP manual starters shall be Cutler Hammer AN16 or Allen Bradley Bulletin 600. The manual starters shall consist of a hand-off-auto switch equipped with Bimetallic ambient compensated overload relays adjustable + 24%.

1. Thermal unit shall be of one-piece construction and interchangeable. The starter shall be inoperative if thermal unit is removed. Contacts shall be double break, silver alloy visible from both sides of starter.
2. All Fractional Horse Power Manual Starters shall be double-pole type with one (1) thermal overload relay and red pilot light.

Single and Three Phase AC Microprocessor-Based Starter (All Motors Between 1 HP and 10 HP):

1. Motor starters shall be rated in accordance with NEMA sized and horsepower ratings. No starter shall be listed as a 2-size. Motor starters shall be used in discrete control, in motor control centers, and in other user and OEM custom control panels. (IEC contactors are not acceptable)
2. Contacts shall be silver alloy, double break, and shall be inspectible on NEMA Sizes 00 through 4 without use of tools. Size 5 and larger shall be inspectible with standard tools. They shall be replaceable without removing the line, load, or control wiring from the starter, and replaceable without removing the starter from the enclosure.
3. Coils shall be the encapsulated type, and shall be replaceable on NEMA Sizes 00 through 4 without the use of tools. Size 5 and larger shall be replaceable with standard tools. They should be replaceable without removing the line, load, or control wiring from the starter, and replaceable without removing the starter from the enclosure.
4. Overload protection shall be provided by solid state electronic overload relay. Single-phase starters shall provide one-or two-leg overload protection; Three-phase starters shall provide three-leg overload protection.
5. Furnish Motor Starter with Solid-State Overload Relay Installed. GE Type 300-Line Enclosed Non-combination Starters, with Solid-State Overload Relay, Housed in Type 1 or 3R NEMA enclosure. Allan Bradley Type No. 509 or prior approved equivalent.
6. Electrical characteristics shall be as indicated in drawings.
7. Applications (Typical) Direct or Belted to motor equipment and components, fans/blowers, pumps compressors and etc.
8. Starter shall be full voltage non-reversing consisting of one contactor and one overload relay assembled together and provided with:
   a. Hand-Off-Auto selector switch
   b. Red on Light;
   c. NC auxiliary contact;
   d. Terminal Strips:
   e. Phase loss and phase unbalance relay
9. Starter shall be suitable for straight through wiring, with separate provision for control power connections at the L.1 and L.2 terminals
10. Starter shall have a NEMA solid state electronic overload relay and provide the user with following selectable settings.
    a. Selectable Class 10, 20 and 30, protection.
    b. Visible trip indicator with manual reset.
    c. Built in thermal memory to prevent hot motor restarts.
    d. Relay shall be capable of monitoring for motor single phasing with adjustable current unbalance of 20 to 50 percent, and incorporating a signal to an external device.
    e. Shall have a reset mechanism that resets on the upstroke only.
11. Protection Functions:
    a. 2:1 Adjustable full load amps with tactile feed back dial.
    b. Protection against complete phase current loss.
    c. Accuracy: plus or minus 2%.
    d. Repeatability: plus or minus 2%.
    e. Self-powered @ 50 % of maximum current range.

Continued
f. Size: 1-6 (0.40A-50A, 600 V, 50/60 Hz).
g. Unbalance trip signal for PLC operation
h. Manual trip.
i. Built-in line/load straps.
j. Adjustable trip adjustment ‰ Plus or minus 10%. By turning a dial in the overload relay face.
k. Be ambient insensitive within an operating temperature range to minus 20 to plus 70 degrees Celsius.
l. Relative humidity: 95 percent non-condensing.

12. Options

a. Control power transformer fusing shall be provide by two primary fuses plus on secondary fuse. Control power transformer secondary voltage shall be 120 VAC.

13. Auxiliary Contacts:

a. Contactor to be designed to accommodate two (2) auxiliary contact blocks, each capable of a combination of up to four (4) normally closed (NC) or four (4) normally open (NO) auxiliary contacts.
b. Provide and install a minimum of one (1) spare NO contact and one (1) spare NC contact in addition to any auxiliary contacts specified or required for the proper operation of the temperature controls system.

Reduced Voltage AC Solid State Starters - (All Motors 10 H.P. and Above): All starters for motors 10 H.P. and above shall be a Cutler Hammer Type EA or Allen Bradley.

1. The controller shall be supplied for use on an electrical system as indicated on drawings.
2. The Reduced Voltage Starter shall be sized to control horsepower, as indicated on drawings.
3. The solid-state reduced voltage starter shall be UL and CUL listed and consist of an SCR based power section, logic board and paralleling bypass contactor.
4. The SCR based power section shall consist of six (6) back-to-back SCR's and shall be rated for a minimum peak inverse voltage rating of 1500 PIV. Units using triacs or SCR/diode combinations shall not be acceptable.
5. The logic board shall be mounted for ease of testing, service and replacement. It shall have quick disconnect plug-in connectors for current transformer inputs, line and load voltage inputs and SCR gate firing output circuits.
6. The paralleling bypass contactor shall energize when the motor reaches full speed and close/open under 1X motor current. The bypass contactor shall be equal to Cutler Hammer W200.
7. The following logic board adjustments are required:
   a. Ramp Time; 1-45 seconds, on hexadecimal switch
   b. Current limit; 75-500% current, on hexadecimal switch
   c. FLA of motor; 4-1 range of starter, on (Dip switch)
8. Maximum continuous operation shall be at 115% of continuous amp rating.
9. Refer to description of microprocessor starters for details regarding contactors and starters internal to this device.

END OF SECTION 15150

Continued
Pipe insulation shall not begin until all work has been tested and found to be tight. All insulation adhesives, sealers, tapes and mastic shall meet the latest NFPA requirements and shall meet 25/50/50 flame spread and smoke developed ratings.

All insulation shall be installed in strict accordance with the manufacturer's recommendations.

All pipe insulation where recommended by the manufacturer shall be banded with aluminum bands, three to a section and with one band on each side of each fitting, valve, etc.

Insulation shall be continuous through walls and ceilings.

All valves, strainers, etc. shall be insulated the same as its adjacent piping and the covering shall extend all the way up to the equipment.

USE HIGH DENSITY INSULATION INSERTS AT HANGERS ON ALL PIPING 1-1/2” AND ABOVE TO PREVENT CRUSHING OF INSULATION.

THERMAL INSULATION:
After all work has been tested and approved, insulate as follows:

INSULATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS AND INSTRUCTIONS.

CONDENSATE DRAIN PIPING:
Insulate with 3/4” Aerotube, Armaflex or approved equal pipe insulation applied in accordance with manufacturer’s recommendations and instructions. Condensate piping shall be wrapped in aluminum embossed metal cladding wrap.

HVAC DUCTWORK INSULATION (NEW AND RE-INSTALLED DUCTWORK):
Insulate supply, return, and exhaust air ductwork. Wrap outside of duct with 2” thick flexible elastomeric insulation: closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C534, Type II for sheet materials. Flexible elastomeric insulation shall be manufactured by Armacell LLC, Aeroflex USA or approved equal.

Seal longitudinal seams and end joints with adhesive recommended by the manufacturer to eliminate openings in insulation that allow passage of air to surface being insulated. Adhesive materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to its self and to surfaces to be insulated unless otherwise indicated. Flexible Elastomeric Adhesive: Comply with MIL-A-24179A, Type II, Class I.

Cover outside of insulation with 20 GA. paint grip galvanized sheet metal cover (rain cap). Paint the metal cover to match the finish color of the existing ductwork.

INSULATION THROUGH HANGERS AND SLEEVES:
The insulation shall be continuous through pipe hangers and pipe sleeves. At hangers where the pipe is supported by insulation, provide a galvanized iron protection shield. Provide pipes 2-inch i.p.s. and larger in insulation inserts at points of hanger supports. The inserts shall be of calcium silicate, cellular glass,
prestressed molded glass fiber of minimum 13-pound density, or other approval material of the same thickness as adjacent insulation and not less than 13-pound density. The inserts shall have sufficient compression strength to adequately support the pipe without compressing the inserts to a thickness less than the adjacent insulation. Inserts shall be 180 degrees and not less than the length of the protection shield. Vapor barrier facing of the insert shall be the same as the facing on the adjacent insulation.

Provide 18 gauge metal saddles between all hangers and insulation.

END OF SECTION 15200
SECTION 15700 - AIR CONDITIONING, HEATING AND VENTILATING

RELATED DOCUMENTS
The air conditioning system, in general, shall be for the entire building, providing cooling and dehumidification in summer and heating in winter. A constant amount of fresh air shall be taken into the system and all air shall be filtered.

PACKAGED DEDICATED OUTSIDE AIR SYSTEMS (DOAS) UNITS:

GENERAL:
This section includes the design, controls and installation requirements for packaged dedicated outside air system units.

QUALITY ASSURANCE:
Packaged air-cooled condenser units shall be certified in accordance with ANSI/AHRI Standard 340/360 performance rating of commercial and industrial unitary air-conditioning and heat pump equipment.

Unit shall be certified in accordance with UL Standard 1995/CSA C22.2 No. 236, Safety Standard for Heating and Cooling Equipment.

Unit and refrigeration system shall comply with ASHRAE 15, Safety Standard for Mechanical Refrigeration.

Unit shall be certified in accordance with ANSI Z21.47b/CSA 2.3b and ANSI Z83.8/CSA 2.6, Safety Standard Gas-Fired Furnaces.

Unit Energy Efficiency Ratio (EER) shall be equal to or greater that prescribed by ASHRAE 90.1, Energy Efficient Design of New Buildings except Low-Rise Residential Buildings.

Unit shall be safety certified by ETL and ETL US listed. Unit nameplate shall include the ETL/ETL Canada label.

SUBMITTALS:

Product Data: Literature shall be provided that indicates dimensions, operating and shipping weights, capacities, ratings, fan performance, filter information, factory supplied accessories, electrical characteristics and connection requirements. Installation, Operation, and Maintenance manual with startup requirements shall be provided.

Shop Drawings: Unit drawings shall be provided that indicate assembly, unit dimensions, construction details, clearances and connection details. Computer generated fan curves for each fan shall be submitted with specific design operation point noted. Wiring diagram shall be provided with details for both power and control systems and differentiate between factory installed and field installed wiring.

DELIVERY, STORAGE, AND HANDLING:

Unit shall be shipped with doors screwed shut and outside air hood closed to prevent damage during transport and thereafter while in storage awaiting installation.

Follow Installation, Operation, and Maintenance manual instructions for rigging, moving, and unloading the unit at its final location.

Continued
Unit shall be stored in a clean, dry place protected from construction traffic in accordance with the
Installation, Operation, and Maintenance manual.

WARRANTY:

Provide a warranty for a period of 12 months from the date of substantial completion. Warranty shall cover
material and workmanship that prove defective, within the specified warranty period.

MANUFACTURER:

Products shall be provided by the following manufacturers or approved equal:

1. AAON (Basis of Design)
2. Addison
3. Substitute equipment may be considered for approval that includes at a minimum:
   a. R-410A refrigerant
   b. Variable capacity compressor with 10-100% capacity control
   c. Direct drive supply fans
   d. Double wall cabinet construction
   e. Insulation with a minimum R-value of 13
   f. Stainless steel drain pans

DOAS UNITS (GENERAL DESCRIPTION):

Packaged unit shall include compressors, evaporator coils, filters, supply fans, dampers, air-cooled
condenser coils, condenser fans, reheat coil, gas heaters, exhaust fans, and unit controls.

Unit shall be factory assembled and tested including leak testing of the DX coils, pressure testing of the
refrigeration circuit, and run testing of the completed unit. Run test report shall be supplied with the unit in
the service compartment’s literature pocket.

Unit shall have decals and tags to indicate lifting and rigging, service areas and caution areas for safety
and to assist service personnel.

Unit components shall be labeled, including refrigeration system components and electrical and controls
components.

Estimated sound power levels (dB) shall be shown on the unit ratings sheet.

Installation, Operation, and Maintenance manual shall be supplied within the unit.

Laminated color-coded wiring diagram shall match factory installed wiring and shall be affixed to the
interior of the control compartment’s hinged access door.

Unit nameplate shall be provided in two locations on the unit, affixed to the exterior of the unit and affixed
to the interior of the control compartment’s hinged access door.

UNIT CONSTRUCTION:  

Continued
All cabinet walls, access doors, and roof shall be fabricated of double wall, impact resistant, rigid polyurethane foam panels.

Unit insulation shall have a minimum thermal resistance R-value of 13. Foam insulation shall have a minimum density of 2 pounds/cubic foot and shall be tested in accordance with ASTM D1929-11 for a minimum flash ignition temperature of 610°F.

Unit construction shall be double wall with G90 galvanized steel on both sides and a thermal break. Double wall construction with a thermal break prevents moisture accumulation on the insulation, provides a cleanable interior, prevents heat transfer through the panel, and prevents exterior condensation on the panel.

Unit shall be designed to reduce air leakage and infiltration through the cabinet. Cabinet leakage shall not exceed 1% of total airflow when tested at 3 times the minimum external static pressure provided in AHRI Standard 340/360. Panel deflection shall not exceed L/240 ratio at 125% of design static pressure, at a maximum 8 inches of positive or negative static pressure, to reduce air leakage. Deflection shall be measured at the midpoint of the panel height and width. Continuous sealing shall be included between panels and between access doors and openings to reduce air leakage. Piping and electrical conduit through cabinet panels shall include sealing to reduce air leakage.

Roof of the air tunnel shall be sloped to provide complete drainage. Cabinet shall have rain break overhangs above access doors.

Access to filters, dampers, cooling coils, reheat coil, heaters, compressors, and electrical and controls components shall be through hinged access doors with quarter turn, zinc cast, lockable handles. Full length stainless steel piano hinges shall be included on the doors.

Exterior paint finish shall be capable of withstanding at least 2,500 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with ASTM B 117-95 test procedure.

Unit shall include double sloped 304 stainless steel drain pans.

Unit shall be provided with base discharge and return air openings. All openings through the base pan of the unit shall have upturned flanges of at least 1/2 inch in height around the opening.

Unit shall include lifting lugs on the top of the unit.

Provide unit with interior corrosion protection. Interior ceiling, floor, service doors, fan inlet cone, damper rack, and filter rack in the air stream are spray coated with a two-part polyurethane, heat baked coating. The coils, coil casings, condensate drain pans, damper blades and gears, fan wheel, fan motor, energy recovery wheel casing, and compressor cabinet are not coated. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand and wind and is applicable to all corrosive environments where a polyurethane coating is acceptable. Coating withstands at least 2,500 hours when tested under ASTM B 117-95 requirements.

Unit base pan shall be provided with 1/2 inch thick foam insulation.

Unit base shall be fabricated of 1 inch thick double wall, impact resistant, rigid polyurethane foam panels.

ELECTRICAL:

Unit shall have a 5kAIC SCCR.

Unit shall be provided with factory installed and factory wired, non-fused disconnect switch.

Unit shall be provided with a factory installed and factory wired 115V, 12 amp GFI outlet disconnect switch.
in the unit control panel.

Unit shall be provided with phase and brown out protection which shuts down all motors in the unit if the electrical phases are more than 10% out of balance on voltage, the voltage is more than 10% under design voltage or on phase reversal.

SUPPLY FANS:

Unit shall include direct drive, unhoused, backward curved, plenum supply fans.

Blowers and motors shall be dynamically balance and mounted on rubber isolators.

Motors shall be premium efficiency ODP with ball bearings rated for 200,000 hours service with external lubrication points.

Variable frequency drives shall be factory wired and mounted in the unit. Fan motors shall be premium efficiency.

EXHAUST FANS:

Exhaust dampers shall be sized for 100% relief.

Fans and motors shall be dynamically balanced.

Motors shall be premium efficiency ODP with ball bearings rated for 200,000 hours service with external lubrication points.

Access to exhaust fans shall be through double wall, hinged access doors with quarter turn lockable handles.

Unit shall include direct drive, axial flow exhaust fans. Blades shall be adjustable pitch.

Variable frequency drives shall be factory wired and mounted in the unit. Fan motors shall be premium efficiency.

COOLING COILS (EVAPORATOR COILS):

Coils shall be designed for use with R-410A refrigerant and constructed of copper tubes with aluminum fins mechanically bonded to the tubes and galvanized steel end casings. Fin design shall be sine wave rippled.

Coils shall have interlaced circuitry and shall be standard capacity.

Coils shall be hydrogen or helium leak tested.

Coils shall be furnished with factory installed expansion valves.

Coils shall have a flexible, epoxy polymer e-coat uniformly applied to all coil surface areas without material bridging between fins. Humidity and water immersion resistance shall be up to a minimum 1,000 hours each (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing, with coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90. Coated coils shall receive a spray-applied, UV-resistant polyurethane topcoat to prevent UV degradation of the e-coat. Coating shall carry a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

REFRIGERATION SYSTEM: Continued
Unit shall be factory charged with R-410A refrigerant.

Compressors shall be scroll type with thermal overload protection and carry a 5 year non-prorated warranty, from the date of substantial completion.

Compressors shall be mounted in an isolated service compartment which can be accessed without affecting unit operation. Lockable hinged compressor access doors shall be fabricated of double wall, rigid polyurethane foam injected panels to prevent the transmission of noise outside the cabinet.

Compressors shall be isolated from the base pan with the compressor manufacturer's recommended rubber vibration isolators, to reduce any transmission of noise from the compressors into the building area.

Each refrigeration circuit shall be equipped with expansion valve type refrigerant flow control.

Each refrigeration circuit shall be equipped with automatic reset low pressure and manual reset high pressure refrigerant safety controls, Schrader type service fittings on both the high pressure and low pressure sides and a factory installed replaceable core liquid line filter driers.

Unit shall include a variable capacity scroll compressor on all refrigeration circuits which shall be capable of modulation from 10-100% of its capacity.

Lead refrigeration circuits shall be provided with hot gas reheat coil, modulating valves, electronic controller, supply air temperature sensor and a control signal terminal which allow the unit to have a dehumidification mode of operation, which includes supply air temperature control to prevent supply air temperature swings and overcooling of the space.

All refrigeration circuits shall be provided with factory installed hot gas bypass to protect against evaporator frosting and to prevent excessive compressor cycling.

Reheat Coil shall have a flexible, epoxy polymer e-coat uniformly applied to all coil surface areas without material bridging between fins. Humidity and water immersion resistance shall be up to a minimum 1,000 hours each (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing, with coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90. Coated coils shall receive a spray-applied, UV-resistant polyurethane topcoat to prevent UV degradation of the e-coat. Coating shall carry a 5 year warranty.

CONDENSERS (AIR-COOLED CONDENSER):

Condenser fans shall be a vertical discharge, axial flow, direct drive fans.

Coils shall be designed for use with R-410A refrigerant. Coils shall be multi-pass and fabricated from aluminum microchannel tubes.

Coils shall be designed for a minimum of 10°F of refrigerant sub-cooling.

Coils shall be hydrogen or helium leak tested.

Condenser fans shall be VFD driven variable speed for condenser head pressure control. Factory provided and factory programmed VFDs shall continuously modulate the fan air flow to maintain head pressure at acceptable levels. Cooling operation shall be allowed down to 35°F with adjustable compressor lockout.

Coils shall have a flexible, epoxy polymer e-coat uniformly applied to all coil surface areas without material bridging between fins. Humidity and water immersion resistance shall be up to a minimum 1,000 hours each (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing, with
coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90. Coated coils shall receive a spray-applied, UV-resistant polyurethane topcoat to prevent UV degradation of the e-coat. Coating shall carry a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

GAS HEATING:

Unit shall include a natural gas furnace with 4 stages of capacity control.

Stainless steel heat exchanger furnace shall carry a 25 year non-prorated warranty.

Gas furnace shall consist of stainless steel heat exchangers with multiple concavities, an induced draft blower and an electronic pressure switch to lockout the gas valve until the combustion chamber is purged and combustion airflow is established.

Furnace shall include a gas ignition system consisting of an electronic igniter to a pilot system, which will be continuous when the heater is operating, but will shut off the pilot when heating is not required.

Unit shall include a single gas connection and have gas supply piping entrances in the unit base for through-the-curb gas piping and in the outside cabinet wall for across the roof gas piping.

Modulating Natural Gas Furnace shall be equipped with modulating gas valves, adjustable speed combustion blowers, stainless steel tubular heat exchangers, and electronic controller. Combustion blowers and gas valves shall be capable of modulation. Electronic controller includes a factory wired, field installed supply air temperature sensor. Sensor shall be field installed in the supply air ductwork. Supply air temperature set-point shall be adjustable on the electronic controller within the controls. Gas heater shall be capable of capacity turndown ratio as shown on the unit rating sheet.

FILTERS:

Unit shall include 4 inch thick, pleated panel filters with an ASHRAE MERV rating of 8, upstream of the cooling coil.

Unit shall include 1 inch aluminum mesh pre filters upstream of the outside air opening.

OUTSIDE AIR/ECONOMIZER:

Unit shall include 0-100% economizer consisting of a motor operated outside air damper and return air damper assembly constructed of extruded aluminum, hollow core, airfoil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 20 cfm of leakage per sq ft. at 4 in. w.g. air pressure differential across the damper. Low leakage dampers shall be Class 2 AMCA certified, in accordance with AMCA Standard 511. Damper assembly shall be controlled by spring return actuator. Unit shall include outside air opening bird screen, outside air hood, and barometric relief dampers.

CONTROLS:

FACTORY INSTALLED AND FACTORY PROVIDED CONTROLLER:

Unit controller shall be capable of controlling all features and options of the unit. Controller shall be factory installed in the unit controls compartment and factory tested. Controller shall be capable of stand-alone operation with unit configuration, set-point adjustment, sensor status viewing, unit alarm viewing, and occupancy scheduling available without dependence on a building management system.

Controller shall have an onboard clock and calendar functions that allow for occupancy scheduling.

Continued
Controller shall include non-volatile memory to retain all programmed values without the use of a battery, in the event of a power failure.

MAKEUP AIR CONTROLLER:

Unit shall modulate cooling with constant airflow to meet ventilation outside air loads. Cooling capacity shall modulate based on supply air temperature.

Hot gas bypass shall be required on the lead refrigeration circuits of systems without variable capacity compressors.

With modulating hot gas reheat, unit shall modulate cooling and hot gas reheat as efficiently as possible, to meet outside air humidity loads and prevent supply air temperature swings and overcooling of the space.

Unit shall modulate heating with constant airflow to meet ventilation outside air loads. Heating capacity shall modulate based on supply air temperature.

Unit configuration, set-point adjustment, sensor status viewing, unit alarm viewing, and occupancy scheduling shall be accomplished with connection to interface module with LCD screen and input keypad, interface module with touch screen, or with connection to PC with free configuration software. Controller shall be capable of connection with other factory installed and factory provided unit controllers with individual unit configuration, set-point adjustment, sensor status viewing, and occupancy scheduling available from a single unit. Connection between unit controllers shall be with a modular cable. Controller shall be capable of communicating and integrating with a LonWorks or BACnet network. [Orion Controls System]

ACCESSORIES:

Unit shall be provided with a safety shutdown terminal block for field installation of a smoke detector which shuts off the unit's control circuit.

CURBS (EQUIPMENT PLENUM CURB):

Curbs shall to be fully gasketed between the curb top and unit bottom with the curb providing full perimeter support, cross structure support and air seal for the unit. Curb gasket shall be furnished within the control compartment of the unit to be mounted on the curb immediately before mounting of the unit.

Knockdown curb (with duct support rails) shall be factory furnished for field assembly.

Solid bottom curb shall be factory assembled and fully lined with curb rated 1 inch fiberglass insulation and include a wood nailer strip.

INSTALLATION, OPERATION, AND MAINTENANCE:

Installation, Operation, and Maintenance manual shall be supplied with the unit.

Install unit, including field installed components, in accordance with Installation, Operation, and Maintenance manual instructions.

Coordinate each unit’s control interface with the energy management system and the controls installation contractor. Conduct point-to-point testing with the controls installation contractor.

Start up and maintenance requirements shall be complied with to ensure safe and correct operation of the unit.

Continued
Provide factory start-up of units. Each unit shall have a different startup date. The allowable time for the HVAC system shut-down is 6 hours Maximum. It is critical that the HVAC system remain in operation during construction. A manufacturer’s authorized and qualified startup technician shall be present on site during the entire length of HVAC shut-down periods.

Provide owner training. Discuss operation and maintenance required for proper operation of the units and also what is required to maintain the unit warranties.

**DOAS UNIT FILTERS:**
All new DOAS units shall be furnished and installed with 30% efficient filters.

During construction, start-up and running units, units shall have pleated disposable filters.

After construction is complete, furnish two sets of spare filters for each DOAS unit.

**LABELING A/C UNITS:**
Label the DOAS units with permanent laminated plate riveted to unit. Units shall be labeled as indicated in schedules. Plate shall be black with white unit numbers. Height of unit number shall be a minimum of one (1) inch. Label shall also indicate area serviced by unit as noted in schedules. Height of letters shall be minimum of one-half (1/2) inch.

**END OF SECTION 15700**
Furnish and install all ducts for Air Conditioning, Heating and Ventilating System as shown on the plans and as may be required to provide complete system. Ductwork shall be complete with grilles, vanes, flashings, hangers, flexible connections at equipment (DOAS UNITS), splitters, manual dampers, fresh air inlets, louvers, reinforcing angles, etc. All ductwork shall be concealed and insulated as hereinafter specified.

ALL DUCTWORK SIZES INDICATED ON DRAWINGS ARE METAL-TO-METAL OUTSIDE DIMENSIONS.

DUCT SUPPORTS
All ductwork shall be properly braced to prevent rattling, breathing or other unnecessary noise. No sharp edges or obstructions shall project into the air stream. Supports shall be as detailed in the Drawings.

HANGERS AND SUPPORTS

Hangers: Galvanized sheet steel, or round, galvanized steel threaded rod.

Straps and Rod Sizes: Conform with Table 4-1, 4-1M, and 4-2 in SMACNA HVAC Duct Construction Standards®, Chapter 4 Hangers and Supports®; Second Edition - 1995 with Addendum No. 1 dated November 1997, for sheet steel width and gage and steel rod diameters. Conform to SMACNA latest published editions and amendments.

Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.

Trapeze and Riser Supports: Steel shapes conforming to ASTM A 36.
2. Supports for Stainless-Steel Ducts: Stainless steel support material.
3. Supports for Aluminum Ducts: Aluminum support materials unless materials are electrolytically separated from ducts.

RECTANGULAR DUCT FABRICATION
General: Except as otherwise indicated, fabricate rectangular ducts with galvanized sheet steel, in accordance with SMACNA "HVAC Duct Construction Standards," Tables 1-3 through 1-20, including their associated details. Conform to the requirements in the referenced standard for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals. All ductwork shall be ASTM A-653, Coating Designation G 90.
1. Fabricate rectangular ducts in lengths appropriate to reinforcement and rigidity class required for pressure classification.
2. Deflection: Duct systems shall not exceed deflection limits according to SMACNA HVAC Duct Construction Standards®.

Traverse Joints: Prefabricated slide-on joints and components constructed using manufacturer's guidelines for material thickness, reinforcement size and spacing, and joint reinforcement.
1. Manufacturers:
   a. Ductmate Industries, Inc.
   b. Nexus, Inc.
   c. Ward Industries, Inc.
Formed-On Flanges: Construct according to SMACNA’s HVAC Duct Construction Standards®, using corner, bolt, cleat, and gasket details.

1. Manufacturers:
   a. Ductmate Industries, Inc.
   b. Lockformer

2. Duct Size: Maximum 30 inches wide and up to 2-inch wg pressure class.
3. Longitudinal Seams: Pittsburg lock sealed with noncuring polymer sealant.

Provide materials that are free from visual imperfections such as pitting, seam marks, roller marks, stains, and discolorations.

Static Pressure Classifications: Except where otherwise specifically indicated, construct duct systems to the following pressure classifications:

1. Supply Air Ducts - Round & Rectangular: Three (3) inches water gauge, positive pressure.
2. Return Air Ducts (Round & Rectangular): 2 inches water gage, negative pressure.
3. Exhaust Air Ducts (Round & Rectangular): 2 inches water gage, negative pressure.

Crossbreaking or Cross Beading: Crossbreak or bead duct sides that are 19 inches and larger, and are 20 gage (0.0359 inch thick) or less, with more than 10 sq. ft. of unbraced panel area, as indicated in SMACNA "HVAC Duct Construction Standard," Figure 1-8.

RECTANGULAR DUCT FITTINGS

DUCTWORK SEALANT
All ductwork shall be air tight. All seams, both shop made and field installed, and shall be sealed with tape and glue. All transverse joints shall be sealed as well as spin takeoffs and rough duct connections. All duct connections and seams shall be sealed with a UL approved non-flammable tape and mastic system. Strict adherence to manufacturers installation instruction is required. The duct sealant shall be equal to Hardcast FTA20/DT5300. United McGill Unit-Sealer Tape and Glue or 3M Company Sealing System.

DUCT ACCESSORIES
Dampers of the fusible link operated type shall be provided in all ductwork passing through the floor or firewalls. In all cases, the time rating of damper shall be equal to or greater than the time rating of the wall.

Provide quadrant or adjustable splitters and mark shaft to give position of splitter damper in duct.

Provide vanes behind every supply grille or diffuser. Splitters shall be provided where shown on Plans and where located in concealed, non-accessible space, provide Young Regulators to operate splitter. Vanes shall be Tuttle and Bailey "Ducturns", Barber Coleman Uniflo or equivalent. Shop fabricated vanes will be acceptable. All dampers shall be constructed of 14 gauge steel.

END OF SECTION 15750

Continued
SECTION 15800 - AUTOMATIC TEMPERATURE CONTROLS

SCOPE:

Provide a fully operational Native BACnet Control Energy Management System (EMS) using Native Open Siemens Talon Controllers with open NIC or PIC statements (EMS), incorporating direct digital control (DDC) for control of all HVAC systems and other systems outlined herein.

Provide tubing, wiring, conduit, and panels for the Facility Management System and temperature controls equipment. Provide low voltage wiring and control transformers for control power.

Provide temperature control wiring and conduit and final electrical terminations to each sensor, transducer, application specific controller and main control panel.

Provide software and hardware accessories required by balancing contractor for commissioning. Software and hardware shall be provided on a temporary basis as needed until job is completed.

Provide a laptop computer with Siemens WCIS software, software tools and modem port. Coordinate the testing, adjusting and balancing work with the TAB Contractor.

Provide a Siemens wireless field level network (WFLN) which communicates via radio frequency links back to the head-in centralized Siemens JACE control panel located at the physical plant office on the New Iberia Research Center Campus. Coordinate location of the head-in with the owner. Provide graphics on the WCIS laptop. The WCIS laptop shall be located at the JACE location.

All isolation relays and wiring necessary to monitor and/or interlock systems provided by others, including but not limited to duct mounted smoke detectors, lighting control panels, utility meters, and mechanical equipment.

GENERAL PRODUCT DESCRIPTION:

Provide the Facility Management System with HVAC equipment monitoring and control.

Provide a totally native Bacnet-based system with a Siemens Talon Supervisor and JACE software platform with open PIC statement and internet browser support for graphical interface. All building controllers, application controllers, and all input/output devices shall communicate using the protocols and network standards as defined by ANSI/ASHRAE Standard 135–2008, Bacnet.

For this project, the Facility Management System shall consist of the following:

1. Standalone Building Level Control Panels.
2. Standalone application specific controllers (ASCs).
3. Internet interface with virtual front end graphics
5. Wireless Field Level Network.

The system shall be modular in nature and shall permit expansion of both capacity and functionality through the addition of sensors, actuators, controllers, application specific controllers and operator devices.

System architectural design shall eliminate dependence upon any single device for control execution. Each DDC controller and application specific controller shall operate independently. The failure of any single component or network connection shall not interrupt the execution of control strategies at other operational devices.

Continued
DDC controllers shall be able to access any data from, or send control commands to other controllers on the network without dependence upon a central processing device. The controller peer to peer network shall be an independent local area network.

Install panels, devices, controllers and other EMS equipment in accordance with the requirements of the manufacturer. Mount hardware and controllers in fully closed panels in accordance with with the requirements of the manufacturer and the National Electrical Code. Plastic covers shall not be allowed.

QUALIFICATION CRITERIA:

The EMS subcontractor shall have been in the business of furnishing, installing and servicing the same product line for a minimum of five (5) years and have a local factory authorized sales and service office within 100 miles of the PROJECT for the EMS manufacturer. Dealers and distributors of a listed EMS manufacturer are not approved to bid.

QUALITY ASSURANCE:

Materials and equipment shall be cataloged products of manufacturers regularly engaged in production and installation of Facility Management systems and shall be of the manufacturer's latest standard design. Single source responsibility of the supplier shall be the proper operation of the EMS. This shall include software debugging and proper calibration of each component. The EMS contractor shall coordinate with the mechanical equipment supplier to ensure that all equipment is compatible with the controls to provide a complete and operable system. The EMS contractor is responsible for any ancillary items necessary for an operable system.

The EMS manufacturer shall have an in-place support facility within 100 miles of the site with technical staff, spare parts inventory and all necessary test and diagnostic equipment.

All EMS equipment shall conform to the requirements of FCC regulation, Part 15, Section 15 governing radio frequency electromagnetic interference.

The EMS shall comply with UL 916 and be so listed at the time of bid.

Design and build all system components to be fault-tolerant.

Satisfactory operation without damage at 110% and 85% of rated voltage.

Static, transient and short-circuit protection on all inputs and outputs.

Network-connected devices shall be A.C. coupled, or equivalent such that any single device failure does not disrupt network communication.

All real time clocks and data file RAM shall be battery-backed for a minimum seventy-two (72) hours.

DOCUMENTATION:

Submittal and EMS shop drawings: submit manufacturer's data on Facility Management system and components, and shop drawings. Refer to general conditions for submittal requirements.

Wiring diagrams: submit flow, signal, point to point and control wiring diagrams for Facility Management system using CAD generated drawings. Supply diskettes upon request.

Continued
Graphics: To be web based and built on a Tridium Niagara Platform with an open PIC statement using TRIDIUM JACE

Equipment operation instruction and maintenance manuals: furnish four (4) hard copies and one pdf electronic copy of written instructions on the proper operation and maintenance of all equipment and apparatus furnished under this section.

The EMS subcontractor shall furnish all of the foregoing to the Owner or his representative for his review as to the fulfillment of the specified requirements.

TRAINING:

Provide owner training. Provide competent instructors to give instructions to designated owner personnel in the operation and maintenance of the system as installed. All training shall be held during normal working hours of 8:00 A.M. to 4:00 P.M. weekdays.

Provide sixteen (4) hours of instructional training for Owner’s operating personnel of up to four (4) operators per class.

1. Explanation of drawings, operations and maintenance manuals.
2. Walk-through of the job to locate control components.
3. Operator workstation and peripherals.
4. DDC controller and ASC operation/function.
5. Operator control functions, trends, alarm responses and data archiving.
6. Remote Web based access.
7. Replacing and downloading controllers
8. System troubleshooting.

WARRANTY:

Warranty shall include the adjustment and repair of the new installed controls system including all personal computer equipment, printers, controllers, transmission equipment and all sensors and control devices.

Warranty period shall be for a twelve (12) month period commencing on date of overall project substantial completion and shall cover both labor and materials.

ACCEPTABLE MANUFACTURERS / INSTALLERS:

The following are acceptable manufacturers:

1. Native Bacnet Controls Provided by Select Building Controls LLC (Basis of Design)
   Office: 877-473-7802 email: office@selectbuildingcontrols.com
2. Siemens

NETWORKING COMMUNICATIONS:

Continued
Inherent in the system’s design shall be the ability to expand the system without the requirement of additional software or programming support.

The system shall be a completely native BACnet based system. All building controllers, application controllers, and all input/output devices shall communicate using the protocols and network standards as defined by ANSI/ASHRAE Standard 135–2008, BACnet.

Building controller MS/TP module communications shall be though BACnet MS/TP LAN to all advanced application and application-specific controllers. MS/TP module shall also route messages to Ethernet - MS/TP module for communication over WAN. All communication with JACE and all application controllers shall be through BACnet. Building controller Ethernet – MS/TP module shall incorporate as a minimum, the functions of a 2-way BACnet router. Controller shall route BACnet messages between the high-speed LAN (Ethernet 10/100MHz) and MS/TP LAN. Ethernet – MS/TP module shall also route messages from all other building controller modules onto the BACnet Ethernet network.

BACnet Conformance:
1. MS/TP module shall be approved by the BTL (BACnet Testing Laboratory) as meeting the BACnet Building Controller requirements. MS/TP module shall as a minimum support MS/TP BACnet LAN type. It shall communicate directly using this BACnet LAN as a native BACnet device and shall support simultaneous routing functions between all supported LAN types.

2. Standard BACnet object types supported shall include, as a minimum, Analog Value, Binary Value, Calendar, Device, File, Group, Notification Class, Program, and Schedule object types. All proprietary object types, if used in the system, shall be thoroughly documented and provided as part of the submittal data. All necessary tools shall be supplied for working with proprietary information.

3. For all system elements—virtual workstation(s), building controller(s), application controllers, routers, and repeaters—provide BACnet Protocol Implementation Conformance Statements (PICS) as per ANSI/ASHRAE Standard 135-2001.

4. The system shall provide a means to scan, detect, interrogate, and edit 3rd party BACnet devices and BACnet objects within those devices.

DDC panel support: DDC panels shall directly reside on an industry standard high speed communications bus (Local Area Network) such that communications may be executed directly from DDC panel to DDC panel.

Access to system data shall not be restricted by the hardware configuration. The hardware configuration of the EMS network shall be totally transparent to the user. Application specific controllers shall be arranged on the bus(es) in a functional relationship manner with DDC controllers.

FACILITY MANAGEMENT SYSTEM HARDWARE:

The Facility Management System (EMS) shall be comprised of a network of various independent Mechanical System Digital Controllers and a Centralized Siemens JACE controller integrated into the Siemens Talon Supervisor, to provide centralized access and facility wide control functions. The DDC Controllers shall be interconnected in a communicating network to provide facility wide access and sharing of information.

The distributed communication network system shall consist of a multi-drop RS-485 bus architecture connecting DDC Controllers. The trunk shall consist of: Continued
1. An independent hardwired network in accordance with the manufacturer's wiring practices. Run in metallic conduit where exposed below ceiling and in any location where wire is subject to physical damage.

2. The network serving all controllers for new mechanical equipment shall be new. The existing communications network serving existing mechanical systems to remain can be reused to the extent possible. Provide new network where existing is incompatible with new controllers.

3. There shall be no power wiring, in excess of 30 Vac rms voltage, run in conduit with communications trunk wiring. In cases where power or signal wiring is run in conduit with trunk wiring, all communications trunk wiring and power wiring shall be run using separate twisted shielded pairs (18awg) with the shields grounded in accordance with the manufacturer’s wiring practices.

SYSTEM SOFTWARE FEATURES:

The system software shall have the following general features:

1. All necessary software to form a complete operating system, as described in this specification, shall be provided.
2. Contractor shall provide owner complete data base for installed system including all sequences.
3. The software programs specified in this section shall be provided as an integral part of the Direct Digital Control Panels or Application Specific Controllers, and shall not be dependent upon any higher level mainframe or personal computer for execution.
4. Color floor plan graphics shall be developed for operator access to the system point data, schedules, alarm management, setpoint adjustments and written sequences of operation.

The EMS system shall permit an operator to create, modify and document all process control sequences including all DDC application software, energy management software, alarm processes, color graphics and links:

1. Time of Day Scheduling
2. Calendar based Scheduling
3. Holiday Scheduling
4. Optimal Start
5. Optimal Stop
6. Custom Application Programs
7. Trend Logs

All data including sequences, points list, graphics and any other information required to fully restore the building management system or individual components shall reside in the Siemens Talon JACE and Supervisor. The contractor shall also provide a back up copy of all data on an external hard drive or CD’s.

Digital Panels shall be able to execute custom application programs defined by the user to automatically perform calculations and control routines.

Process Inputs and Variables: It shall be possible to use any of the following in a configured process:

1. Any system-measured point data or status
2. Any calculated data
3. Any results from other processes
4. Boolean logic operators (and, or, greater than, less than, etc.)

Data Access: A single process shall be able to incorporate measured or calculated data from any and all other ASCs or networked systems. In addition, a single process shall be able to issue commands to points in any and all other ASCs on the network.

Continued
All programs shall be executed automatically without the need for operator intervention, and shall be flexible enough to allow user customization. Programs shall be applied to building equipment described in Part III of this specification.

The DDC panel shall include a provision for limiting the number of times each piece of equipment may be cycled within any one-hour period.

The DDC panel shall provide power fail motor restart. Upon the resumption of normal power, the DDC panel shall analyze the status of all controlled equipment, compare it with normal occupancy scheduling, and turn equipment on or off as necessary to resume normal operation.

Alarm reporting: The operator shall be able to determine the action to be taken in the event of an alarm (i.e. route alarm to the appropriate workstation, start programs, printed or display custom messages). The system shall dial out in the event of an alarm. Receivers shall include remote service PC workstations and alpha-numeric pagers. The alarm message shall include the name of the calling location, the device that generated the alarm and the alarm message itself.

Scheduling: To be provided as customer request.

Virtual workstation shall show all information in easy-to-read daily format including calendar of this month and next. All schedules shall show actual ON/OFF times for day based on scheduling priority. Priority for scheduling shall be events, holidays and daily, with events being the highest.

Holiday and special event schedules shall display data in calendar format. Operator shall be able to schedule holidays and special events directly from these calendars.

Operator shall be able to change all information for a given weekly or exception schedule if logged on with the appropriate security access.

System shall include a Schedule Wizard for set up of schedules. Wizard shall walk user through all steps necessary for schedule generation. Wizard shall have its own pull-down selection for startup or may be started by right-clicking on value displayed on graphic and then selecting Schedule. The user shall be capable of grouping/linking systems to master scheduling such that all systems in that group can be commanded through a single schedule. The user shall be able to add and remove systems from that group via the JACE.

Scheduling shall include start stop based on schedule.

Any displayed data that is changeable by the operator may be selected using the right mouse button and the schedule shall then be selectable on the screen. Selection of the schedule using this method shall allow the viewing of the assigned schedule or launch the Schedule Wizard to allow the point to be scheduled.

WEB BROWSER CAPABILITIES:

The system shall be capable of supporting an unlimited number of clients using a standard Web Browser such as Internet Explorer™ or google chrome. Systems requiring additional software resident on the client machine or manufacture-specific browsers shall not be acceptable. Provide all hardware required to host the web browser access at the site.

The Web Browser client shall support at a minimum, the following functions:

1. User log-on identification and password shall be required. If an unauthorized user attempts access, a blank web page shall be displayed. Security using Java authentication techniques to prevent unauthorized access shall be implemented.
2. Graphical screens developed for the GUI shall be the same screens used for the Web Browser client. Storage of the graphical screens shall be in the system, without requiring any graphics to be stored on the client machine. Systems that require graphics storage on each client are not acceptable.

3. Depending on user access privileges, the user shall be able to view data, modify and command objects such as start/stop, and adjust set points. In addition, users can be provided with the ability to view logs and view and acknowledge alarms.

The system shall provide the capability to specify a user's (as determined by the log-on user identification) home page. The capability to limit the user to just their home page shall be provided. From the home page, links to other views, or pages in the system shall be possible.

Graphic screens on the Web Browser client shall support hypertext links to other Web pages on other Internet or Intranet sites.

System access shall be via a single owner provided IP address.

Provide remote access set up for four (4) remote users including password protection, and customized access privileges as specified by the owner.

DIGITAL BUILDING LEVEL CONTROL PANEL(S):

General: Digital Control Panels shall be 16 bit microprocessor-based, multi-tasking, multi-user, dedicated digital control processors. Building level control panels shall be provided for all central plant equipment and air handling units. It is acceptable to group multiple pieces of mechanical equipment on a single controller provided that the expansion capacity requirements are met.

Memory: Each Digital Panel shall have sufficient memory (minimum 2 MB RAM, expandable via SIMM's) to support its own operating system and data EMS including, but not limited to:
   1. Custom control processes
   2. Energy Management Applications
   3. Alarm Management
   4. Trend Data
   5. Maintenance Support Applications
   6. Operator I/O

Expandability: The system shall be modular in nature, and shall permit easy expansion through the addition of field controllers, sensors, and actuators. Each digital panel shall be installed with a 10% expansion capacity for all point types (AO, DO, DI, AI) without the addition of expansion modules.

Serial Communication Ports: Digital Panels shall provide at least one data communication port for simultaneous operating of multiple operator I/O devices, such as laptop computers, Personal Computers, and alarm printers.

Integrated On-line Diagnostics: Each Digital Panel shall continuously perform self-diagnostics, communication diagnosis and diagnosis of all subsidiary equipment. Digital Panels shall provide both local and remote annunciation of any detected component failures, or repeated failure to establish communication. Indication of the diagnostic results shall be provided at each Digital Panel.

Surge and Transient Protection: UPS shall be provided on each JACE.

Powerfail Restart: In the event of the loss of normal power, there shall be an orderly shutdown of the Digital Panel to prevent the loss of data EMS or operating system software. Non-volatile memory shall be incorporated for all critical controller configuration data, and battery backup shall be provided to support
the real-time clock and all volatile memory for a minimum of 72 hours. Upon restoration of normal power, the Digital Panel shall automatically resume full operation without manual intervention. Should Digital Panel memory be lost for any reason, the user shall have the capability of reloading the Digital Panel via the local RS-232C port, Operator Workstation or telephone line dial-in. Provide modem at DDC panel to allow for dial-in from remote operator workstation(s). Remote IP will be provided by the OWNER.

APPLICATION SPECIFIC CONTROLLERS:

Each standalone Digital Control Panel shall be able to extend its performance and capacity through the use of remote Application Specific Controllers (ASCs). An ASC shall be provided for small unitary mechanical systems (i.e. fans, fan coil units, VAV box, etc.) Each mechanical system shall be equipped with an independent ASC.

Each ASC shall operate as a standalone controller capable of performing its specified control responsibilities independently of other controllers in the network. Each ASC shall be a microprocessor-EMSed, multi-tasking, real-time digital control processor.

Each ASC shall have sufficient memory to support its own operating system and data EMS including:
1. Control Processes
2. Energy Management Applications
3. Time Programmed Start/Stop Software.

All system setpoints, proportional bands, control algorithms, and any other programmable parameters shall be stored such that a power failure of any duration does not necessitate reprogramming the ASC. Any version of an ASC using RAM memory shall be provided with a battery and battery charger capable of holding all programs in memory during a power failure of seventy-two (72) hours duration.

Provide individual ASC for each DOAS unit.

CONTROLS FIELD DEVICES:

Install the field devices furnished by the DOAS unit manufacturer. Provide the control wiring and conduit between the field devices and the DOAS unit’s controller.

Provide the following instrumentation as required by the monitoring, control and optimization functions:
1. Temperature Sensors:
   a. Space/Duct temperature RTD: Temperature monitoring range 0/150 deg F minimum, Output signal - Changing resistance, Factory calibration point 70 deg F, Accuracy at calibration point ±0.34 deg F. Duct sensors located in the mixed air and coil discharge sections shall be the averaging type with a minimum 5'-0” length.
   b. Outside air temperature RTD: Temperature monitoring range-20/+120 deg F minimum, Factory calibration point 70 deg F @ 1000 deg F, Accuracy at calibration point ±0.34 degrees F.
2. Zone Temperature Sensor/Controller: Each AHU sensor/controller shall be capable of adjusting the temperature from the programmed set point during occupied periods. The adjustment range shall be controlled by the JACE. The LCD display controller shall be capable of providing temporary override during normally unoccupied periods. Provide combination temperature sensor/humidity sensor where noted in points list.
3. Relays: Control relays shall be dust tight with minimum SPDT contacts and shall be rated for 125% of anticipated load. Relays shall be UL listed for the application
4. Current Sensing Relays: Current sensing relays shall be fully solid state and shall feature adjustable trip point, power LED and trip LED. Units shall be UL listed. Utilize current sensing relays for all EMS fan and pump status indication.

Continued
TEMPERATURE CONTROLLED EQUIPMENT:

Self-contained Dedicated Outside Air System (DOAS) Units with BACnet interface.

TEMPERATURE CONTROLS TO BE USED:

A) BMS Panel. (Provide 120volt line connection. Coordinate with the electrical contractor).
B) Siemens Talon Jace 8000.
C) Siemens Talon Supervisor computer and software
D) Low voltage Conduit shall be provided to each DOAS for BACnet communication.
E) All useable points from each DOAS to be provided in Siemens Supervisor with corresponding graphics.
F) All external DOAS controls and low voltage wiring shall be provided for a complete and operational system.
G) Provide an Ethernet Data jack and static IP at each control panel.
SEQUENCES OF OPERATION:

This summary is provided to establish a minimum guide for EMS configuration. The EMS subcontractor shall be required to provide and install any additional points required to meet the EMS system and Sequences of Operation specified herein. The contractor shall provide all supplemental control devices and sequences recommended by the manufacturer for all equipment controlled by the EMS.

The sequences of operation and points list shall be provided according to the following unless noted otherwise. Refer to drawings for counts of items listed as “Varies.” All listed points are shown on a per unit basis and do not represent point totals.

DOAS UNITS
- Each DOAS unit shall be enabled and disabled by the EMS.
- Temperature setpoint to be provided though BACnet interface and controlled by the EMS.
- Alarm Sequence: If any DOAS unit is in alarm, text or email is to be sent out to desired personnel. (Alarm point is provided though BACnet interface.)

All alarms shall be sent to supervisor workstation and texted out as long as live ethernet data line is available at Siemens Talon Jace and Supervisor.

All useful points from DOAS shall be displayed on graphics.

Occupied mode (24 hours / 7 days per week).

Unoccupied mode: The DOAS unit shall go thru a proper shut down upon being unoccupied by EMS.
POINTS LISTS (DOAS BACNET INTERFACE):

BO       Unit Start/Stop
BI       Supply Fan Status
BI       Supply Fan Alarm
BI       Exhaust/Return Fan Status
BI       Exhaust/Return Fan Alarm
AI       Supply Duct Leaving Air Temperature
AI       Supply Duct Leaving Air Humidity
AI       Exhaust/Return Duct Entering Air Temperature
AI       Exhaust/Return Duct Entering Air Humidity
BI       Supply LAT High Limit (Temp.)
BI       Unit Alarm
AI       Space Humidity
AI       Space Temperature

WARRANTY
Warrant all work as follows:

1. Labor & materials for control system specified shall be warranted free from defects for a period of twelve (12) months after final completion acceptance by the owner. Control system failures during the warranty period shall be adjusted, repaired, or replaced at no charge or reduction in service to the owner. The Contractor shall respond to the owner’s request for warranty service within 24 hours during customary business hours. The control system contractor shall have an office located within 100 miles of the site.

2. At the end of the final start-up/testing, if equipment and systems are operating satisfactorily to the owner and Engineer, the owner shall sign certificates certifying that the control system’s operation has been tested and accepted in accordance with the terms of this specification.

END OF SECTION 15800
SECTION 15900 - TESTING, ADJUSTING, AND BALANCING

GENERAL

SECTION INCLUDES
All Division 15 specifications, drawings, and general provisions of the contract apply to work of this section, as do other documents referred to in this section.

SCOPE OF WORK
The Mechanical Contractor shall obtain the services of an independent Test and Balance Company which specializes in the testing and balancing of heating, ventilating and air conditioning (HVAC) systems to test, adjust and balance all HVAC systems in the construction area.

The work included in this section consists of furnishing labor, instruments, and tools required in testing, adjusting and balancing the HVAC systems, as described in these specifications or shown on accompanying drawings. Services shall include checking equipment performance, taking the specified measurements, and recording and reporting the results.

Representatives of the Test and Balance Company shall visit the job site at 90% completion of installation of the HVAC equipment, piping and ductwork to review the installation. After each site visit, the Test and Balance Company shall report to the Engineer any items that are not installed properly, are missing from the Contract Documents or items that are required to enable him to perform the testing and balancing of the HVAC systems as per normal standard practice. After review, the Engineer shall instruct the Contractor to implement the recommendations at no additional cost to the Owner if these items were specified in the original scope of the project.

Upon completion of the HVAC system installation, the Test and Balance Company shall perform all required testing and balancing with the full cooperation of the Contractor and his Sub-contractors. The Contractor shall make changes and/or adjustments to the HVAC system components that are required by the Test and Balance Company to accomplish proper balancing. The TAB agency shall not supply or install any materials or balancing devices such as pulleys, drives, belts, etc. All of this work by the Contractor shall be performed at no additional cost to the Owner.

The test and balance report shall be submitted to the Engineer for review by his Mechanical Engineer. If the Mechanical Engineer agrees with the report, he shall meet with the Test and Balance Company to determine what needs to be done to obtain a properly balanced system.

After the Mechanical Engineer signs the testing and balancing report, the Test and Balance Company shall supply four (4) copies of the final and complete report to the Engineer for inclusion in the Operation and Maintenance Manuals.

The items requiring testing, adjusting, and balancing include (but are not restricted to) the following:

1. Air Systems
   a. Supply Fan DOAS
   b. Exhaust Fans DOAS
   c. Zone branch and main ducts
   d. Diffusers, Registers, Grilles and Dampers
   e. Coils (Air Temperatures)

DEFINITIONS, REFERENCES, STANDARDS
All work shall be in accordance with the latest edition of the Associated Air Balance Council (AABC) National
Standards or the latest standards of the National Environmental Balancing Bureau (NEBB). If these contract documents set forth more stringent requirements than the AABC National Standards or the NEBB Standards, these contract documents shall prevail.

QUALIFICATIONS
Agency Qualifications: The TAB Agency shall be a current member of the AABC or the NEBB.

SUBMITTALS
Qualifications: The TAB agency shall submit a company resume listing personnel and project experience in air and hydronic system balancing and a copy of the agency’s test and balance engineer (TBE) certificate.

Procedures and Agenda: The TAB agency shall submit the TAB procedures and agenda proposed to be used.

Sample Forms: The TAB agency shall submit sample forms, which shall include the minimum data required by the AABC National Standards or the NEBB Standards.

TAB PREPARATION AND COORDINATION
Shop drawings, submittal data, up-to-date revisions, change orders, and other data required for planning, preparation, and execution of the TAB work shall be provided when available and no later than 30 days prior to the start of the TAB work.

System installation and equipment startup shall be complete prior to the TAB agency’s being notified to begin.

The building control system (BCS) contractor shall provide and install the control system, including all temperature and sensors. These shall be calibrated for accurate control. If applicable, the BCS contractor shall install all necessary computers and computer programs, and make these operational. Assistance shall be provided as required for reprogramming, coordination, and problem resolution.

All test points, balancing devices, identification tags, etc., shall be accessible and clear or insulation and other obstructions that would impede TAB procedures.

Qualification installation or startup personnel shall be readily available for the operation and adjustment of the systems. Assistance shall be provided as required for coordination and problem resolution.

If, upon commencing the work, the TAB contractor finds that the systems are not ready, or if a dispute occurs as to the readiness of the systems, the TAB contractor may request an inspection to be made by the Designer’s Mechanical Engineer. This inspection shall establish to the satisfaction of the represented parties whether or not the systems meet the basic requirements for testing and balancing. Items that are determined to be not ready for testing and balancing shall be completed by the Mechanical Contractor and placed in operational readiness before TAB services are again requested.

REPORTS
Preliminary TAB Report – Prior to any demolition work, the TAB agency shall submit a preliminary TAB report for review by the Engineer. On plans provide, all outlets, devices, HVAC equipment, etc., shall be identified, along with a numbering system corresponding to report unit identification. Measure airflow of the existing supply grilles and return grilles for the existing dedicated outside air systems. This information shall be used as a benchmark for the final air balancing at the end of the project.

Final TAB Report - The TAB agency shall submit the final TAB report for review by the Engineer. On plans provide, all outlets, devices, HVAC equipment, etc., shall be identified, along with a numbering system corresponding to report unit identification. The TAB agency shall submit an AABC National Project Performance Guaranty (or similar NEBB Guarantee) assuring that the project systems were tested, adjusted and balanced in accordance with the project specifications and AABC National Standards (or similar NEBB Guaranty) before TAB services were again requested.
Submit 4 copies of the Final TAB Report to the Engineer for inclusion in the Operation and Maintenance Manuals.

INSTRUMENTATION
All instruments used for measurements shall be accurate and calibrated. Calibration and maintenance of all instruments shall be in accordance with the requirements of AABC National Standards (or similar NEBB Standards).

EXECUTION

GENERAL
The specified systems shall be reviewed and inspected for conformance to design documents. Testing, adjusting and balancing on each identified system shall be performed. The accuracy of measurements shall be in accordance with AABC National Standards (or similar NEBB Standards). Adjustment tolerances shall be + or - 10% unless otherwise stated.

Equipment settings, including manual damper quadrant positions, valve indicators, fan speed control levers, and similar controls and devices shall be marked to show final settings.

All information necessary to complete a proper TAB project and report shall be per AABC or NEBB standards unless otherwise noted. The descriptions of work required, as listed in this section, are a guide to the minimum information needed.

TAB contractor shall cut insulation, ductwork and piping for installation of test probes to the minimum extent necessary to allow adequate performance of procedures. Upon completion, patch insulation, ductwork and housings using materials identical to those removed. Seal insulation to reestablish integrity of the vapor barrier.

TAB work shall include additional inspection and adjustment of components during the season following the initial balance to include re-balance of any items influenced by seasonal changes or as directed by the Owner.

AIR SYSTEMS
The TAB agency shall verify that all ductwork, splitters, extractors, dampers, grilles, registers, and diffusers have been installed per design, are functional and set full open. Any leakage in the ductwork shall be repaired prior to the test. The TAB agency shall perform the following TAB procedures in accordance with the AABC National Standards or NEBB Standards:

For Supply Fans:

Fan speeds - Test and adjust fan RPM to achieve design CFM requirements.

Current and Voltage - Test and record motor voltage and amperage, and compare data with the nameplate limits to ensure fan motor is not in or above the service factor.

Pitot-Tube Traverse - Perform a Pitot-tube traverse of main supply and return ducts, as applicable to obtain total CFM. If a Pitot-tube traverse is not practical an explanation of why a traverse was not made must appear on the appropriate data sheet.

Outside Air - Test and adjust the outside air on applicable equipment using a Pitot-tube traverse. If a traverse is not practical, an explanation of why a traverse was not made must appear on the appropriate data sheet. If a traverse is not practical use the mixed-air temperature method if the inside and outside temperature difference is at least 20 degrees Fahrenheit or use the difference between Pitot-tube traverses of the supply
and return air ducts.

Static Pressure - Test and record system static pressure, including the static pressure profile of each supply fan.

For Zone, Branch and Main Ducts:

Adjust ducts to within design CFM requirements. As applicable, at least one zone balancing damper shall be completely open. Multi-diffuser branch ducts shall have at least one outlet or inlet volume damper completely open.

For Diffusers, Registers and Grilles:

Tolerances - Test, adjust, and balance each diffuser, grille, and register to within 10% of design requirements. Minimize drafts include required CFM, initial test CFM and final CFM.

Identification - Identify the type, location, and size of each grille, diffuser, and register. This information shall be recorded on air outlet data sheets.

For Coils:

Air Temperature - Once air flows are set to acceptable limits, take wet bulb and dry bulb air temperatures on the entering and leaving side of each cooling coil. Dry-bulb temperature shall be taken on the entering and leaving side of each heating coil.

ADDITIONAL TAB SERVICES

Job Site Inspections: During construction, the TAB agency shall inspect the installation of pipe systems, sheet metal work, temperature controls, and other component parts of the HVAC systems. Inspections shall be conducted a minimum of one time. (Typically, these are performed when 90% of the total system is installed, prior to insulation of the duct and piping). The TAB agency shall submit a written report of each inspection to the Engineer.

Verification of HVAC Controls: The TAB agency shall be assisted by the building control systems contractor in verifying the operation and calibration of all HVAC and temperature control systems. The following tests shall be conducted:

1. Verify that all control components are installed in accordance with project requirements and are functional, including all electrical interlocks, damper sequences, air and water resets, fire and freezestats, and other safety devices.
2. Verify that all controlling instruments are calibrated and set for design operating conditions.

Temperature Testing: To verify system control and operation, a series of three temperature tests shall be taken at approximately two-hour intervals in each separately controlled zone. The resulting temperatures shall not vary more than two degrees Fahrenheit from the thermostat or control set point during the tests. Outside temperature and humidity shall also be recorded during the testing periods.

TAB Report Verification: At the time of final inspection, the TAB agency may be required to recheck, in the presence of the owner’s representative, specific and random selections of data, air quantities, and air motion recorded in the certified report. Points and areas for recheck shall be selected by the owner’s representative. Measurements and test procedures shall be the same as approved for the initial work for the certified report. Selections for recheck, specific plus random, will not exceed 10% of the total number tabulated in the report.

Life Safety Controls: The TAB agency shall test and record life safety control operation of the HVAC equipment. It shall verify the installation of required smoke detectors in air handling equipment (AHE), and
shall verify operation of the smoke detector by activating the smoke detector and observing air handler shutdown. With the controls and alarm contractors, the TAB agency shall verify the operation of interconnected systems such as the AHE smoke detector’s activation of the fire alarm system and the alarm system’s activation of the life safety control sequences.

END OF SECTION 15900
PAGE 1

SECTION 16001 - ELECTRICAL GENERAL PROVISIONS

RELATED DOCUMENTS
The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

Refer to Division 16, Electrical, as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding electrical work.

BIDDING REQUIREMENTS AND RESPONSIBILITIES
Prime bidder is responsible for all work, of all trades and sub-contractors bidding this project. It is the prime bidder’s responsibility, prior to submitting a bid to ensure that sub-contractors coordinate all aspects of the work between trades, sub-contractors, etc. to the fullest extent possible.

Prime bidder shall ensure that all sub-contractors, suppliers, equipment vendors, etc., obtain all necessary and pertinent contract document information pertaining to their work prior to the submission of a bid. Contractor shall realize that different sub-contractors may furnish equipment, accessories, devices, etc. necessary for a complete and working installation that require provision of services by another sub-contractor or trade.

Bidders of all or any portions of this section or division are required to review all contract documents including but not limited to Mechanical drawings and Electrical drawings to coordinate requirements and responsibilities with and through prime bidder.

Bidders of all or any portions of this section or division, by furnishing a bid on a portion of the prime contract are indicating that they have received all contract documents and coordinated services provided under their portion of the work with the prime bidder; they are indicating that they have expressed any pertinent questions (which would result from a detailed, thorough review of the entire set of contract documents) to the prime bidder in accordance with Division 1 requirements, prior to bidding.

All timely, pertinent, questions provided in writing prior to bids, in accordance with Division 1 requirements, will be clarified, defined, or otherwise explained in a written addendum and/or addendums prior to bids, in accordance in Division 1 requirements.

1. It is not the intention of these contract documents to leave any issue relating to coordination between trades or sub-contractors vaguely defined. The intention is to define all issues, coordination matters, equipment requirements, sizes, routing, etc. to the satisfaction of the prime bidder, prior to receipt of bids.

2. Bidders of all or any portions of this section or division, by virtue of the submission of a bid to the prime bidder, are indicating that they have reviewed the entire set of contract documents with due diligence and regard for the Owner’s desire for a comprehensive and complete bid proposal; that they have expressed all concerns or questions requiring clarification on matters of coordination between trades and/or sub-contractors; that they have expressed any such concerns or questions in writing in accordance with Division 1 requirements.

3. Prime bidders, by submission of a comprehensive bid on the project are indicating that the subcontractors selected in their bid have complied with all Division 1 requirements, that they have indicated in writing, prior to bidding, all questions or concerns requiring clarification and/or explanation and have documented any and all specific exclusions involving work that would generally be considered to be work of their trade. The prime bidder shall coordinate all work so that anything excluded by the bidder of all or any portions of this section or division, have been addressed prior to bids in one of the following manners:

Continued
The work has been confirmed, by the prime bidder, to be work of another trade or subcontractor (whose proposal is also being accepted).

Clarification of the matter has been made through the prime design professional via written addendum and is clearly and mutually understood by the prime bidder and the party raising the issue/question, or seeking clarification.

The work has been accepted as the responsibility of the prime contractor directly.

MATERIAL AND EQUIPMENT
The term "provide" when used in the Contract Documents includes all items necessary for the proper execution and completion of the Work.

Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgement of the Engineer expressed in writing is equivalent to that specified.

Coordinate and properly relate all Work of this Division to building structure and work of all other trades.

Visit premises and become thoroughly familiar with existing conditions; verify all dimensions in field. Advise Engineer of any discrepancies prior to Bid Date in accordance with Division 0.

Do not rough-in for any item or equipment furnished by others or noted "Not in Contract" (NIC), without first receiving rough-in information or determining rough-in requirements from other trades and/or Engineer.

Provide storage and protection for all equipment and materials in accordance with requirements of Division 0 and Division 1. Replace any equipment and materials damaged by improper handling, storage, or protection, at no additional cost to Owner.

Keep premises clean in accordance with requirements of Division 0 and Division 1.

SUBSTITUTIONS
Substitutions are allowed under La. R.S. 38:2291 and La R.S. 38:2292. Any requests for prior approval (as provided for under La. R.S. 38:2295) including any re-submitted data, shall be received by the Engineer a minimum of ten (10) working days prior to bid date. Submittals sent via facsimile and/or electronic mail will not be accepted. The Contractor shall recognize that it may be necessary to submit certain requests for prior approval sooner than the final date listed in the Instructions to Bidders, depending upon the complexity and completeness of the submittal. If, in the opinion of the Engineer, there is neither sufficient time available nor adequate descriptive data attached to the submittal, the submittal will not be considered. Except as otherwise specified, materials and equipment shall be new and bear the approval label of the Underwriters Laboratories, Inc. for the type of installation required.

DRAWINGS AND SPECIFICATIONS
The specific intent of these Contract Documents is to provide the various systems, equipment, etc. to the Owner complete and in a thoroughly calibrated and functional condition. The specific intent of these Contract Documents is to provide the various systems, equipment, etc... to the Owner complete and in a thoroughly calibrated and functional condition.
The Drawings shall not be construed as shop drawings. In the event of a possible interference with piping or equipment of another trade, items requiring set grade and elevations shall have precedence over other items. Should any major interference develop, immediately notify the Engineer.

In laying out Work, refer to drawings at all times in order to avoid interference and undue delays in the progress of the Work.

**CODES AND REGULATIONS**

Work shall be in full accord with the LA State Sanitary Code, 2017 N.E.C. (NFPA 70), local ordinances, building codes, and other applicable national, local, and state regulations.

Equipment shall conform to requirements and recommendations of the National Bureau of Fire Underwriters and National Fire Protection Association (NFPA).

Items provided under this Division shall comply with the American National Standards Institute (ANSI) "Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People," ANSI A 117.1, and the Americans with Disabilities Act (A.D.A.).

Work called for in these Plans and Specifications shall be executed by competent workmen.

In the possible event of conflict between codes or regulations and Contract Documents, notify the Engineer immediately.

The drawings show approximate locations only of feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Engineer reserves the right to make reasonable changes in locations indicated, before roughing-in, without additional cost to the Owner.

Because of the small scale of the drawings, it is not possible to indicate all of the offsets, fittings, and accessories required. The Contractor shall investigate the structural and finish conditions affecting his work and shall arrange such work accordingly, furnish fillings bends, junction boxes, pull boxes, access panels, and accessories required to meet such conditions at no additional costs to the Owner.

**FEES, PERMITS, AND TAXES**

Obtain and pay for permits required for the Work of this Division. Pay fees in connection therewith, including necessary inspection fees.

Pay any and all taxes levied for Work of this Division, including municipal and/or state sales tax where applicable.

**MANUFACTURER'S DIRECTIONS**

Install and operate equipment and material in strict accord with manufacturer's installation and operating instructions. The manufacturer's instructions shall become part of the Contract Documents and shall supplement Drawings and Specifications.

**SUBMITTAL DATA**

Submit shop drawings, project data, and samples in accordance with requirements of Division 0 and/or Division 1. Submittals shall be received no later than thirty (30) consecutive calendar days from effective date of Notice to Proceed.

Shop drawings shall consist of published ratings or capacity data, detailed construction drawings for fabricated items, wiring and control diagrams, performance curves, installation instructions, manufacturer's installation
drawings, and other pertinent data. Submit drawings showing revisions to equipment layouts due to use of alternate or substitute equipment.

Where approved manufacturers and suppliers of equipment, materials, etc. are unable to fully comply with Contract Document requirements, specifically call such deviations to attention of Engineer on submittals. Type deviations on a separate sheet; underlined statements or notations on standard brochures, equipment fly sheets, etc. will not be accepted.

Approval of submittals shall not relieve Contractor from furnishing required quantities and verifying dimensions. In addition, approval shall not waive original intent of Contract Documents.

Failure to obtain written approval of equipment shall be considered sufficient grounds for rejection of said equipment regardless of the stage of completion of the project.

Contractor shall submit Shop Drawings on all equipment listed below. In addition, contractor shall refer to subsequent sections of the Division 16 - Electrical portion of the specifications for additional shop drawing submittal requirements.

Electrical Gear (Safety Switches, Circuit Breakers, Motor Starters)
Shop Drawings shall be submitted in individual books as grouped together as stated below and shall be submitted simultaneously. Electrical gear shop drawings shall not be submitted until approval is obtained for all HVAC and plumbing equipment.

Electrical Gear

PROJECT COORDINATION
Refer to applicable Division 16 Sections for products work of this Division.

Refer to Division 15 for related products affecting work of this section.

Coordinate handling of all products, materials, etc., through general contractor. Coordinate space, access, clearances, etc., through general contractor prior to preparation of shop drawing submittal.

The contractor is herein cautioned to note that the work involved is a complicated renovation and a new addition project requiring continuous owner occupancy. The Contractor should review the phasing plans/descriptions and visit the project site to determine existing conditions. The Contractor will be held responsible for allowing for these conditions in his bid.

SERVICE CONTINUITY
At all times during the construction of the project, electric service shall be maintained to all portions of the site and existing facility, except with prior written approval from the Engineer of interruptions. It shall be the responsibility of the contractor to provide, install and maintain (fuel included) any required rental generators to accomplish said task. Any required interruptions of electric service due to work being performed under this Contract shall be scheduled in writing a minimum of forty-eight (48) hours in advance after consultation with the Engineer and the Owner, and shall occur when permitted by the Engineer. The Contractor shall be responsible for any overtime pay required to meet these requirements, at no additional cost to the Owner.

VALUE ENGINEERING (V/E):
While it may be in the project Owner’s interest to consider the first cost money saving that may be generated via alternatives and options generated via participation in Value Engineering, Division 16 contractor shall realize that substantive offers of Value Engineering (V/E), if accepted by the Owner, constitute a design-build

Continued
agreement (offer and acceptance) with the owner, and drastically change the design concept of the project, as developed by the Professional of Record identified on the Contract Documents.

Should contractor offer, and the owner accept value engineering options that alter aspects of the system design, equipment, performance and/or performance verification or monitoring of respective systems, Division 16 contractor shall provide duly licensed professional engineering consultants working on behalf of the Division 16 contractor (including sub-contractors and equipment vendors/manufacturers) to review, approve and take professional responsibility for performance and suitability of V/E hybrid systems, materials or operational changes related to respective V/E items. The Division 16 contractor’s licensed professional engineering consultants and the Division 16 contractor assume any and all responsibility for the design and suitability in terms of performance, of hybrid systems installed, as Division 16 contractor’s Professional of Record, absolving the original project Professional of Record, identified on the original Contract Documents, released for the original project Bid/Negotiation) from responsibility for the V/E hybrid systems portion of the work.

Division 16 contractor, via the offer and acceptance of value engineering items on the project agrees to provide professional engineering design services and take full and complete responsibility for the hybrid design. Further, the Division 16 contractor’s (V/E Items) professional of record (either employees, or independent consultants to the Division 16 contractor) through the offer and acceptance of V/E items, agree to indemnify and hold harmless the project owner, the owner’s original A/E team (Professional of Record on behalf of the owner for the original Contract Documents) their heirs and assigns in regard to the V/E changes and their impact on the Division 16 systems altered, affected or modified, in whole or in part. The Professional of Record shown on the original Contract Documents in regard to the systems altered, adjusted, revised, modified or otherwise affected by the value engineering items implemented, shall be absolved of design responsibility as a result of implementation of V/E items, and their original use of Engineering Seals used for original Contract Documents, shall not apply.

PROJECT RECORD DOCUMENTS
Keep Project Record Documents in accordance with requirements of Division 0 and/or Division 1.

During construction period, keep accurate records of installations made under this Division, paying particular attention to major interior and exterior underground and concealed piping, ductwork, etc.

The Contractor shall obtain from the Prime Contractor a minimum of one (1) set of the contract documents including all addenda and change orders as prepared by the Engineer.

If the Contractor elects to vary from the Contract Documents and secures prior approval from the Engineer for any phase of the work, he shall record in a neat and readable manner all such variances on the contract documents in red ink. Prior to requesting substantial completion the marked-up set of contract documents shall be returned to the Engineer for approval.

All deviations from sizes, locations and from all other features of the installation shown in the Contract Documents shall be recorded.

In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions, and the like, as well as other features of work which will be concealed underground and/or in the finished building.

Locations of underground work shall be established by dimensions to columns, lines or walls, locating all turns, etc. and by properly referenced centerline or invert elevations and rates of fall.

For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the

Continued
work on the drawings in relation to the spaces in the building near which it was actually installed. The decision of the Engineer in this matter will be final.

The following requirements apply to all Record Drawings:

They shall be maintained at the Contractor's expense.
All such drawings shall be done carefully and neatly.
Additional drawings shall be obtained at the Contractor's expense.
They shall be kept up-to-date during the entire course of the work and shall be available upon request for examination by the Engineer and when necessary, by other trades, to establish clearances for other parts of the work.
Record Drawings shall be returned to the Engineer upon completion of the work and are subject to approval of the Engineer.

OPERATION AND MAINTENANCE DATA
Refer to the Division 1 Section: PROJECT CLOSEOUT or OPERATION AND MAINTENANCE DATA for procedures and requirements for preparation and submittal of maintenance manuals.

Provide the Owner with three (3) copies of printed instructions indicating various pieces of equipment by name and model number, complete with parts lists, maintenance and repair instructions and test and balance report.

COPIES OF SHOP DRAWINGS WILL NOT BE ACCEPTABLE AS OPERATION AND MAINTENANCE INSTRUCTIONS.

This information shall be bound in plastic hardbound notebooks with the job name, Engineer names permanently embossed on the cover. Rigid board dividers with labeled tabs shall be provided for different pieces of equipment. Submit manuals to the Engineer for approval.

In addition to the operation and maintenance brochure, the Contractor shall provide a separate brochure which shall include registered warranty certificates on all equipment, especially any pieces of equipment which carry warranties exceeding one (1) year.

The operation and maintenance brochure shall be furnished with a detailed list of all equipment furnished to the project, including the serial number and all pertinent nameplate data such as voltage, amperage draw, recommended fuse size, rpm, etc. The Contractor shall include this data on each piece of equipment furnished under this contract including but not limited to those items listed below.

Electrical Gear (Safety Switches, Circuit Breakers, Motor Starters)

EXISTING CONDITIONS
The Electrical Contractor shall visit the building site to determine existing conditions and will be held responsible for allowing for these conditions in his bid.

Note that this area of work will have storm drainage, mechanical and electrical utilities located underground and within and under the buildings. It is part of this work for the Electrical Contractor to determine the scope and location of all utilities to be installed with this project and arrange his work around others. There will be no extra consideration for work discovered as being hidden after the bid, and no change orders for extra cost that may be caused by unknown after bid conditions. The drawings show approximate locations only of feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Engineer reserves the right to make reasonable changes in locations indicated, before roughing-in, without additional cost to the Owner.

Continued
PROTECTION OF APPARATUS
The Electrical Contractor shall take precautions necessary at all times to properly protect his apparatus from damage. Failure on the part of the Contractor to comply with the above to the Engineer's satisfaction shall be sufficient cause for the rejection of the particular piece of apparatus in question.

MINOR DEVIATIONS
The Contractor shall realize that the drawings cannot delve into every step, sequence, or operation necessary for the completion of the project without drawing on the Contractor's experience. Only typical details are shown on the plans. In cases where the Contractor is not certain about the method of installation of his work, he shall ask for details. Lack of details will not be an excuse for improper installation.

SALVAGED MATERIALS
The Owner shall have priority for the selection of salvaged material and equipment. Any equipment, light fixtures, devices, ballasts, materials, etc. selected to remain property of the Owner shall be removed and delivered to a location on the site as designated by the Owner. Material and equipment not retained by the Owner shall become the property of this Contractor and shall be removed from the site by him.

The Contractor shall obtain written approval of all material and equipment determined not to be salvaged by the Owner.

SAFETY PRECAUTIONS
Work methods and project safety are the Contractor's sole responsibility.

Contractor should furnish and place proper guards for prevention of accidents. He should provide and maintain any other necessary construction required to secure safety of life or property, including maintenance of sufficient lights during all day and night hours as required to secure such protection.

Temporary electrical services during construction should be maintained in perfect condition. Frayed, loose or opened connections should not be used for temporary services. The Contractor should use only equipment in first class working condition for construction services.

SUPERVISION
Contractor shall personally, or through an authorized and competent representative, constantly supervise the work done from beginning to completion and final acceptance. To the best of his ability he shall keep the same foreman and workmen throughout the project duration. Foreman shall be present at project site at all times while work under this section of the contract documents is being performed. Foreman shall be accessible by pager/cellular phone at all times. Respective telephone numbers shall be forwarded to Engineer prior to commencement of work on this project.

PRODUCTS

EQUIPMENT LABELS
Panelboards, safety switches, equipment cabinets, motor starters and other equipment shown on the drawings and furnished and/or installed under this section of the Specifications shall be labeled with laminated plastic nameplates inscribed to identify equipment with description shown on the drawings for panels, the name of the equipment controlled for motor starters or the system or function involved for other equipment. Provide typewritten panelboard directories indicating the equipment served and its location using final approved room numbers, etc., as directed by the Engineer. Refer to Section 16050 Basic Materials and Methods for additional requirements.

EXECUTION

Continued
COORDINATION OF TRADES
Where work is in close proximity to the work of other contractors, the Electrical Contractor shall review plans of other contractors and coordinate his work with theirs. The Electrical Contractor shall verify the location of lighting fixtures, beams, structural members, conduit, ductwork, pipes or other obstructions before beginning his work in the area. Notify the Engineer where proper clearances do not occur or where the work of others would interfere with the safe and/or proper operation of this work.

SUPPORTS AND FOUNDATIONS
Support all items covered by this Specification directly from building structural members independent of any ceilings or any other installed item. Panelboards and switches may be attached to suitably reinforced walls. Ground or slab mounted equipment to be mounted on a separate four inch high concrete slab.

Do not attach items of this Specification to HVAC ductwork, ceiling grids and ceiling support members, piping or other equipment unless specifically shown otherwise. Where applicable, all equipment including conduit is to be supported from overhead wall, floor or roof structures using galvanized channel or angle members for a rigid support. Position supports and equipment such that access through lay-in ceilings or panels is not impaired and all Code required clearances are maintained.

Where applicable, under no circumstances is the Electrical Contractor to attach to or support from any bar joist bridging. Any supports to the bar joists or any structural systems are to be approved by the Engineer. All supplemental angle or channel iron required to support equipment of this Specification is to be furnished by the Electrical Contractor.

GUARANTEE
The Contractor shall guarantee all materials, equipment and workmanship for a period of one (1) year from the date of final acceptance of the project. This guarantee shall include furnishing of all labor and material necessary to make any repairs, adjustments or replacement of any equipment, parts, etc. necessary to restore the project to first class condition. This guarantee shall exclude only the changing of lamps. Warranties exceeding one (1) year are hereinafter specified with individual pieces of equipment.

If the Contractor’s office is in excess of a fifty (50) mile radius of the project, he shall appoint a local qualified contractor to perform any emergency repairs or adjustments required during the guarantee period. The name of the contractor appointed to provide emergency services shall be submitted to the Engineer for his approval.

CLEANING
Refer to the Division 1 Section: PROJECT CLOSEOUT or FINAL CLEANING for general requirements for final cleaning.

Clean all light fixtures, lamps and lenses prior to final acceptance. Replace all inoperative lamps.

END OF SECTION 16001
CONTINUED

SECTION 16050 - BASIC MATERIALS AND METHODS

RELATED DOCUMENTS
The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions; Division 0) and Division 1 as appropriate, apply to the work specified in this section.

Refer to Division 16, Electrical, as well as the specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding electrical work.

PRODUCTS

WIRE (600 VOLT AND BELOW)
All conductors used in the work shall be soft drawn annealed copper having a conductivity of not less than 98% of pure copper. Conductors shall be standard code gauge in size, insulated, and shall have insulation rated for use at 600 volts.

Unless otherwise noted or specified, insulation shall be Type THWN. Wires shall be of the single conductor type and shall be stranded. Wire insulation shall not contain any asbestos materials.

Throughout the system, conductors shall be identified as to phase and voltage of system by color-coding. Color-coding shall be continuous the full length of wire No. 8 and smaller. On larger sizes, identification by permanent paint bands or tags at outlets will be acceptable. Surface printing at regular intervals on all conductors shall indicate manufacturer, size, voltage, and insulation type. White or gray colored insulation shall be used for grounded conductors and only for grounded conductors.

The color code assigned to each phase wire shall be consistently followed throughout the project. The following systems of color-coding shall be strictly adhered to:

1. 208/120 V Systems
   (a) Grounding leads green
   (b) Grounded neutral leads white
   (c) Ungrounded phase wires black, red and blue

Where multiple neutral conductors are installed in a common raceway, the neutral conductor for each circuit shall be separately identified in accordance with NEC Article 200.

CONDUIT
Unless otherwise specified or shown on the drawings, all conduit shall be electrical metallic tubing (EMT), as noted in the paragraphs below.

All conduit shall be new and shall bear the inspection label of the Underwriters Laboratories, Inc. (U.L.).

Fittings for EMT shall be hot-dipped galvanized and shall be of an approved type specially designed and manufactured for their purpose.

Metallic conduit shall be metallized, sheradized, or hot-dipped galvanized.

LABELS

Continued
All switchboards, panelboards, starters, VFD=s, contactors, transformers, safety switches and fused safety switches which are modified as part of this contract shall have plastic tags with 1/4" characters embossed thereon identifying the equipment by name, voltage, ampacity, phase and number of current carrying conductors such as:

Panel Name
120/208 V - 400A
3 Phase - 4 Wire
Fed From Panel:_____________. Circuit______________

The tags shall be fixed to the center of the exterior of the panelboard door with heavy duty industrial grade suitable adhesive.

**FUSES**

Unless otherwise noted or specified, all fuse holders shall be equipped with dual-element, time-lag, and current limiting fuses. Provide one (1) spare set of fuses for each size initially installed, with a minimum of three (3) fuses of each size. Spare fuses shall be turned over to the Owner's maintenance supervisor prior to requesting substantial completion inspection.

Fuses shall be Gould, Bussman, or approved equivalent.

**EXECUTION**

**WIRE (600 VOLT AND BELOW)**

Service entrance, feeders, and motor circuit conductors shall be run their entire length without joints or splices. Splices and joints in branch circuit wiring shall be only at outlets or in accessible junction boxes.

Joints and splices in branch circuit wiring shall be made with compression type solderless connectors. Connectors of the nonmetallic screw on type are not acceptable. Terminations or splices for conductors #6 AWG and larger shall utilize Square D class 9080 or equivalent power distribution blocks.

Unless otherwise specified, all wiring shall be installed in conduit.

Where the length of a home run, from panel to the first outlet exceeds 75 feet (75') for 120 volt circuits or 175 feet (175') for 277 volt circuits, the conductor size shall be No. 10 AWG or that shown on the drawings, whichever is larger.

For all 3-phase circuits, contractor shall provide and install a full size neutral conductor and a grounding conductor for a complete 5-wire circuit. If the neutral conductor is not required by the equipment, contractor shall install wire nuts on each end of the neutral conductor for future use.

**CONDUIT**

All conduits shall be installed as indicated or scheduled on the drawings and shall be of sufficient size to accommodate the required number of insulated conductors including equipment-grounding conductor. A grounding conductor shall be pulled in every raceway and properly terminated. The Contractor shall increase the conduit size from that shown on the drawings where necessary to accommodate the equipment-grounding conductor.

Conduit runs shall be straight; elbows and bends shall be uniform, symmetrical, and free from dents or flattening. All conduit shall be installed with runs parallel or perpendicular to walls, ceilings and structural members.

Continued
Conduit shall not be run nearer to covering of hot water or steam pipes closer than three inches (3") except where crossings are unavoidable. Conduit shall be kept at least one inch (1") from covering of pipe crossed and the conductor size shall be increased one (1) size.

Conduit shall be held securely in place by approved hangers and fasteners of appropriate design and dimensions for the particular application. Support shall be such that no strain will be transmitted to the outlet box and/or pull box supports. Conduit shall be secured only to the building structure.

All conduit runs shall be installed in accordance with all applicable sections of the National Electrical Code and local codes or ordinances.

**MANUFACTURER=S DIRECTION**
Contractor shall be responsible for coordinating all aspects of equipment electrical service installation for all electrical gear, devices, mechanical, plumbing and owner furnished equipment. Contractor shall obtain and review actual manufacturer=s installation instructions and shall install electrical facilities to said equipment in accordance with the instructions, NEC, NFPA and contract documents. Should a discrepancy exist between the manufacturer=s installation directions and the contract documents, the engineer shall be notified in writing immediately.

All electrical terminations shall be properly tightened to manufacturer=s specifications. Where manufacturer=s specifications are not available, contractor shall refer to the NEC and adjust tightness valves (torque) to the NEC published valves.

END OF SECTION 16050
NEW IBERIA RESEARCH CENTER
BUILDING 10A
DOAS REPLACEMENT

SEPTEMBER 2019

PREPARED BY:

ADG ENGINEERING

ADG Project Number: 19195