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PURCHASING DEPARTMENT

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Addendum Number 1

April 23, 2021

HVAC Upgrades 2nd. Floor (Temperature Controls)
Southern University and A&M College
Southern University Law Center
Baton Rouge, Louisiana 70813

Bid # 31000 10:30 A.M. May 7, 2021

The following modifications to the referenced project shall be incorporated into the original specifications and/or plans. Unless a change is specifically made by addendum, the specifications and/or plans as issued, shall govern.

Note: Vendors are required to acknowledge receipt of this addendum on the Louisiana Uniform Public Work Bid Form

Attachments:

- *Clarifications*
- *Additional Specifications*
- *Revised Drawings*
- *Attendees' List (Mandatory Pre-bid and Site Visit)*
- *Sign-in Sheet (Mandatory Pre-bid and Site Visit)*

Terry Steward

Terry Steward-Director of Purchasing

Williams & Williams Architecture, LLC

April 19, 2021

Southern University Law School HVAC Upgrades (Temperature Controls)

ADDENDUM No. 1

Items listed herein and plans/specifications attached are clarifications to existing documents provided for the reference project. Contractor shall consider this information to be part of the bid documents.

MECHANICAL ITEMS:

Specs:

Add the following attached specifications:

1. 23 05 15 Variable Frequency Drives

Clarifications:

1. Contractor shall provide static pressure sensors in duct systems with replaced VFD (in this contract). Sensor shall be located 2/3 downstream of the farthest trunk run.
2. Distech Controls is the Basis of Design for the BMCS controls system. The controls contractor shall be a factory authorized dealer of Distech controls per the building automation system spec section 23 09 00, article 2.2.
3. The controls contractor shall provide a Distech controller for the AHU and convert it from pneumatic to DDC.
4. The controls contractor shall provide a JACE to host graphics, trends, and alarms for the new VAV boxes.
5. The new Building automation system shall seamlessly integrate to the existing Distech front end for the university. Any/all software keys/subscriptions shall be included for the life of the system (no exceptions). The controls contractor shall cover all first costs associated with graphics and user interface at the front end. The contractor shall not leave any "open ends" regarding additional costs to integrate the system once the project is complete.

Drawings:

1. <u>M100 PARTIAL 2nd FLOOR MECHANICAL PLAN</u>

    a. Refer to attached revised sheet for additional VAV box 55B and associated ductwork.

2. M101 PARTIAL 2nd FLOOR HYDRONIC PLAN

   a. Refer to attached revised sheet for additional new VAV box 55B and associated hydronic piping.

3. M200 MECHANICAL SCHEDULES

   a. Refer to attached revised sheet for additional VAV box.

ELECTRICAL ITEMS:

Clarifications:

1. Connect the new VAV-2-55B to a new 20A/1P circuit breaker in panel "H2A" with ¾"C. 2#12, 1#12 GRD THHN CU.
2. The AIC for panel H2A shall be 45k, minimum.
3. As a clarification, the SPD for panel H2A shall be internally mounted and the associated breaker shall be installed immediately adjacent to the SPD.
4. For keyed electrical note #5 on sheet E200, change as required to read: "DISCONNECT AND REMOVE THE EXISTING DISCONNECTING MEANS CURRENTLY SERVING THE AIR HANDLER. INSTALL AND CONNECT THE VFD (FURNISHED AND INSTALLED BY DIVISION 15) TO THE EXACT SAME CIRCUIT WHICH PRESENTLY FEEDS THE AIR HANDLER FOR POWER AND CONTROL.

PRIOR APPROVAL:

NOTE: Acceptance of a particular manufacturer does not excuse that particular manufacturer from meeting the plans and specification. Compliance with specifications is the responsibility of the prior approval manufacturer.

Product	Manufacturer
Constant Volume Boxes	JCI, Krueger, Nailor

Bid date remains unchanged

Attachments: DWG., M100, M101, M200, spec section 23 05 15 Variable Frequency Drives

Contractor shall acknowledge receipt of addendum 1

END OF DOCUMENT

SECTION 230515

VARIABLE FREQUENCY DRIVES (VFD)

1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Variable Frequency Drive (VFD)
2. Options, including bypass

1.2 REFERENCES

A. UL 508

B. UL 94

C. CSA 22.2 no.14

D. NEMA ICS 3, ICS 4

E. IEEE 444 (ANSI-C343)

F. IEEE 519-1981

G. IEC 146A

1.3 SUBMITTALS

A. Product Data

1. General description
2. Ratings and weights

B. Shop Drawings

1. Outline dimensions
2. Mounting points
3. Interconnecting wiring diagrams

C. Manufacturer's Installation Instructions

1. Installation methods
2. Connection points

2 - PRODUCTS

2.1 MANUFACTURERS

A. MagneTek

B. Allen Bradley.

C. ABB

D. GE

E. Yaskawa

F. Danfoss

2.2 VARIABLE FREQUENCY DRIVE (VFD)

A. DESCRIPTION: VFD converts fixed frequency utility power into adjustable frequency power necessary to operate three phase AC motors at variable speed. VFD incorporates microprocessor logic to ease user set up for application functions.

B. OPERATING PRINCIPLE: Input three phase AC line voltage is first rectified to a fixed DC voltage. Using pulse width modulation (PWM) inverter technology, the DC voltage is processed to produce an output voltage waveform in a series of variable width pulses. Because of high frequency of these voltage pulses, output current closely approximates a true sinusoidal waveform.

C. SERVICE CONDITIONS:

1. Operating ambient temperature - 10 to 40 C
2. Storage temperature - 20 to 60 C
3. Relative humidity to 90 % noncondensing
4. Vibration 1 G max under 20 Hz; 0.2 G at 20 to 60 Hz.

D. STANDARD ENCLOSURE:

1. Power electronics and control electronics housed in NEMA 1 wall mount enclosure.

E. ELECTRO-MECHANICAL CONSTRUCTION:

1. Input voltage 460 volt model for nominal (+/-10%), 460 VAC systems.
2. Output current overload rating of 125% of motor FLA for 1 minute.
3. Voltage source design using PWM inverter technology.
4. Microprocessor based control circuit generating sine coded PWM output current waveform.
5. Non-volatile memory (NV RAM); all programming is maintained when disconnected from power.
6. Corrects displacement power factor to 98 % throughout the motor speed range and eliminates power line notching, through the use of diode bridge input section or power factor correction capacitors and isolation transformer.

7. Input phase insensitive, sequencing of the 3 phase input lines is not required.
8. Capable of single phase input operation - requires 50% drive derating and a three phase motor on the output.
9. Fused DC bus with capacitive filtering.
10. Insulated Gate Bipolar Transistors (IGBT) output, allowing motor noise, at 60 Hz, less than 2 dB (@ 1 meter) above that resulting from across the line operation. The VFD manufacturer must provide output reactor to reduce noise.
11. Three current transformers detect the output current to provide: Electronic thermal overload protection, Three phase current limit, Ground fault protection, Short circuit protection and Speed search capability.
12. Surface mount technology with conformal coating provides 100,000 Hrs MTBF at the specified service conditions.
13. Digital operator keypad and display provides local control and readout functions -or- provide individual meters for readout and PLC for terminal status indication:

    a. Run / Stop / Jog commands.
    b. Speed command.
    c. Reset command.
    d. Output frequency meter and speed command meter, which can be programmed for other speed related indications including, RPM, CFM, FPM and, % max. RPM.
    e. Volt meter, Amp meter, Kilowatt meter functions.
    f. Input and output terminal status indication.
    g. Diagnostic indication.

14. Power electronics provides efficiency of 97% minimum.
15. Materials of construction UL 94-V0 rated.
16. Physical size and weight.

    a. Less than 180 cubic inches/horsepower for 5 to 75 HP drives.
    b. Less than 5 pounds/horsepower for 5 to 75 HP drives.

F. PERFORMANCE FEATURES:

1. Output frequency and voltage modulation with selectable volts/hertz ratio for optimum variable torque output.

    a. Output frequency from 0 to 400 Hz.
    b. Output voltage from 0 to motor rated voltage.

2. Fixed carrier frequency programmable up to 15 KHz, allowing motor noise, at 60 Hz, less than 2 dB (@ 1 meter) above that resulting from across the line operation -or- output reactor must be provided to reduce noise.
3. Compatible with standard NEMA B motors.
4. UL listed.
5. Lock out reverse operation.
6. Drive defaults to 80% of last speed through internal logic.
7. Soft start, linear or S-curve function.
8. Ramp to stop or coast to stop selection.
9. Provide braking through DC injection with voltage level, current limit and duration adjustable, and selectable for either stop, deceleration braking or braking before start,

anti-windmill braking.

10. Critical frequency rejection capability in 3 ranges with adjustable span of 0 to 10 Hz to avoid possible vibration problems at driven equipment resonant frequencies.
11. 2 second momentary power loss ride thru (drive logic is maintained).
12. Auto restart, up to 10 attempts.

    a. Start into free running (coasting) motor via speed search feature.

13. High starting torque capability for high inertia loads.
14. Full range auto torque boost for high inertia loads.
15. Stall prevention.
16. Standard frequency reference (speed) input signals; 0-10 Vdc, 4-20 mA.
17. Accepts reverse or direct acting frequency reference input signal.
18. Programmable bias and gain for frequency reference input signal.
19. External fault input (i.e. firestat or freezestat) programmable to command ramp to stop, coast to stop, emergency stop or continue operation.
20. Speed search to start a rotating motor and load.
21. Terminals and programming for remote run/stop and speed reference.
22. Remote operation run/stop, 2 wire or 3 wire control.
23. Local/remote operation input via contact closure.
24. Analog output (0 to 10 Vdc) proportional to frequency or current.
25. Run/fault output contacts (1 amp resistive) selectively activated at initial fault occurrence or after final auto restart attempt.
26. Stall prevention by reducing output voltage and frequency during momentary overload. Automatically resume normal operation when overload clears.
27. Digital diagnostic indication and protection for:

    a. DC bus undervoltage and overvoltage.
    b. Load over torque.
    c. Fuse blown.
    d. Motor overload.
    e. Heatsink over temperature.
    f. Instantaneous over current.
    g. Operator error.
    h. Central processor fault.
    i. External fault.
    j. Dynamic braking fault.

G. ADJUSTMENTS AND PROGRAMMABILITY:

1. Incremental / Floating Point control.

    a. One contact closure input causes acceleration for duration of the closure, another causes deceleration. When both switches are open the last speed command is held.

2. Factory default settings for most common HVAC applications. These settings can be easily re-established thru a reset code.
3. Program security code.
4. 30 operational changes possible in control and display functions without stopping the drive including:

a. Acceleration and deceleration time.
b. Frequency command.
c. Frequency command bias and gain.
d. Multi-step speed references.
e. Jog reference.
f. Monitor display.

5. Two independent, selectable acceleration/deceleration ramp times.
6. Acceleration time from .1 to 6000 seconds.
7. Deceleration time from .1 to 6000 seconds.
8. Maximum and minimum output frequency from 0 to 400 Hz.
9. Programmable upper and lower frequency limits.
10. 15 pre-set selectable Volts/Hertz (V/Hz) patterns plus 1 custom pattern.
11. Auto speed reference (instrument follower) input signal adjustable for bias and gain.
12. Programmable start and stop ramp time.
13. Four programmable multi-function input terminals.
14. Multi-function output contacts programmable for:

a.	Run mode	Zero speed detect
b.	Overtorque detect	Coast to stop detect
c.	Run reference mode	Speed reference mode
d.	Output frequency detect	Speed synchronization
e.	Low voltage detect	Operation ready
f.	Speed reference missing	Braking resistor fault
g.	Drive fault	Firestat/freezestat.

15. Adjustable torque and current limit from 0 to 170%.
16. Ramp to stop or coast to stop selection.
17. Adjustable upper and lower frequency limits independent of pre-set V/Hz pattern.
18. Programmable lock out code, to prevent operator access to parameter settings.
19. 9 selectable pre-set speed programming capability.
20. Programmable jog speed.

2.3 COMPONENTS

A. Input section - VFD power input stage converts three phase AC line power into a fixed DC voltage via a solid state full wave diode rectifier with metal oxide varistor (MOV) protection.

B. Intermediate section - DC bus maintains a fixed DC voltage with filtering and short circuit protection as a DC supply to the VFD output section. It is interfaced with the VFD diagnostic logic circuit to continuously monitor and protect power components.

C. Output section - Insulated gate bipolar transistors (IGBT) convert DC bus voltage to variable frequency and voltage PWM sine coded output to the motor.

2.4 ACCESSORIES / OPTIONS

A. Bypass control allows operation of the motor across the line should the VFD require service:

1. Bypass and drive are factory assembled and electrically interlocked.
2. VFD can be removed with bypass control left in place.
3. NEMA 1 enclosure.
4. Door interlocked disconnect.
5. VFD input contactor.
6. VFD output contactor.
7. Bypass contactor.
8. Overload relay.
9. 115 VAC control transformer.
10. Safety circuit terminal strip.
11. Drive-Off-Line selector.
12. Power on light.
13. VFD select light.
14. Line select light.

B. Manufacturers startup service.

C. Input circuit breaker disconnect.

D. Input fusing.

E. Input interface for digital (parallel) speed reference input signal.

F. NEMA 1 enclosure.

G. Operator controls, custom, remote.

H. Serial interface.

I. Set point controller (PID).

J. Transformer, isolation.

2.5 SOURCE QUALITY CONTROL

A. Mean time between failure (MTBF) 100,000 hours minimum.

B. In-circuit testing of all printed circuit boards.

C. Printed circuit boards burned in for 96 hours at 85 C.

D. Functional testing of printed circuit boards after burn in.

E. Fully assembled VFD tested with induction motors.

F. All integrated circuits tested to .5% AQL acceptance criteria.

2.6 DRIVES SCHEDULE

A. Rated input voltage 460 VAC.

B. Variable torque horsepower 7.5 hp.

C. Maximum continuous output current 11 amps.

3 - EXECUTION

3.1 INSTALLATION AND STARTUP OF EQUIPMENT

A. Per manufacturer's installation and technical manual.

B. Manufacturer's application engineering department to be accessible for consultation during startup.

END OF SECTION 230515

1 PARTIAL FLOOR PLAN - 2ND FLOOR
SCALE: 3/32" = 1' - 0"

MECHANICAL PARTIAL FLOOR PLAN NOTES:

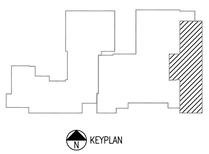
1. NEW SERIES FLOW FAN POWERED TERMINAL UNIT WITH HW REHEAT COIL, SUSPEND FROM STRUCTURE WITH ALL THREAD & UNISTRUT. VERIFY INLET SIZE WITH SCHEDULE. LOW PRESSURE S/A DUCT SHALL BE 12X12 UNLESS OTHERWISE NOTED ON THE FLOOR PLAN. THE R/A DUCT & BYPASS DUCT MUST BE THE SAME SIZE AS THE S/A DUCT. TYPICAL FOR ALL NEW TERMINAL UNITS.
2. R/A DUCT OPEN TO CEILING PLENUM ABOVE CORRIDOR. TYPICAL FOR ALL NEW TERMINAL UNITS.
3. EXISTING MEDIUM PRESSURE S/A TRUNK TO REMAIN.
4. EXISTING HWS&R PIPING TO REMAIN.
5. REPAIR & REINSULATE EXISTING 48X36 S/A DUCTWORK IN MECHANICAL ROOM, VERIFY EXACT SIZE.
6. REPLACE EXISTING VFD, VERIFY EXACT SPECIFICATIONS OF EXISTING & MATCH IN KIND.

GENERAL MECHANICAL NOTES:

1. EXISTING CONTROL SYSTEM IN BUILDING IS PNEUMATIC. CONTRACTOR SHALL PROVIDE NEW BACNET DDC CONTROLS WITH ALL NEW UNITS. EQUIPMENT SHALL BE INITIALLY SETUP WITH LOCAL CONTROL BUT MUST BE CAPABLE OF SEAMLESS INTEGRATION TO A DDC CONTROL SYSTEM (TO BE INSTALLED IN THE FUTURE). NEW DDC THERMOSTAT SHALL INDEPENDENTLY CONTROL THE RESPECTIVE FAN POWERED TERMINAL UNIT DAMPER & HOT WATER CONTROL VALVE. ALL NEW CONTROL VALVES ON UNITS MUST BE 3-WAY VALVE.

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	S/A	SUPPLY AIR
	R/A	RETURN AIR
	CFM	CUBIC FEET PER MINUTE
	B-250	DIFFUSER IDENTIFICATION, NECK SIZE-CFM
	–	NEW WORK
	–	EXISTING WORK TO REMAIN
	–	NEW EQUIPMENT
	–	S/A DIFFUSER, SEE SCHEDULE FOR SIZE
	–	R/A GRILLE, SEE SCHEDULE FOR SIZE
	–	AIR EXTRACTOR & MANUAL VOLUME DAMPER
1	–	GENERAL NOTE
T	–	PROGRAMMABLE THERMOSTAT IN LOCK BOX
	–	POINT OF CONNECTION, TYPICAL ALL NEW UNITS



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SU LAW SCHOOL HVAC UPGRADES 2ND FLOOR PHASE 1

SOUTHERN UNIVERSITY
BATON ROUGE, LA

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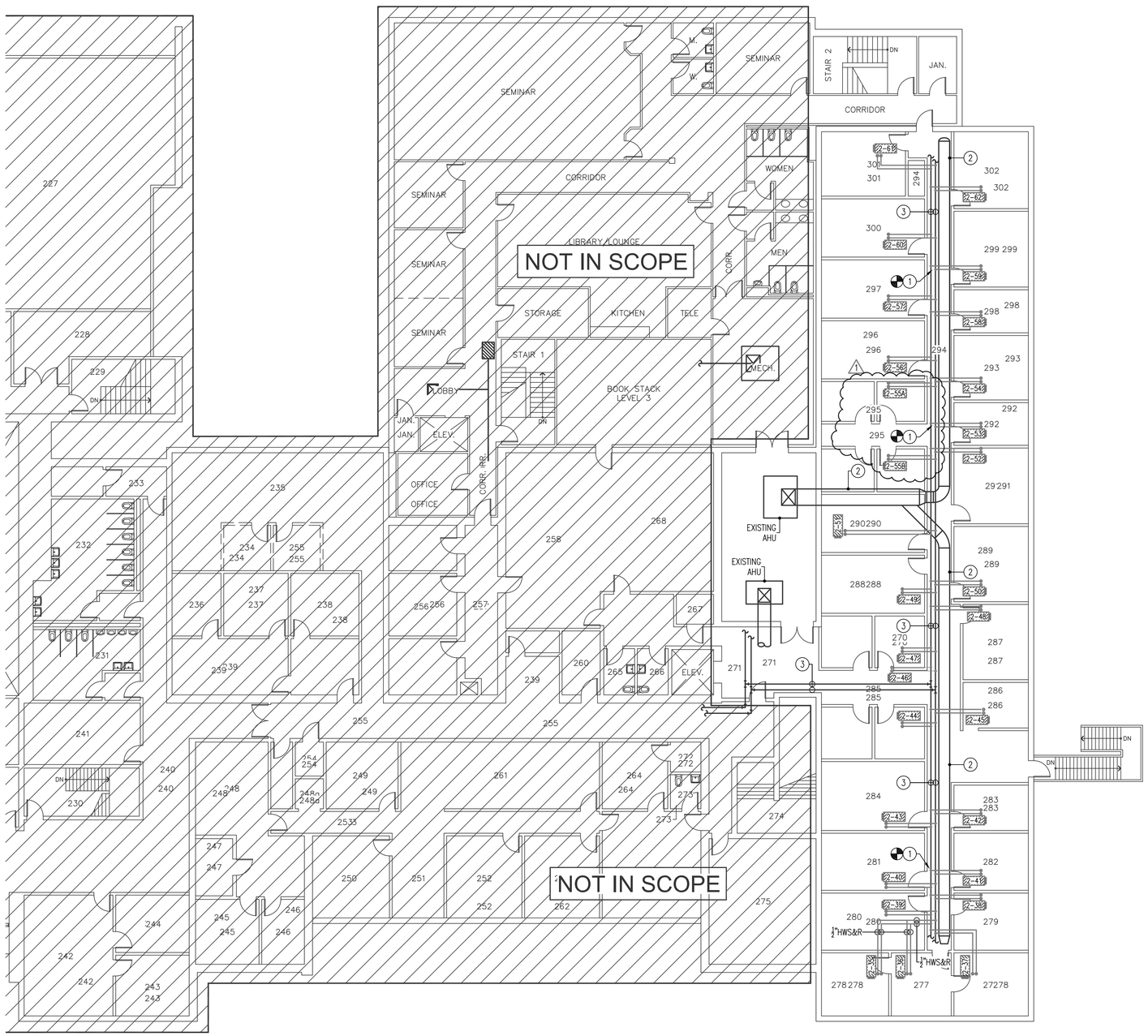
2ND FLOOR MECHANICAL PLAN

SHEET NO.

M100

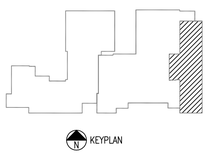


1 PARTIAL FLOOR PLAN - 2ND FLOOR HYDRONIC PIPING
SCALE: 3/32" = 1' - 0"

MECHANICAL PARTIAL FLOOR PLAN NOTES:

1. TIE NEW HWS/R PIPING INTO EXISTING MAIN LINES, VERIFY EXACT LOCATION, SIZE, & FLOW DIRECTION PRIOR TO CONSTRUCTION. TYPICAL FOR ALL NEW UNITS.
2. EXISTING MEDIUM PRESSURE S/A TRUNK TO REMAIN.
3. EXISTING HWS/R PIPING TO REMAIN.

MECHANICAL LEGEND		
SYMBOL	ABBREVIATION	DESCRIPTION
	HWS	HOT WATER SUPPLY
	HWR	HOT WATER RETURN
	–	NEW WORK
	–	EXISTING WORK TO REMAIN
1"HWS&R	–	PIPE SIZE
1	–	GENERAL NOTE
	–	POINT OF CONNECTION, TYPICAL ALL NEW UNITS



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SEAL

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FRANK S. THOMPSON
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PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING
4-19-21

SU LAW SCHOOL HVAC UPGRADES 2ND FLOOR PHASE 1

SOUTHERN UNIVERSITY
BATON ROUGE, LA

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DRAWING TITLE

2ND FLOOR MECHANICAL PLAN

SHEET NO.

M101

TERMINAL UNIT W/HOT WATER REHEAT COIL SCHEDULE

BOX ID	CFM RANGE MIN/MAX	INLET SIZE	MAX P.D.	HEATING COIL									ELECTRICAL			MANUFACTURER
				CFM	MBH HEATING	AIR TEMP.(F°)		GPM	WATER TEMP.(F°)		WATER P.D.	PIPE SIZE	ELECT. SERVICE	HP	FLA	
						EAT	LAT		EWT	LWT						
2-35	50/180	4"ø	.5"	180	4.90	65.0	89.70	0.25	140.0	98.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-36	50/180	4"ø	.5"	180	4.90	65.0	89.70	0.25	140.0	98.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-37	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-38	50/190	4"ø	.5"	190	5.20	65.0	89.80	0.30	140.0	98.80	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-39	50/215	4"ø	.5"	215	6.00	65.0	90.40	0.35	140.0	101.00	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-40	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-41	50/190	4"ø	.5"	190	5.20	65.0	89.80	0.30	140.0	98.80	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-42	50/190	4"ø	.5"	190	5.20	65.0	89.80	0.30	140.0	98.80	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-43	50/230	4"ø	.5"	230	6.40	65.0	90.30	0.35	140.0	100.80	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-44	50/150	4"ø	.5"	150	4.20	65.0	90.00	0.60	140.0	126.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-45	50/190	4"ø	.5"	190	5.20	65.0	89.80	0.30	140.0	98.80	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-46	66/320	6"ø	.5"	320	8.80	65.0	90.00	0.50	140.0	104.40	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-47	50/150	4"ø	.5"	150	4.20	65.0	90.00	0.60	140.0	126.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-48	50/200	4"ø	.5"	200	5.50	65.0	89.90	0.30	140.0	99.50	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-49	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-50	50/225	4"ø	.5"	225	6.10	65.0	89.60	0.35	140.0	100.40	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-51	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-52	50/225	4"ø	.5"	225	6.10	65.0	89.60	0.35	140.0	100.40	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-53	50/165	4"ø	.5"	165	4.60	65.0	90.00	0.75	140.0	127.50	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
1 2-54	50/205	4"ø	.5"	205	5.50	65.0	89.50	0.30	140.0	99.20	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-55A	50/200	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-55B	50/200	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-56	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-57	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-58	50/165	4"ø	.5"	165	4.60	65.0	90.00	0.75	140.0	127.50	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-59	50/225	4"ø	.5"	225	6.10	65.0	89.60	0.35	140.0	100.40	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-60	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-61	50/210	4"ø	.5"	210	5.80	65.0	90.00	0.30	140.0	100.10	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR
2-62	50/240	4"ø	.5"	240	6.50	65.0	89.50	0.35	140.0	100.3	6'	1/2"	277/1ϕ/60	1/4	2.3	PRICE FDC, TITUS DTFS, ENVIRO TEC CFR

1. UNIT MUST COME PROVIDED WITH ECM MOTOR & INTEGRAL DISCONNECT

GRILLE SCHEDULE

MARK	SERVICE	REMARKS	CFM SIZE	FACE SIZE	NECK		CONSTRUCTION MATERIAL	MANUFACTURER	MODEL NUMBER	NOTES
					TYPE	SIZE				
SA	SUPPLY	LAY-IN PANEL/SURFACE MOUNT LOUVER FACED	0-130	24"X24"	ROUND	6"ø	ALUMINUM	PRICE/TITUS/NAILOR	ASCD/TMS/ARNS	1,2,3,4
SB	SUPPLY	LAY-IN PANEL/SURFACE MOUNT LOUVER FACED	130-220	24"X24"	ROUND	8"ø	ALUMINUM	PRICE/TITUS/NAILOR	ASCD/TMS/ARNS	1,2,3,4
SC	SUPPLY	LAY-IN PANEL/SURFACE MOUNT LOUVER FACED	220-320	24"X24"	ROUND	10"ø	ALUMINUM	PRICE/TITUS/NAILOR	ASCD/TMS/ARNS	1,2,3,4
SD	SUPPLY	LAY-IN PANEL/SURFACE MOUNT LOUVER FACED	320-600	24"X24"	ROUND	12"ø	ALUMINUM	PRICE/TITUS/NAILOR	ASCD/TMS/ARNS	1,2,3,4
RA	RETURN	EGGCRATE GRILLE WITH 1/2"X1/2"X1" CORE	0-2160	24"X24"	RECT.	24"X24"	ALUMINUM	PRICE/TITUS/NAILOR	81/50F/51EC	1,2,3

1. COORDINATE LOCATION OF DIFFUSER WITH ARCHITECTURAL REFLECTIVE CEILING PLAN TO AVOID ANY CONFLICTS WITH LIGHTS, AUDIO EQUIPMENT, & OTHER CEILING/WALL APPURTENANCE.
2. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING FOR SURFACE OR LAY-IN MOUNTING.
3. DIFFUSER/GRILLE COLOR MUST BE COORDINATED WITH ARCHITECTURAL FINISH SCHEDULE PRIOR TO BID/ORDERING TO MATCH CEILING OR WALL.
4. DIFFUSER TO BE FURNISHED & INSTALLED WITH FOIL-BACKED R-6 INSULATION.

ADG BATON ROUGE, LLC
CONSULTING ENGINEERS
3071 TEDDY DRIVE | BATON ROUGE, LA 70809
(225)293-9474 | ADGBR@ADGINC.ORG
Frank Saville Thompson - License No. 28854
Michael Lee Terry III - License No. 42812
PROJECT N19-189

WWA

ARCHITECT:
WILLIAMS & WILLIAMS ARCHITECTURE, LLC
9829 SIEGEN LANE
BATON ROUGE, LA 70812
225.202.4552

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SEAL

STATE OF LOUISIANA
FRANK S. THOMPSON
REG. NO. 28854
PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING
4-19-21

SU LAW SCHOOL HVAC UPGRADES 2ND FLOOR PHASE 1

SOUTHERN UNIVERSITY
BATON ROUGE, LA

ISSUE & DATE	
PRELIMINARY SET .	01/08/2021
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CHECKED	. BPB
PO NO.	.
PROJECT NO.	.

DRAWING TITLE

MECHANICAL SCHEDULES

SHEET NO.

M200

BID #31000 | VENDORS WHO ATTENDED THE MANDATORY PRE-BID & SITE VISIT
HELD APRIL 15, 2021 @ 10:30 AM

License #37074 Byrnes Mechanical Contractors, Inc. 115 Ridgedale Drive West Monroe, LA 71291 Contact: Rodney Bundy Email: rodney@byrnesmechanical.com Phone: (318) 397-8552	License #69284 Building Systems Integrators, LLC 205 North Park Drive Monroe, LA 71203 Contact: Michael Ebarb Email: mebarb@bsiddc.com Phone: (214) 727-0228
License #20116 Moore Industries, LLC 10037 Barringer Foreman Road Baton Rouge, LA 70809 Contact: Lance Miller Email: lmiller@moorusa.com Phone: (225) 751-4120	License #27225 Watson Mechanical Services, Inc. 1743 Dallas Drive Baton Rouge, LA 70806 Contact: Danny Hubbs Email: danny@watsonmechanical.com Phone: (225) 923-1930 | (225) 927-0242
License #14733 Louisiana Controls, Inc. 2332 Chatawa Drive Baton Rouge, LA 70815 Contact: Tommy Reed Email: treed@louisianacontrols.com Phone: (225) 924-4990	License #45715 C – CO Mechanical, LLC 12164 Trails End Jarreau, LA 70749 Contact: Stewart Woods Email: C-comech@bellsouth.net Phone: (225) 753-6504
License #20116 Moore Industries, LLC 10037 Barringer Foreman Road Baton Rouge, LA 70809 Contact: Mike Brown Email: mbrown@mooreusa.com Phone: (319) 693-8230	License #66955 Ronald Johnson Investments, LLC 6925 Garland Avenue Baker, LA 70714 Contact: Ronald T. Johnson, Jr. Email: rtjohnson55@gmail.com Phone: (225) 279-1277
License #67633 Trenchcore Inc. 304 Anita Street Brusly, LA 70719 Contact: Rodrick Dupre Email: rdupre@trenchcore.com | company@trenchcore.com Phone: (225) 938-9972	License #11398 Corporate Mechanical Contractors 7070 Exchequer Drive Baton Rouge, LA 70809 Contact: David Rhodus Email: david.rhodus@callcmc.com Phone: (225) 413-4734

BID #31000 | VENDORS WHO ATTENDED THE MANDATORY PRE-BID & SITE VISIT
HELD APRIL 15, 2021 @ 10:30 AM

License #29848 Volute, Inc. 313 Venture Blvd. Houma, LA 70360 Contact: Nicholas Trosclair Email: nick@coastalvolute.com Phone: (985) 876-6187 | (985) 876-6251	License #23795 Calcasieu Mechanical Contractors, Inc. 201 Annonce St. Lafayette, LA 70507 Contact: David Broussard Email: dbroussard@calmech.net Phone: cell (337) 912-7986 | fax (337) 235-2008
License #13082 WYE Electric, Inc. P. O. Box 215 West Monroe, LA 71294 Contact: Les Reppond Email: lreppond@wyeelectric.com Phone: Cell (318) 355-4274 | (318) 322-0145	License #62805 Bernhard MCC, LLC 13641 Airline Hwy. Baton Rouge, LA 70817 Contact: Scott Fearnow Email: sfearnow@bernhard.com Phone: (337) 509-7729
License #62805 Bernhard MCC, LLC 13641 Airline Hwy. Baton Rouge, LA 70817 Contact: Rick Jarreau Email: rjarreau@bernhard.com Phone: (225) 938-1768	ARCHITECT Williams & Williams Architecture, LLC 9829 Siegen Lane Baton Rouge, LA 70810 Contact: Danny Williams Email: dwilliams@wwarchitecturellc.com Phone: (225) 202-4552
ENGINEER ADG Engineering 3071 Teddy Drive Baton Rouge, LA 70809 Contact: Bryan Brown Email: bbrown@adginc.org Phone: (225) 293-9474	

PRE-BID & Site Visit: APRIL 15, 2021 @ 10:30 AM
SOUTHERN UNIVERSITY AND A & M COLLEGE - LAW CENTER
Site Visit Location: CHANCELLOR'S CONFERENCE ROOM #275, 403 ROOSEVELT STEPTOE AVENUE
Name of Bid: HVAC UPGRADES (TEMPERATURE CONTROLS) -BID NUMBER 31000
PLEASE PRINT CLEARLY IN THE APPROPRIATE AREAS (IN INK ONLY)

COMPANY	REPRESENTATIVE (PLEASE PRINT)	ADDRESS (BOX#, STREET, CITY, STATE, ZIP)	EMAIL ADDRESS	PHONE & FAX NO.
Trenchcore	Rodrick Dupre	304 Anita St. Brusly, LA 70719	company@trenchcore.com Rdupre@trenchcore.com	225-938-9972
CMC	David Rhodus	7070 Exchequer Dr.	david.rhodus@cellcmc.com	225-413-4734
Volute Inc	Nicholas Trosclair	313 Venture BLVD Houma, LA 70360	nick@coastalvolute.com	985-876-6187 985-876-6251
CALCASIEU MECHANICAL CONTRACTORS, INC.	DAVID BROUSSARD	201 ANNONCE ST. LAFAYETTE, LA 70507	DBROUSSARD@CALMECH.NET	337-912-7986 cell 337-235-2008 FAX
WYE Electric	Les Reppond	P.O. Box 215 West Monroe, LA 71294	lreppond@WYEElectric.com	318-355-4274 cell 318-322-0145

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ADG-BR	Bryan Brown	3071 Teddy Dr Baton Rouge, 70809	bbrown@adg-inc.org	(225) 293-9474
Byrnes Mechanical	Rodney Bundy	115 Ridgedale Drive West Monroe, LA 71291	rodney@byrnesmechanical.com	(318) 397-8552
~~[illegible]~~				
Building Systems Integrators	Michael A Webb	205 North Park Dr. Monroe, LA 71203	mcbarb@bsidslc.com	214-727-0228
Moore Industries	Lance Miller	10037 Bettinger Foreman Rd. Baton Rouge, La 70809	LMiller@MooreUSA.com	(225) 751-4120
WWA	Danny Williams	9829 Siegen Ln Baton Rouge, LA 70812	dwilliams@wwarchitecturellc.com	225 2024552
Watson Mechanical	Danny Hubbs	1743 Dallas Drive, B.R. 70806	danny@watsonmechanical.com	225-923-6930 225-927-6242
Louisiana Controls	Tommy Reed	2332 Chatawa Dr. B.R. 70815	treed@louisianacontrols.com	225-924-4990

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COMPANY	REPRESENTATIVE (PLEASE PRINT)	ADDRESS (BOX#, STREET, CITY, STATE, ZIP)	EMAIL ADDRESS	PHONE & FAX NO.
C-CO Mechanical	Stewart Woods	12164 trails end Jarreau, LA 70749	C-comech@bellsouth.net	225-753-6504
Moore Industries LLC	Mike Brown	10037 Barringer Ferry Rd	mbrown@moreusa.com	589.693.8230
Bernhard	Scott Fearnow	13641 Airline Hwy - BR	SFEARNOW@Bernhard.com	337-501-7729
Bernhard	Rick Jarreau	13641 Airline Hwy. BR	RJarreau@Bernhard.com	225-938-1768
Ronald Johnson Investments, LLC	Ronald T. Johnson Jr.	6925 Garland Ave. Baker, La	rtjohnson55@gmail.com	225.279.1277