

SECTION 00 91 14

ADDENDUM NUMBER 5

PARTICULARS

- 1.01 DATE: DECEMBER 23, 2020
- 1.02 PROJECT: ELMORE SPORTS MEDICINE RENOVATIONS
- 1.03 PROJECT NUMBER: DCM NO. 2020452; PSCA NO. 2018
- 1.04 OWNER: ALABAMA A&M UNIVERSITY
- 1.05 ARCHITECT: NOLA | VAN PEURSEM ARCHITECTS, PC



TO PROSPECTIVE BIDDERS

- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS DATED SEPTEMBER 3, 2020, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE PROPOSAL FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.
- 2.03 THIS ADDENDUM CONSISTS OF 12 PAGES.

CHANGES TO THE PROJECT MANUAL

3.01 PROJECT MANUAL COVER:

- A. Add PSCA Number 2018.

3.02 SECTION 00 22 00-OWNER'S SUPPLEMENTARY INSTRUCTIONS TO BIDDERS:

- A. Paragraph 1.03.B: Change paragraph to read as follows, "All sealed bids will be received by 2:00 p.m. CST on February 2, 2021 at which time each bidder must submit a sealed envelope properly titled containing the Proposal form, the Bid Bond, Accounting of Sales Tax - DCM Form C-3A form, Supplement C - List of Alternates, and **Affidavit A**. Upon receipt of these documents the bids will be publicly opened and read aloud. Supplement A – List of Subcontractors (section 00 43 21) and **Affidavit C** are to be hand delivered or emailed to the Architect within 24 hours after receipt of bids. No changes to the base bid will be allowed after 2:00 p.m.
- B. Add Paragraph 1.03.F to read as follows:
 - F. Alabama A&M University has requested that bidders make a good faith effort at Disadvantaged Business Enterprises (DBE) and Minority Owned Business participation. Affidavits A & Affidavit C are attached. Affidavit A is to be included with the bid. Affidavit C is to be provided within 24 hours of the bid. A list of DBE and Minority Owned businesses is available at: <https://cpmsapps2.dot.state.al.us/alucp/default.aspx#view=search>

C. Add Paragraph 1.03.G to read as follows:

G. DCM Form C-2: Change Paragraph 17.b.(1) to read as follows, "Award of contract by Awarding Authority – 60 calendar days after the opening of bids".

3.03 SECTION 01 21 00 – ALLOWANCES:

A. Paragraph 1.04.A – Change paragraph to read as follows, "Include the stipulated sum of \$50,000.00 for Owner's discretionary use."

3.04 SECTION 23 63 23 – WATER SOURCE HEAT PUMPS:

A. Delete this section in its entirety.

3.05 SECTION 23 73 12 – SPLIT SYSTEM AIR HANDLING UNITS:

A. Replace this section in its entirety.

CHANGES TO THE DRAWINGS

4.01 DRAWINGS COVER:

A. Add PSCA Number 2018.

4.02 SHEET M-1 – MECHANICAL FLOOR PLAN:

A. Replace this sheet in its entirety to reflect revised mechanical system.

4.03 SHEET M-2 – MECHANICAL FLOOR PLAN:

A. Replace this sheet in its entirety to reflect revised mechanical system.

4.04 SHEET M-3 – MECHANICAL PIPING PLAN:

A. Replace this sheet in its entirety to reflect revised mechanical system.

4.05 SHEET E-5 – ELECTRICAL POWER PLAN:

A. Replace this sheet in its entirety.

4.06 SHEET E-6 – ELECTRICAL EQUIPMENT POWER PLAN:

A. Replace this sheet in its entirety.

4.07 SHEET E-8 – ELECTRICAL SCHEDULES & RISER DIAGRAM:

A. Replace this sheet in its entirety.

END OF ADDENDUM NUMBER 5

AFFIDAVIT A

**Alabama A&M University
Affidavit of Good Faith Effort at DBE & Minority Participation**

Affidavit of _____

(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:

** A minimum of 5 areas must be checked in order to achieve a "good faith effort".*

- ☐ Contacted DBE & Minority Owned businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days (when possible) before the bid date and notified them of the nature and scope of the work to be performed.
- ☐ Made the construction plans, specifications and requirements available for review by prospective DBE & Minority Owned businesses or providing these documents to them at least 10 days (when possible) before the bids are due.
- ☐ Broken down or combined elements of work into economically feasible units to facilitate DBE & Minority Owned participation.
- ☐ Worked with DBE trade, community, or contractor organizations identified by the Office of Transportation that provides assistance in recruitment of DBE & Minority Owned businesses.
- ☐ Attended pre-bid meetings scheduled by the owner.
- ☐ Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☐ Negotiated in good faith with interested DBE or Minority Owned businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a DBE or Minority Owned business based on lack of qualification should have the reasons documented in writing.
- ☐ Provided assistance to an otherwise qualified DBE or Minority Owned businesses in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted DBE or Minority Owned businesses in obtaining the same unit pricing with bidder's supplies in order to help them in establishing credit.
- ☐ Negotiated joint venture and partnership arrangements with DBE or Minority Owned businesses in order to increase opportunities for DBE & Minority Owned business participation on a public construction or repair project when possible.
- ☐ Provided quick pay agreements and policies to enable DBE & Minority Owned contractors and suppliers to meet cash-flow demands.

The undersigned will enter into a formal agreement with the firms listed in Affidavit C conditional upon execution of a contract with the Owner. Failure to abide by this statutory provision will constitute a breach of contract.

The undersigned hereby certifies that he or she has read the terms of the DBE & Minority Owned business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

State of Alabama, County of _____

Subscribed and sworn to before me this _____ day of _____, 20_____

Notary Public _____

My commission expires _____

AFFIDAVIT C

Alabama A&M University Documentation of Good Faith Effort at DBE & Minority Owned Participation

If the goal of participation by DBE business is not achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of: _____
(Name of bidder)

I do certify the attached documentation as true and accurate representation of my good faith efforts.

	<u>NAME AND PHONE NUMBER</u>	<u>WORK DESCRIPTION</u>	<u>DOLLAR VALUE</u>
1.	_____	_____	\$ _____
2.	_____	_____	\$ _____
3.	_____	_____	\$ _____
4.	_____	_____	\$ _____
5.	_____	_____	\$ _____

Note: Attach additional sheets if required

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions. Examples of documentation include, but are not limited to, the following evidence:

1. Copies of solicitations for quotes to at least three (3) DBE or Minority Owned business firms for each subcontract to be let under this contract. Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contract, and location, date and time when quotes must be received.
2. Copies of quotes or responses received from each firm responding to the solicitation.
3. A telephone log of follow-up calls to each firm sent a solicitation.
4. For subcontracts where a DBE or Minority Owned business is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
5. Documentation of any contacts or correspondence to DBE or Minority Owned business, community, or contractor organizations in an attempt to meet the goal.
6. Copy of pre-bid roster.
7. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for DBE business.
8. Letter detailing reasons for rejection of DBE or Minority Owned business due to lack of qualification.
9. Letter documenting proposed assistance offered to DBE & Minority Owned businesses in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Date: _____ Name of Authorized Officer: _____
Signature: _____
Title: _____

State of Alabama, County of _____
Subscribed and sworn to before me this _____ day of _____, 20_____
Notary Public _____
My commission expires _____

SECTION 237312

SPLIT SYSTEM AIR HANDLING UNITS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The work of this section consists of providing all labor, materials, equipment, and services necessary for the fabrication and installation of all equipment and appurtenances in connection with the heating, ventilating and air conditioning work. This includes work as shown on the drawings and as specified herein.

1.02 SUBMITTALS

- A. Submit catalog data, shop drawings and installation instructions prior to commencement of work for all materials and equipment incorporated into the drawings and specified herein.

PART 2 – PRODUCTS

2.01 SPLIT SYSTEM AIR HANDLING UNITS

- A. General
1. Provide split system air handlers of the type, capacity, configuration, and quantities, as scheduled on the drawings, and specified herein.
 2. Air handling units shall be completely factory assembled including coil, condensate drain pan, fan, motor, filters, and controls in an insulated casing.
 3. Casings shall be 22-gauge steel with baked enamel finish with internal insulation. Knockouts shall be provided for electrical power, control wiring and refrigerant piping.
 4. Blowers shall be centrifugal type, statically and dynamically balanced, with permanently lubricated bearings permanently lubricated, internally protected motors.
 5. Evaporator coil shall be aluminum fins mechanically bonded to 3/8" copper tubing. Coil shall be factory pressure and leak tested.
 6. Condensate pan shall be double sloped and constructed of stainless steel or plastic.
 7. Air handler shall be equipped with fan contactor, single point power entry and 24-volt transformer.
 8. Filter Racks shall accept standard size filters. Provide accessible field fabricated racks where manufacturer does not include provisions for filters.
- B. 1 to 5 Ton Air Handling Units
1. Fan motor shall be direct drive, multi-speed.
- C. Greater than 5 Ton Air Handling Units



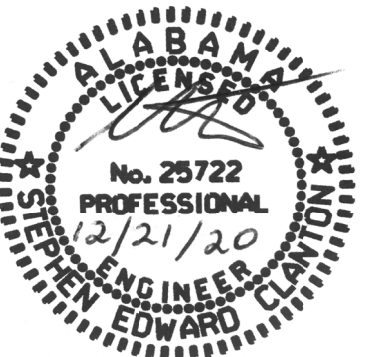
1. Fan shall be belt driven.
- D. Electric heaters, when specified, shall be UL approved and fabricated to be installed directly on the fan discharge. The heater shall be equipped with high limit controls.
- E. Split system air handling units specified are Lennox. Equal manufacturers are Trane, Carrier, and Daikin.

PART 3 - EXECUTION

3.01 GENERAL

- A. All equipment shall be installed in accordance with the manufacturer installation instructions and as indicated on the drawings or specified herein.
- B. Provide vibration isolators for split system air handling units, rubber in shear for floor mounted models and spring-loaded isolators for horizontally hung units.

END OF SECTION



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NOLA VANPURSE ARCHITECTS

ALABAMA A&M UNIVERSITY
ELMORE SPORTS MEDICINE RENOVATIONS
NORMAL, ALABAMA

JOB NUMBER
20132

JTB / SECUR / 09.09.20
DRAWN - CHECKED - DATE

REVISIONS
ADDENDUM #1 10.29.20
ADDENDUM #5 12.21.20

SHEET TITLE
MECHANICAL FLOOR PLAN

SHEET NUMBER
M-1
OF
4

DEMOLITION LEGEND

- R --- EXISTING RETURN PIPING TO REMAIN
- G --- EXISTING GAS PIPING TO REMAIN
- S --- EXISTING SUPPLY PIPING TO REMAIN
- EXISTING RELIEF VALVE PIPING TO REMAIN
- EXISTING GAS LINE VENT/ DRAIN TO REMAIN

MECHANICAL LEGEND

- SD • SMOKE DETECTOR
- VD • VOLUME DAMPER
- FD • FIRE DAMPER
- T • TEMPERATURE SENSOR
- A.V.E. • ADJUSTABLE VOLUME EXTRACTOR

**BOILER REPLACEMENT, ALTERNATE #1
MECHANICAL ROOM PLAN**
SCALE: 1/8" = 1'-0"

**BOILER REPLACEMENT, ALTERNATE #1
MECHANICAL ROOM DEMO PLAN**
SCALE: 1/8" = 1'-0"

MECHANICAL MEZZANINE PLAN
SCALE: 1/8" = 1'-0"

PARTIAL MEZZANINE PLAN
SCALE: 1/8" = 1'-0"

1

5

UPDATED PLAN DESIGN TO SPLIT HEAT PUMPS IN
PLACE OF WATER SOURCE HEAT PUMPS

EXISTING RETURN AND GRILLES
TO BE REMOVED TO RISE UP
AND EXTEND ABOVE UNIT

CONNECT NEW 84X30 DUCT TO
EXISTING OPENING IN FLOOR.
RISE DUCT UP AS CLOSE TO
CEILING STRUCTURE AS POSSIBLE

SLEEVE & SEAL PENETRATIONS WEATHER
TIGHT. EXTEND TO INDOOR UNIT, TYPICAL

EXISTING RETURN AND GRILLES
TO BE REMOVED TO RISE UP
AND EXTEND ABOVE UNIT

CONDENSATE & PAN DRAIN,
ROUTE TO HOP SINK (TYPICAL)

EXISTING WALL HEATER
TO BE REMOVED

EXISTING RELIEF VALVE
PIPING TO REMAIN

EXISTING FLOOR DRAIN

EXISTING GAS LINE
VENT TO REMAIN

EXISTING BOILER
TO REMAIN

EXISTING EXHAUST
VENT TO REMAIN

EXISTING PUMP
TO REMAIN

EXISTING AIR
SEPARATOR TO REMAIN

EXISTING EXPANSION
TANK TO REMAIN

CONNECT TO EXISTING
GAS, RETURN, SUPPLY,
AND EXHAUST PIPING

CONNECT NEW 2" GAS
LINE FOR B-1 TO EXISTING
GAS LINE

BOILER REPLACEMENT
PER ALTERNATE #1. SEE
SCHEDULE FOR DETAILS

ROUTE 18" EXHAUST VENT THRU
EXISTING ROOF OPENING. REWORK
EXISTING OPENING AND SEAL NEW
VENT WEATHER TIGHT. INSTALL PER
MANUFACTURER'S SPECIFICATIONS

2" DRAIN TO
FLOOR DRAIN

EXISTING EXPANSION
TANK TO REMAIN

EMERGENCY SHUTOFF FOR B-1
AT TOP OF STAIRS ON WALL
IN CURRENT LOCATION

EXISTING RELIEF VALVE
PIPING TO REMAIN

EXISTING FLOOR DRAIN

EXISTING GAS LINE
VENT TO REMAIN

EXISTING BOILER
TO BE REMOVED

EXISTING EXHAUST
VENT TO BE REMOVED

EXISTING PUMP
TO REMAIN

EXISTING AIR
SEPARATOR TO REMAIN

EXISTING EXPANSION
TANK TO REMAIN

EXISTING SUPPLY
AND RETURN PIPING
TO REMAIN

EXISTING GAS LINE
TO REMAIN

EXISTING EMERGENCY
SHUTOFF LOCATIONS

SEE PARTIAL MEZZANINE PLAN THIS
SHEET FOR CONTINUATION (TYP.)

(2) 24X24RG

MECHANICAL
254

NOTE: SEE MECHANICAL PIPING PLAN ON
SHEET M2 FOR MECHANICAL PIPING
THIS AREA

SEE MECHANICAL MEZZANINE
PLAN THIS SHEET FOR
CONTINUATION (TYP.)

EXISTING EXHAUST
TO REMAIN

EXISTING WALL HEATER
TO BE REMOVED

SPLIT HEAT PUMP SYSTEM SCHEDULE

HEAT PUMP AIR HANDLING UNITS																					
UNIT			COOLING CAPACITY										HEAT PUMP								
TAG	MODEL	MANUFACTURER	ELECTRICAL HEATER + MOTOR		SUPPLY FAN					EAT		LAT		NET TOTAL CAPACITY (BTUH)	NET SENSIBLE CAPACITY (BTUH)	SST (°F)	OUTPUT CAPACITY @ 17 °F (BTUH)	HEAT (KW)	STAGES	UNIT WEIGHT (LB)	
			VOLTAGE	MCA (A)	MOPC (A)	SUPPLY AIR (CFM)	O.A. (CFM)	ESP (inH2O)	Motor Power (HP)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)								
AHU-1		ELA120S	LENNOX	480/3/60	57	60	4000	975	1.0	3	80.0	67.0	57.2	57.1	12500	87500	45	11400	35	2	495
AHU-2		CBA27UHE024	LENNOX	480/3/60	50	50	800	95	0.5	0.5	80.0	67.0	57.2	56.9	22800	17400	45	13600	10	2	137
AHU-3		CBA27UHE060	LENNOX	480/3/60	42	45	2000	210	0.5	1	80.0	67.0	57.3	56.7	55500	43800	45	30600	25	2	199
AHU-4		CBA27UHE048	LENNOX	480/3/60	35	40	1600	375	0.5	1	80.0	67.0	56.5	56.5	47300	35700	45	30600	20	2	186
AHU-5		CBA27UHE048	LENNOX	480/3/60	35	40	1600	375	0.5	1	80.0	67.0	56.5	56.5	47300	35700	45	30600	20	2	186
AHU-6		CBA27UHE048	LENNOX	480/3/60	35	40	1600	225	0.5	1	80.0	67.0	56.5	56.5	47300	35700	45	30600	20	2	186
AHU-7		CBA27UHE048	LENNOX	480/3/60	35	40	1400	150	0.5	1	80.0	67.0	54	54	40800	29000	45	27000	15	2	186

AHU-5 SHALL HAVE TXY AND FOL FACE INSULATION. MOTOR SHALL DO ECM MOTOR. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL. BIPOLAR NEEDLE POINT ONZERS. ELECTRICAL DATA IS FOR POINT POWER CONNECTION. PROVIDE REFRIGERANT SPECIALTIES. CONTRACTOR SHALL PROVIDE EXTERNAL AUXILIARY DRAIN PAN. CONTROLS TO BE BY CONTROLS CONTRACTOR. CONTROLS TO RESIDE ON EXISTING A48M SIEMENS TALON SYSTEM. CONTRACTOR SHALL PROVIDE CONDENSATE FLOAT SWITCH. PROVIDE BOTTOM RETURN FILTER BOX WITH 2" FILTER AND HINGED DOOR. CONDENSATE PUMP TO BE INSTALLED AT EACH AHU. ROUTE CONDENSATE LINES AS SHOWN. INSTALL RETURN AIR TEMPERATURE SENSORS IN RETURN DUCT AS SHOWN. INSTALL UNITS PER MANUFACTURERS SPECIFICATIONS.

AIR COOLED HEAT PUMP UNITS													SCROLL COMPRESSOR				
TAG	MODEL	MANUFACTURER	ELECTRICAL		EFFICIENCY			AMBIENT (°F)	STAGE	QTY.	CIRCUITS	REFRIGERANT	WEIGHT (LB)				
			VOLTAGE	MCA (A)	SEER	HSPF	MOPD (A)										
HP-1	ELP120S	LENNOX	480/3/60	11	15	15	9	95	2	1	1	R410A	502				
HP-2	16HPX024	LENNOX	480/3/60	15	25	15.5	9	95	1	1	1	R410A	173				
HP-3	TPA060	LENNOX	480/3/60	11	15	15	9	95	1	1	1	R410A	295				
HP-4	TPA048	LENNOX	480/3/60	9	15	15	9	95	1	1	1	R410A	273				
HP-5	TPA048	LENNOX	480/3/60	9	15	15	9	95	1	1	1	R410A	273				
HP-6	TPA048	LENNOX	480/3/60	9	15	15	9	95	1	1	1	R410A	273				
HP-7	TPA048	LENNOX	480/3/60	8	15	15	9	95	1	1	1	R410A	272				

PROVIDE LOW AMBIENT CONTROLS TO ZERO AMBIENT AND FREEZE START. OUTDOOR UNITS SHALL HAVE LOUVERED COPPER TUBES /ALUM. FINS CONDENSER COILS. DISCONNECT SWITCH TO BE INSTALLED AND PROVIDED BY DIV 26. CONTRACTOR TO PROVIDE INSULATED REFRIGERANT LINES. 5 YEARS COMPRESSOR PARTS WARRANTY. INSTALL UNITS PER MANUFACTURERS SPECIFICATIONS.

LOUVER SCHEDULE

MARK	IL-1	IL-2	IL-3	IL-4
SERVICE	INTAKE	INTAKE	INTAKE	INTAKE
CONSTRUCTION	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
THROAT AREA (SQUARE FEET)	1.59	.28	1.59	.28
LOUVER SIZE (INCHES)	24X24	12X12	24X24	12X12
AIRFLOW (CFM)	1085	210	965	150
MANUFACTURER	DOWCO	DOWCO	DOWCO	DOWCO
MODEL	LEC-04	LEC-04	LEC-04	LEC-04

ACCESSORIES:
1. INSECT SCREEN
2. FACTORY APPLIED EPOXY FINISH, COLOR SELECTED BY ARCHITECT.

REGISTER, GRILLE & DIFFUSER SCHEDULE

SYM	TYPE	MANUFACTURER	MODEL	REMARKS
SR	SUPPLY REGISTER	TITUS	272FS	BAKED WHITE W/VOLUME DAMPER
CD	CEILING DIFFUSER	TITUS	TDCAA-3	BAKED WHITE W/VOLUME DAMPER
RR	RETURN REGISTER	TITUS	50F	BAKED WHITE W/VOLUME DAMPER
RG	RETURN GRILLE	TITUS	50F	BAKED WHITE FINISH

NOTES:
1. REGISTERS, GRILLES, & DIFFUSERS HAVE BEEN SPECIFIED AS TITUS TO ESTABLISH QUALITY. EQUAL PRODUCTS BY ANEMOSTAT OR METALAIR WILL BE CONSIDERED.
2. BAKED WHITE FINISH IS A BASELINE. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO ORDERING.

BOILER SCHEDULE

MARK	B-1
TYPE	COPPER
FUEL	NATURAL GAS
INPUT M.B.H.	3580
OUTPUT M.B.H.	3045
GALLON CAPACITY	12.2
MAX. WATER FLOW RATE (GPM)	225
VOLT/PHASE	208/1/60
VOLUME/CONTROL	24
AMPS	6.0
HEATING SURFACE (SQ.FT.)	790.7
MANUFACTURER	LOCHINVAR
MODEL #	PNB3580M9

1. SEALED COMBUSTION, VERTICAL VENTING PACKAGE
2. BOILER INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE OF ALABAMA "BOILER AND PRESSURE VESSEL SAFETY ACT"
3. PRIOR TO ORDERING, COORDINATE WITH OWNER ON BUILDING CONTROL SYSTEM

ELECTRIC HEATER SCHEDULE

SYSTEM BASIS OF DESIGN, MANUFACTURER	MARKEL	MARKEL
MARK	H-1	H-2
BTU OUTPUT	7679	7679
KW	2.3	2.3
AMPS	10.8	10.8
VOLT / PHASE	208/1/60	208/1/60
MODEL	HF33850-RP	HF33850-RP

OPTIONS:
1. THERM PROOF THERMOSTAT
2. MANUAL RESET THERMAL LIMIT SWITCH

NOTES:
INSTALL UNITS PER MANUFACTURERS SPECIFICATIONS

RECTANGULAR DUCT SYSTEM GAGES

RECTANGULAR DUCTWORK, 1/24N. WG STATIC PRESSURE POSITIVE OR NEGATIVE, UP TO 2,000 FPM, BASED ON PROPER REINFORCEMENT SPACED AT 10-FT INTERVALS.

LARGEST DIMENSION, INCHES	GALVANIZED STEEL GAGE	ALUMINUM, " B&S GAGE	COPPER, " B&S GAGE
THROUGH 26	26	24	24
27-30	24	22	20
31-36	22	20	18
37-48	20	18	18
49-60	18	16	14
73-84	16	14	12
85-96	16	BUT 8-FT REINFORCEMENT SPACING REQUIRED	BUT 5-FT CLASS-H SPACING
OVER 96	18	BUT 8-FT REINFORCEMENT SPACING REQUIRED	BUT 5-FT CLASS-H SPACING

RECTANGULAR DUCTWORK, 1/4N. WG STATIC PRESSURE POSITIVE OR NEGATIVE, UP TO 2,500 FPM, BASED ON PROPER REINFORCEMENT SPACED AT 10-FT INTERVALS.

LARGEST DIMENSION, INCHES	GALVANIZED STEEL GAGE	ALUMINUM, " B&S GAGE	COPPER, " B&S GAGE
THROUGH 14	26	24	24
15-24	24	22	20
25-30	22	20	18
31-36	20	18	18
37-42	18	16	14
43-54	16	14	12
55-60	18	BUT 8-FT REINFORCEMENT SPACING REQUIRED	BUT 5-FT CLASS-H SPACING
61-84	18	BUT 5-FT CLASS-H SPACING	BUT 5-FT CLASS-H SPACING
85-96	16	BUT 8-FT REINFORCEMENT SPACING REQUIRED	BUT 5-FT CLASS-H SPACING
OVER 96	18	BUT 5-FT CLASS-H SPACING	BUT 5-FT CLASS-H SPACING

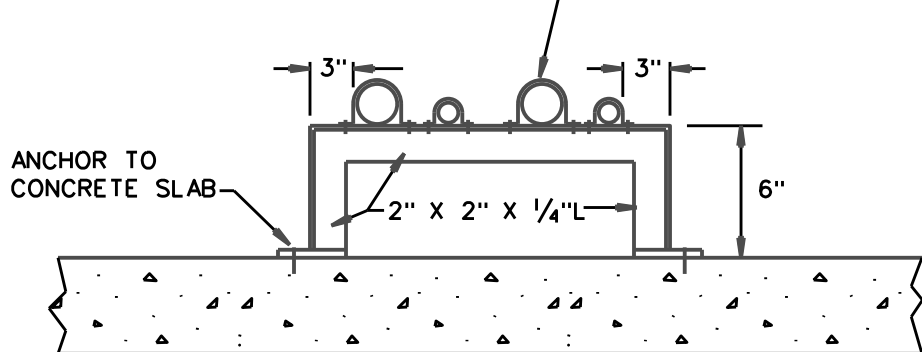
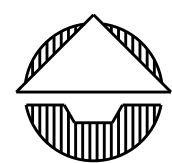
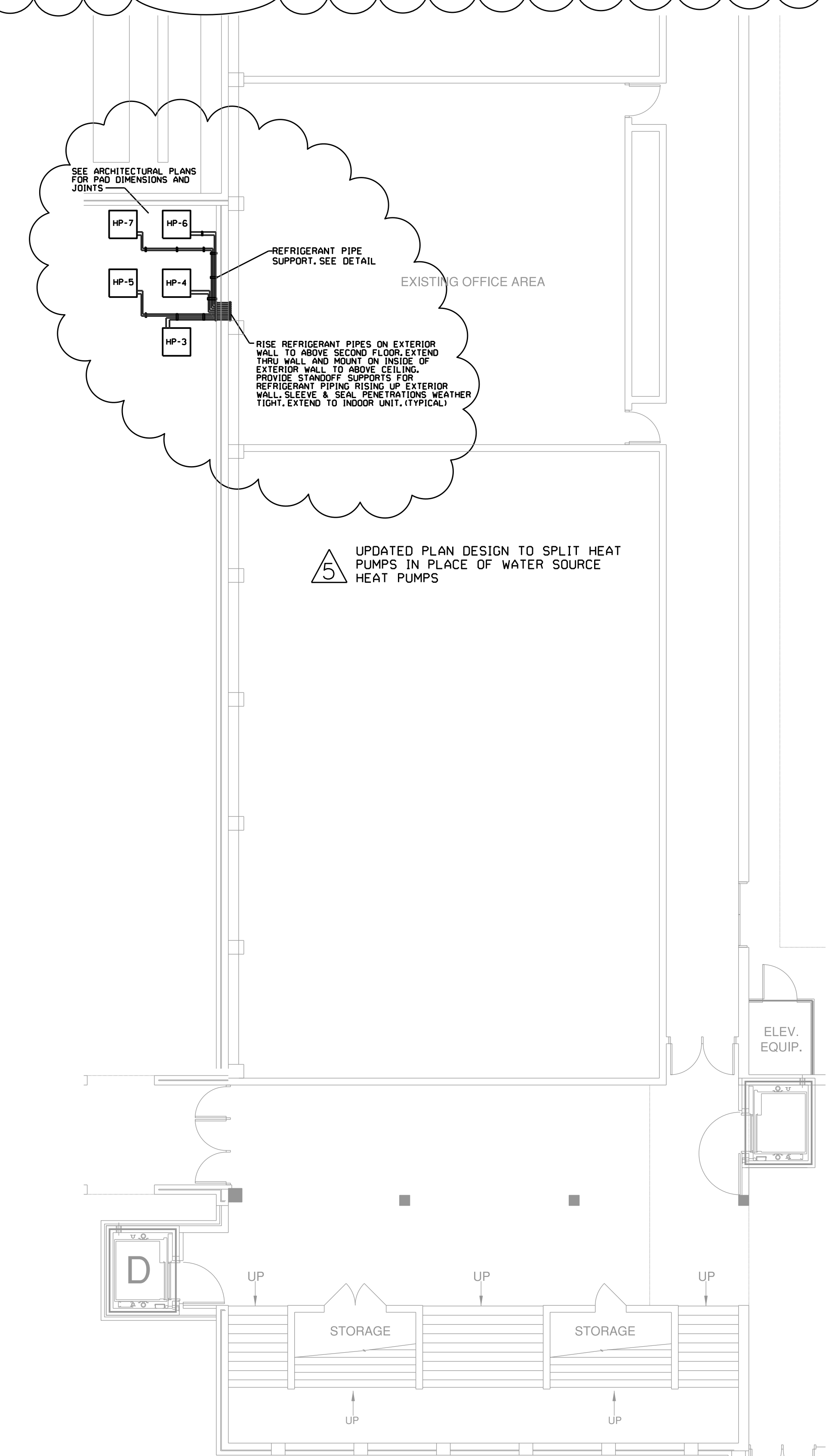
RECTANGULAR DUCTWORK, 2/4N. WG STATIC PRESSURE POSITIVE OR NEGATIVE, UP TO 2,500 FPM

LARGEST DIMENSION, INCHES	GALVANIZED STEEL GAGE	REINFORCEMENT SPACING INTERVALS, FT.
THROUGH 18	22	10
19-26	20	10
27-30	18	10
31-36	16	10
37-48	16	8
49-60	18	5
61-72	16	5
73-84	18	4, CLASS J
85-96	16	4, CLASS K
OVER 96	18	2 1/2, CLASS H

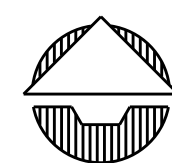
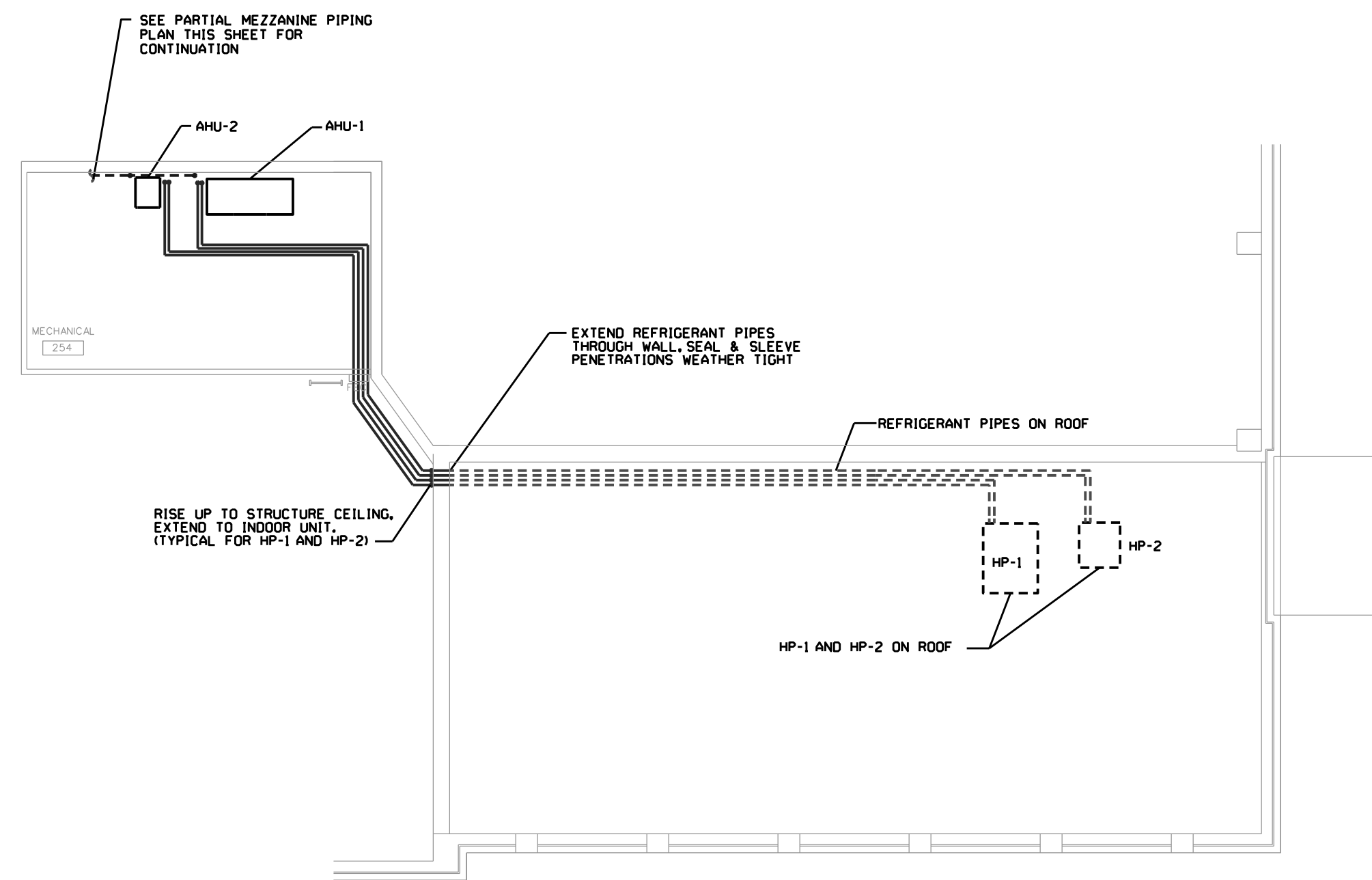
ROUND DUCT SYSTEM GAGES

ROUND DUCTWORK, GALVANIZED STEEL GAGE SELECTION					
DUCT DIAMETER, IN.	MAXIMUM 2/4N. WG STATIC POSITIVE		MAXIMUM 1/4N. WG STATIC POSITIVE		MAXIMUM 2/4N. WG STATIC POSITIVE
	MINIMUM GAGE, IN.	MAXIMUM GAGE, IN.	MINIMUM GAGE, IN.	MAXIMUM GAGE, IN.	MINIMUM GAGE, IN.
3-8	28	28	26	24	28
9-14	28	26	26	24	26
15-26	26	24	24	22	24
27-36	24	22	22	20	22
37-50	22	20	20	20	20
51-60	20	18	18	18	18
61-84	18	16	18	16	14

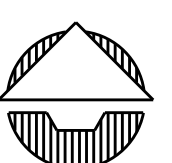
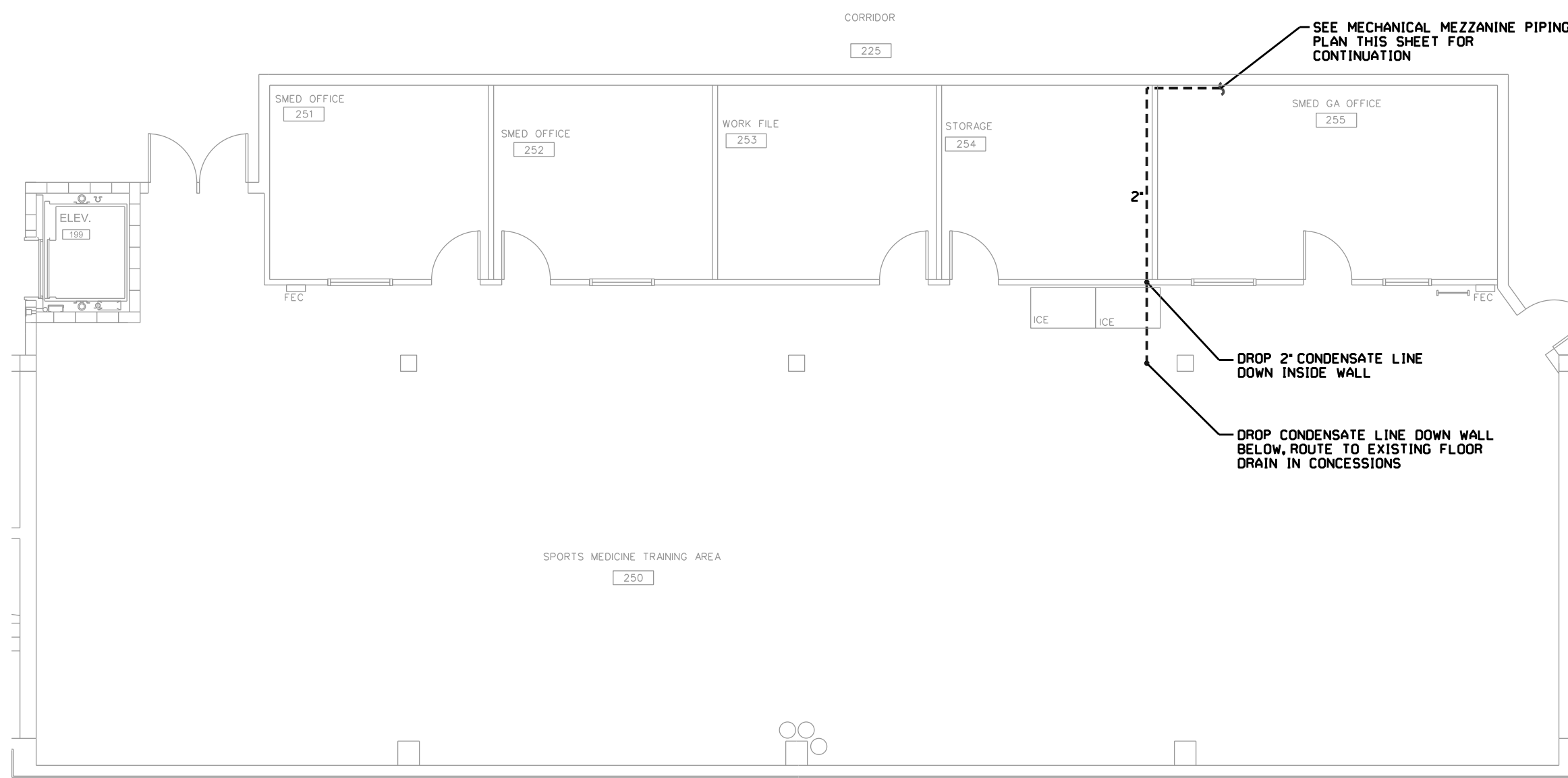
NOTE:
SUPPORT REFRIGERANT PIPING @ 4' INTERVALS
CONDUIT CLAMP SECURING REFRIGERANT PIPING (TYP.)

REFRIGERANT PIPE SUPPORT DETAIL
NOT TO SCALE

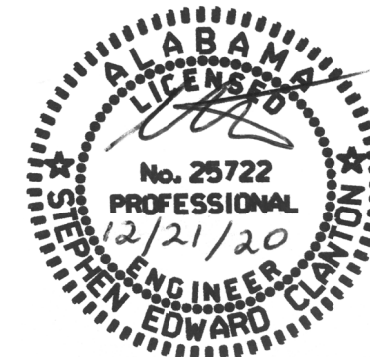
PARTIAL GROUND FLOOR
MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"



ROOF & MECHANICAL MEZZANINE PIPING PLAN
MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"



PARTIAL MEZZANINE PIPING PLAN
MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"



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ALABAMA A&M UNIVERSITY
ELMORE SPORTS MEDICINE RENOVATIONS
NORMAL, ALABAMA

JOB NUMBER
20132

JTB / SECURUS / 09.09.20
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ADDENDUM #1 10.28.20
ADDENDUM #5 12.21.20

SHEET TITLE
MECHANICAL FLOOR PLAN

SHEET NUMBER
M-2
OF
4

1. DUCT SIZES ARE BASED ON FREE AREA OPENING. SIMPLY DUCTS LOCATED IN INTERIOR UNCONDITIONED SPACES SHALL HAVE AN INSULATION RATING OF NO LESS THAN R-6. SUPPLY AND RETURN DUCTS LOCATED IN EXTERIOR AREAS SHALL HAVE AN INSULATION RATING OF NO LESS THAN R-8. EXTERIOR INSULATION (IF USED) SHALL INCLUDE A VAPOR BARRIER. THE CONTRACTOR WILL ADJUST ACCORDINGLY TO COMPENSATE FOR DUCT LINER (IF USED). ROUND AND RECTANGULAR EQUIVALENT DIMENSIONS ARE ALLOWABLE.

2. THE CONTRACTOR SHALL SELECT DIFFUSERS WITH A NOISE CRITERIA RATING OF NO GREATER THAN NC 40 BASED ON THE SPECIFIED FLOWRATES. DIFFUSERS SHALL CONSIDER THROW AND DROP PERFORMANCE TO PROVIDE APPROPRIATE COVERAGE TO THE CONDITIONED AREAS. ALL DIFFUSERS SHALL PROVIDE FOR ADJUSTABLE FLOWRATE; CONTRACTOR SHALL BE RESPONSIBLE FOR BALANCING TO DESIGN FLOWRATES.

3. ALL 90 DEG. ELBOWS SHALL INCLUDE TURNING VANES.

4. INSTALL A SMOKE DETECTOR IN THE RETURN DUCTS AND SUPPLY DUCTS PRIOR TO FRESH AIR INTAKE UPON ACTIVATION THE SMOKE DETECTOR SHALL SHUT DOWN THE AHU. THE DUCT SMOKE DETECTOR SHALL ALSO BE CONNECTED TO A FIRE ALARM SYSTEM IF SYSTEM IS REQUIRED BY CODE WHICH UPON ACTIVATION SHALL ACTIVATE A VISIBLE AND AUDIBLE SIGNAL. DUCT DETECTORS TO BE INSTALLED ON ALL UNITS OVER 2000 CFM, AND ALL UNITS THAT SERVE EGRESS CORRIDORS.

5. MECHANICAL CONTRACTOR TO COORDINATE EXACT LOCATION OF DIFFUSERS AND REGISTERS WITH GRID AND LIGHTS.

6. MECHANICAL CONTRACTOR TO TIE SUPPLY AND RETURN DIFFUSERS AND GRILLES TO CEILING GRID OR STRUCTURE.

7. REFERENCE TO SPECIFIC MANUFACTURERS ARE USED IN TO ESTABLISH MINIMUM PERFORMANCE REQUIREMENTS AND QUALITY. OTHER MANUFACTURER'S WITH EQUAL OR BETTER QUALITY EQUIPMENT ARE ALLOWED TO SUBSTITUTE THEIR PRODUCTS. EQUAL MANUFACTURER'S WILL BE CONSIDERED AT DISCRETION OF ENGINEER.

8. ALL TAKE-OFFS SHALL INCLUDE MANUAL DAMPERS, BALANCE TO DESIGN FLOWRATES BY MECHANICAL CONTRACTOR

9. DUCTS PENETRATING WALLS OR PARTITIONS HAVING A FIRE RESISTANCE RATING OF 1 BUT LESS THAN 3 HOURS SHALL INCLUDE FIRE DAMPERS AT THE PENETRATION. DAMPERS SHALL HAVE A FIRE RESISTANCE RATING NO LESS THAN 1.5 HR. USE OF STATIC RATED DAMPERS IS ACCEPTABLE SINCE SYSTEM IS DESIGNED FOR AUTOMATIC SHUTDOWN IN CASE OF FIRE/SMOKE.

10. MECHANICAL CONTRACTOR TO VERIFY EXACT LOCATION OF T'STATS WITH OWNER.

11.ROUTE CONDENSATE & PAN DRAINS AS SHOWN ON DRAWINGS.

12. RETURN AIR PLENUM PLATFORMS SHALL BE CONSTRUCTED WITH 2" X 2" X 1/4" BLACK STEEL ANGLE IRON WITH WELDED CONNECTIONS. INSTALL ADDITIONAL IRON SUPPORTS AT PLENUM TOPS TO SUPPORT THE INDOOR UNITS. COVER THE ANGLE IRON FRAME, TOP, BOTTOM, AND SIDES WITH 22 GAUGE GALVANIZED SHEET METAL. LINE THE PLENUMS WITH 1" THICK 2 LB. DENSITY DUCT INSULATION SIMILAR TO INTERNALLY LINED AIR DUCTS. FRAME AIR OPENINGS THRU THE PLENUM WITH GALVANIZED SHEET METAL CHANNELS TO SECURE THE INSULATION AT THE OPENINGS.

13. ALL MATERIALS ABOVE CEILING TO BE PLENUM RATED

14. CONTRACTOR TO APPLY PAINT GRIP FINISH TO ALL EXPOSED DUCTWORK THAT WILL READILY ACCEPT A FIELD PAINTED FINISH. THIS INCLUDES ALL HANGARS, DRIVES, AND ACCESSORIES. COORDINATE WITH OWNER.



GENERAL

THE CONTROLS SUPPLIER SHALL BE RESPONSIBLE FOR THE CORRECT INSTALLATION, CONNECTION, SET UP AND OPERATION OF THE CONTROLS SYSTEM. THIS SHALL APPLY TO BOTH THE CONTROLS SUPPLIER INSTALLING THE SYSTEM AND ALSO WHEN THE CONTROLS ARE SUPPLIED TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. IF THE MECHANICAL CONTRACTOR IS NOT ABLE GET THE CONTROLS TO OPERATE CORRECTLY, THE SUPPLIER SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY CORRECTIONS TO INSURE PROPER OPERATION.

THE MECHANICAL/CONTROLS CONTRACTOR SHALL INSURE THAT THE ELECTRICAL CONTRACTOR PROVIDES SUFFICIENT SOURCES OF 120 VOLT POWER FOR ALL DAMPER ACTUATORS. THE MECHANICAL/CONTROLS CONTRACTOR SHALL PROVIDE ALL TRANSFORMERS AND COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR THE INSTALLATION OF THE TRANSFORMERS.

THE MECHANICAL/CONTROLS CONTRACTOR SHALL INSURE THAT THE ELECTRICAL CONTRACTOR PROVIDES SUFFICIENT SOURCES OF 120 VOLT POWER FOR ALL DAMPER ACTUATORS. THE MECHANICAL/CONTROLS CONTRACTOR SHALL PROVIDE ALL TRANSFORMERS AND COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR THE INSTALLATION OF THE TRANSFORMERS.

THE CONTROLS CONTRACTOR SHALL FURNISH AND INSTALL ALL WALL BOXES, CONDUIT AND WIRING FOR ALL REQUIRED CONTROL DEVICES. THESE SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 16 AND THE BOX LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.

THE HVAC CENTRAL CONTROL PANEL SHALL DE-ENERGIZE ALL HVAC EQUIPMENT UPON RECEIPT OF A GLOBAL SIGNAL FROM THE FIRE ALARM CONTROL PANEL. THE FIRE ALARM CONTRACTOR WILL INSTALL A MODULE ADJACENT TO THE MAIN HVAC CONTROL PANEL FOR RELAYING THE SIGNAL. THE FINAL WIRING CONNECTION BETWEEN THE MODULE AND THE CONTROL PANEL SHALL BE BY THE CONTROLS CONTRACTOR.

ALL SET POINTS SHALL BE ADJUSTABLE.

ALL EQUIPMENT SCHEDULED TO START AT THE SAME TIME SHALL HAVE A RANDOM START FEATURE PROGRAMMED TO ELIMINATE MULTIPLE PIECES OF EQUIPMENT FROM STARTING AT THE SAME INSTANT.

ALL CONTROLS INSTALLED AS PART OF THESE DESIGN DOCUMENTS SHALL BE CAPABLE OF STAND ALONE CONTROL AND SHALL BE ELECTRONIC ODC TYPE SET POINTS SHALL BE CAPABLE OF BEING PROGRAMMED IN CONJUNCTION WITH OPERATING SCHEDULES AND SETUP/SETBACK SCHEDULES AND BE ABLE TO BE MONITORED.

CONTROLS SHALL BE SIEMENS TALON AND SHALL RESIDE ON THE EXISTING SIEMENS TALON AA&M FRONT END SYSTEM, CENTRAL PLANT

WHENEVER THE OUTDOOR TEMPERATURE IS BELOW 55°F THE BOILER SHALL BE ENERGIZED.
WHEN FLOW IS PROVEN, THE BOILER SHALL FIRE TO MAINTAIN THE LOOP WATER TEMPERATURE
BASED ON THE HOT WATER RESET SCHEDULE:

OUTDOOR TEMP	LOOP WATER TEMP
55 F	120 F
55 F	120 F

WHEN THE OUTDOOR AIR TEMPERATURE RISES TO 70 F THE CHILLER SHALL BE ENERGIZED. THE CHILLER SHALL ENERGIZE CHILLED WATER PUMP.

ONCE FLOW IS PROVEN, THE CHILLER SHALL MAINTAIN THE CHILLED WATER LOOP TEMPERATURE AT 45 F. THE THREE- WAY VALVE (NORMALLY OPEN TO THE BYPASS) ON THE CHILLER LOOP SHALL MODULATE TO MAINTAIN A MAXIMUM ENTERING WATER TEMPERATURE TO THE CHILLER OF 55 F.

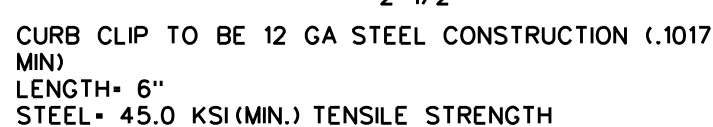
WATER SOURCE HEAT PUMP

SHALL HAVE A MICROPROCESSOR- BASED CONTROL SYSTEM, THE UNIT CONTROL LOGIC SHALL PROVIDE HEATING AND COOLING OPERATION AS REQUIRED BY THE WALL THERMOSTAT SET POINT, THE CONTROL SYSTEM SHALL PROVIDE THE FOLLOWING FOR STAND -ALONE OPERATION:

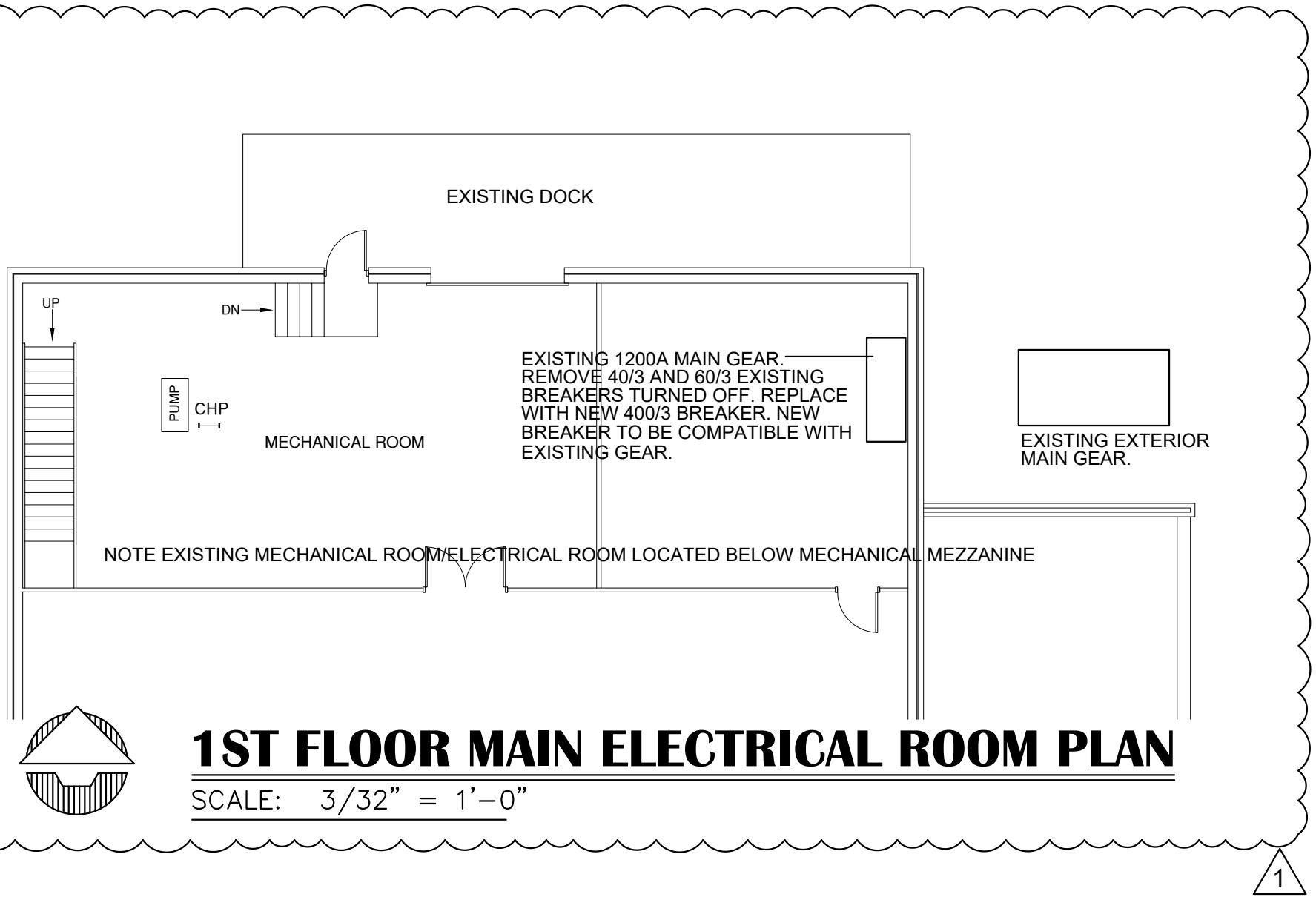
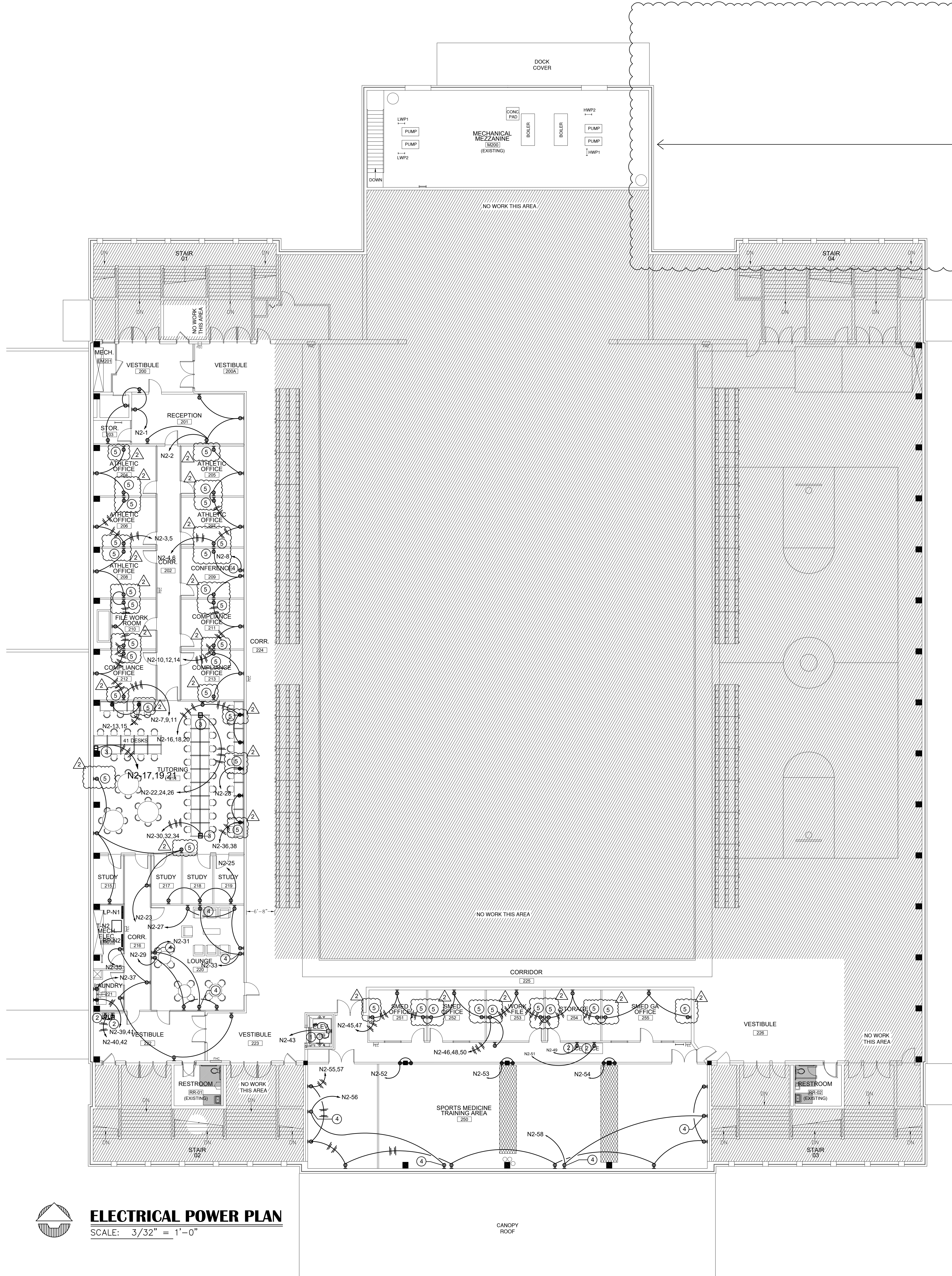
1. USE OF STANDARD PROGRAMMABLE WALL THERMOSTATS.
2. FAN OPERATION SIMULTANEOUSLY WITH THE COMPRESSOR (FAN INTERLOCK REGARDLESS OF THERMOSTAT LOGIC).
3. DELAYED DE-ENERGIZING OF THE REVERSING VALVE FOR QUIET REVERSING VALVE OPERATION.
4. COMPRESSOR SHORT CYCLE PROTECTION OF A MINIMUM OF THREE MINUTES BEFORE RESTART IS POSSIBLE.
5. RANGE VALVE START DELAY TO PREVENT OVERHEATING ON REVERSING VALVE OPERATION.
6. SINGLE GROUNDWIRE WIRE CONNECTION FOR ACTIVATION OF THE UNOCCUPIED OR UNIT SHUTDOWN MODES.
7. TEMPERATURE BACKUP SET POINT UNIT SIGNALS TO THE THERMOSTAT.
8. TEMPERATURE SENSING FROM THE THERMOSTAT TO THE UNOCCUPIED MODE OR THE SLEEP MODE.
9. OVERCURRENT PROTECTION FROM WALL THERMOSTAT TO SHUT OFF UNOCCUPIED MODE FOR 15 MIN.
10. BROWNOUT PROTECTION TO SUSPEND UNIT OPERATION IF THE SUPPLY VOLTAGE DROPS BELOW 80% OF NORMAL.
11. BROWNOUT PROTECTION TO SUSPEND UNIT OPERATION IN EVENT OF A LOW GRAIN PAN.
12. SUSPENDED COMPRESSOR OPERATION UPON ACTIVATION OF THE REFRIGERANT SAFETY DEVICES.



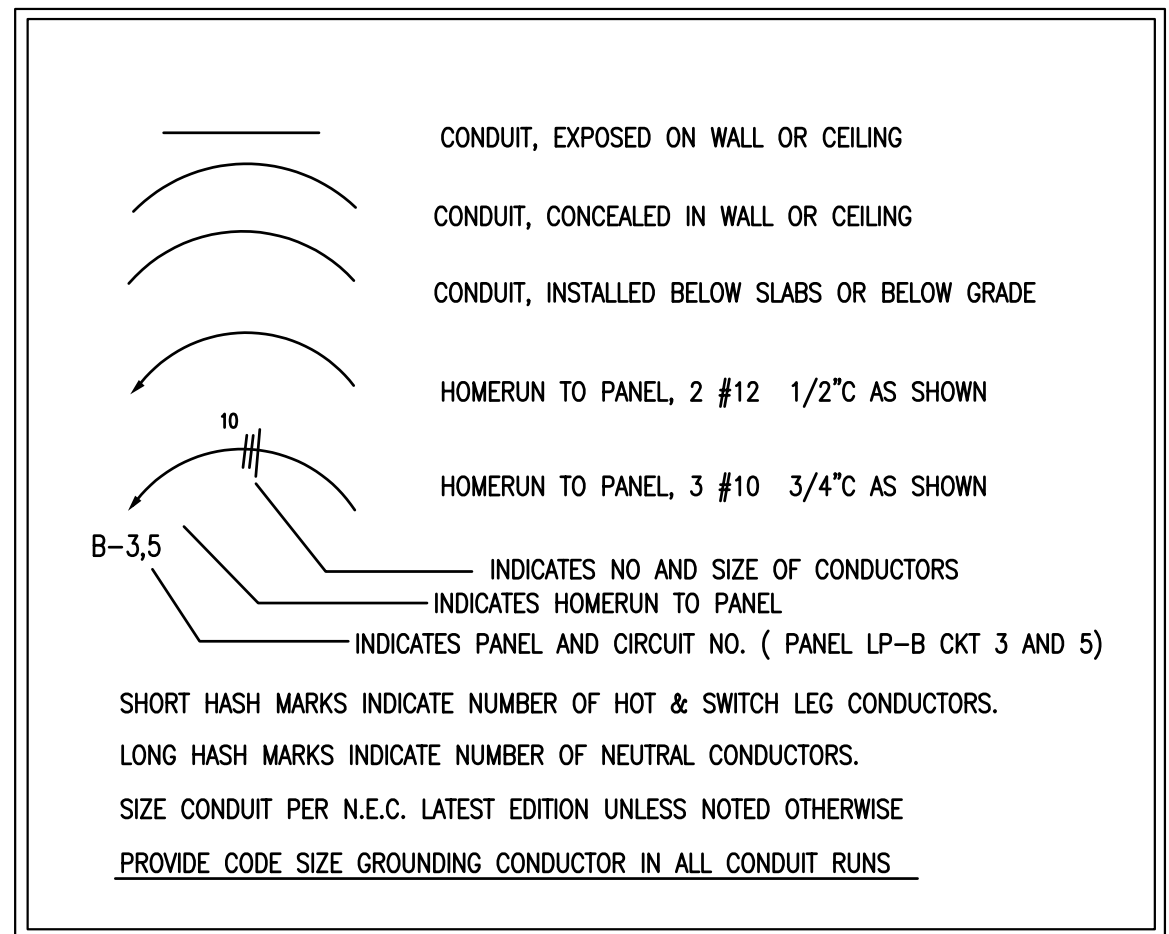
SPACE/ROOM NO.	AREA (SF)	ZONE POPULATION	OUTDOOR AIR (CFM/PERSON)	OUTDOOR AIR (CFM/SF)	BREATHING ZONE OA FLOW (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	ZONE OA FLOW (CFM)	ZONE FLOW (CFM)	CALCULATED PRIMARY OA FRACTION	SYSTEM VENTILATION EFFICIENCY	POPULATION DIVERSITY	REQUIRED OA FLOW (CFM)
AHU-1												
SPORTS MED TRG 250	2880	40	20	.06	973	1.0	973	-	-	-	1	973
AHU-2												
OFFICE 251	165	2	5	.06	20	1.0	20	160	.125	1	1	20
OFFICE 252	165	2	5	.06	20	1.0	20	160	.125	1	1	20
WORK FILE 253	165	2	5	.06	20	1.0	20	160	.125	1	1	20
STORAGE 254	165	-	-	.06	10	1.0	10	40	.125	1	1	10
OFFICE 255	250	2	5	.06	25	1.0	25	255	.10	1	1	25
AHU-3												
STUDY 215	90	1	5	.06	10	1.0	10	120	.08	1	1	10
STUDY 217	90	1	5	.06	10	1.0	10	120	.08	1	1	10
STUDY 218	90	1	5	.06	10	1.0	10	120	.08	1	1	10
STUDY 219	90	1	5	.06	10	1.0	10	120	.08	1	1	10
CORRIDOR 216	218	-	-	.06	13	1.0	13	120	.08	1	1	13
LAUNDEY 220	535	18	5	.06	127	1.0	127	900	.14	1	1	127
LAUNDRY 221	60	1	5	.12	12	1.0	12	200	.06	1	1	12
VESTIBULE 222	293	-	-	.06	18	1.0	18	270	.07	1	1	18
AHU-4 & AHU-5												
TUTORING 214	1290	59	10	.12	745	1.0	745	-	-	-	1	745
AHU-6												
VESTIBULE 200	220	-	-	.06	13	1.0	13	200	.07	.9	1	14
RECEPTION 201	320	10	5	.06	69	1.0	69	400	.17	.9	1	77
OFFICE 204	180	2	5	.06	21	1.0	21	200	.11	.9	1	23
OFFICE 206	180	2	5	.06	21	1.0	21	200	.11	.9	1	23
OFFICE 208	180	2	5	.06	21	1.0	21	200	.11	.9	1	23
WORK ROOM 210	125	2	5	.06	18	1.0	18	200	.09	.9	1	20
OFFICE 212	180	2	5	.06	21	1.0	21	200	.11	.9	1	23
CORRIDOR 202	240	-	-	.06	20	1.0	20	200	.10	.9	1	22
AHU-7												
OFFICE 205	180	2	5	.06	21	1.0	21	200	.11	1	1	21
OFFICE 207	180	2	5	.06	21	1.0	21	200	.11	1	1	21
CONFERENCE 209	180	9	5	.06	56	1.0	56	600	.09	1	1	56
OFFICE 211	180	2	5	.06	21	1.0	21	200	.11	1	1	21
OFFICE 213	188	2	5	.06	21	1.0	21	200	.11	1	1	21



NOT TO SCALE

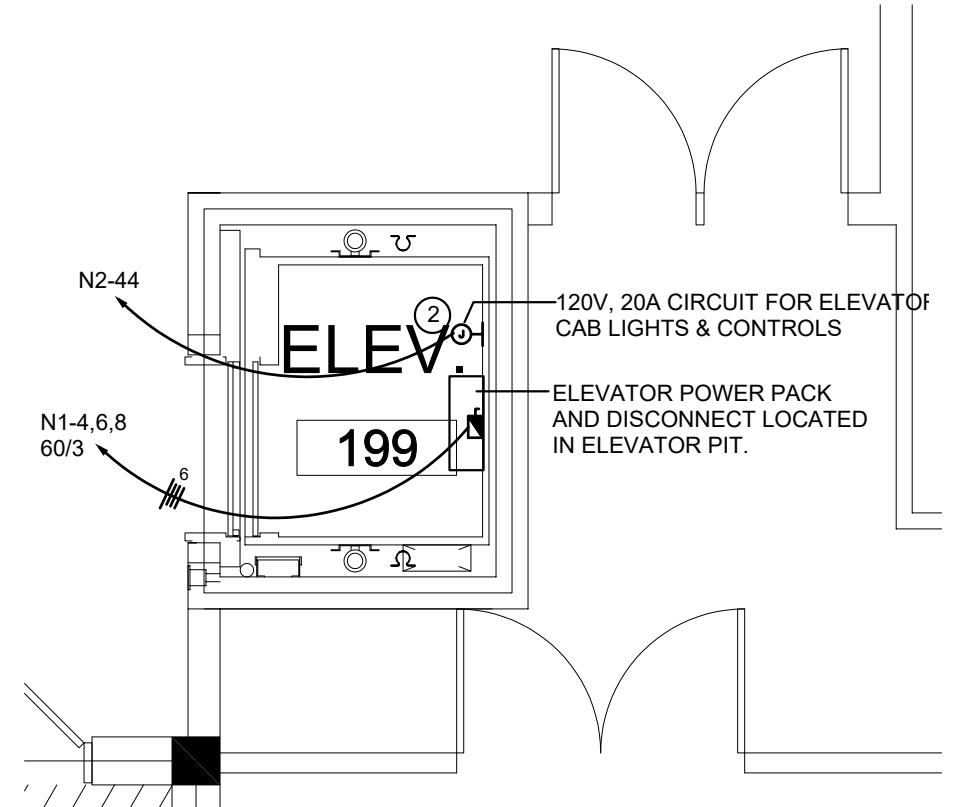


- LEGEND**
- FD DUPLEX OUTLET, NEMA 5-15R, 125 VOLT
 - HD QUADRAPLEX OUTLET, NEMA 5-15R, 125V, 15 AMP.
 - HD DUPLEX OUTLET, GFCI TYPE, NEMA 5-15R, 125V, 15AMP.
 - HD DUPLEX OUTLET, GFCI TYPE, MOUNTED ABOVE COUNTERTOP
 - HD SINGLE OUTLET, 240 VOLT, 30 AMP, NEMA 6-30R
 - ND NON-FUSED DISCONNECT
 - ST SINGLE POLE TOGGLE DISCONNECT EQUAL TO SQUARE D 2510-KF1
 - ST TWO POLE TOGGLE DISCONNECT EQUAL TO SQUARE D 2510-KG1
 - AD PHONE/DATA OUTLET, WALL MOUNTED, 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE
 - AD PHONE/DATA OUTLET, WALL MOUNTED ACT, 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE
- MOUNTING HEIGHTS OF WALL OUTLETS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:**
- WALL SWITCHES-----48"
 - RECEPTACLES-----18"
 - TELEPHONE-----18"
 - THERMOSTAT-----48"
- ACT - ABOVE COUNTERTOP--2" ABOVE BACKSPLASH



ELECTRICAL POWER KEYED NOTES

- 1 PROVIDE GFCI TYPE DUPLEX RECEPTACLE, ONE WALL MOUNTED J-BOX WITH BRYANT RLS606 SOCKET WITH WIRE GUARD FOR LAMP, BOTH CONTROLLED WITH WALL MOUNTED SWITCH FOR ELEVATOR PIT AND SUMP PUMP POWER.
- 2 DEVICE TO BE PROTECTED BY GFCI BREAKER. SEE PANEL SCHEDULE.
- 3 DUAL CHANNEL (POWER/DATA) POWER POLE, LEGRAND #250TC SERIES 3, CIRCUITS PER POLE, PROVIDE SEPARATE NEUTRAL AND GROUND FOR EACH CIRCUIT.
- 4 DUPLEX RECEPTACLE MOUNTED AT MIN. 6'-0" A.F.F. FOR TV POWER. COORDINATE EXACT LOCATION WITH ARCH. OWNER PRIOR TO ROUGH-IN.
- 5 RECEPTACLE CONTROLLED BY PLUG LOAD CONTROLLER. SEE LIGHTING CONTROLS PLAN.



ELEVATOR PIT PLAN
SCALE: 1/8" = 1'-0"

ELECTRICAL POWER PLAN
SCALE: 3/32" = 1'-0"



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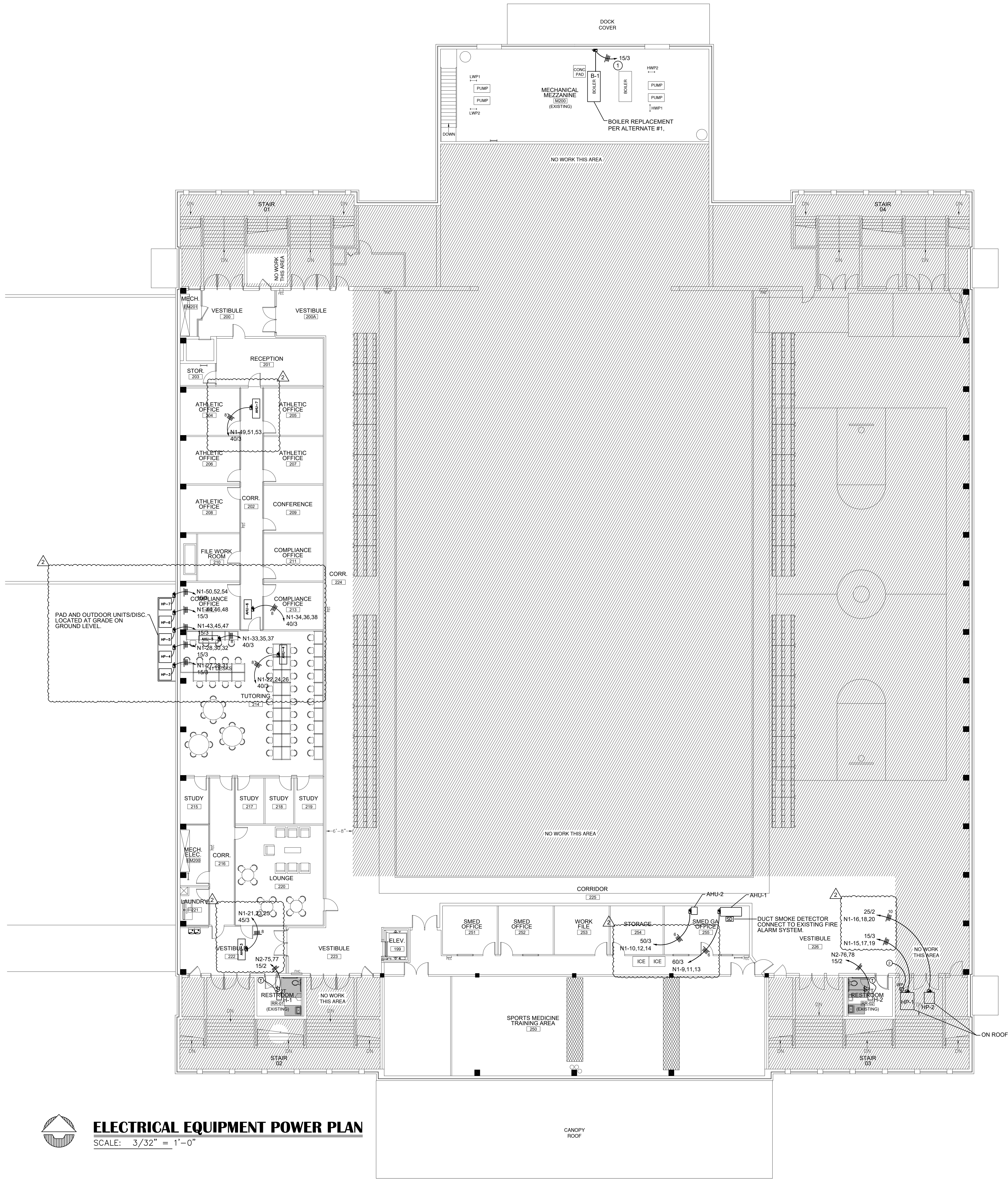
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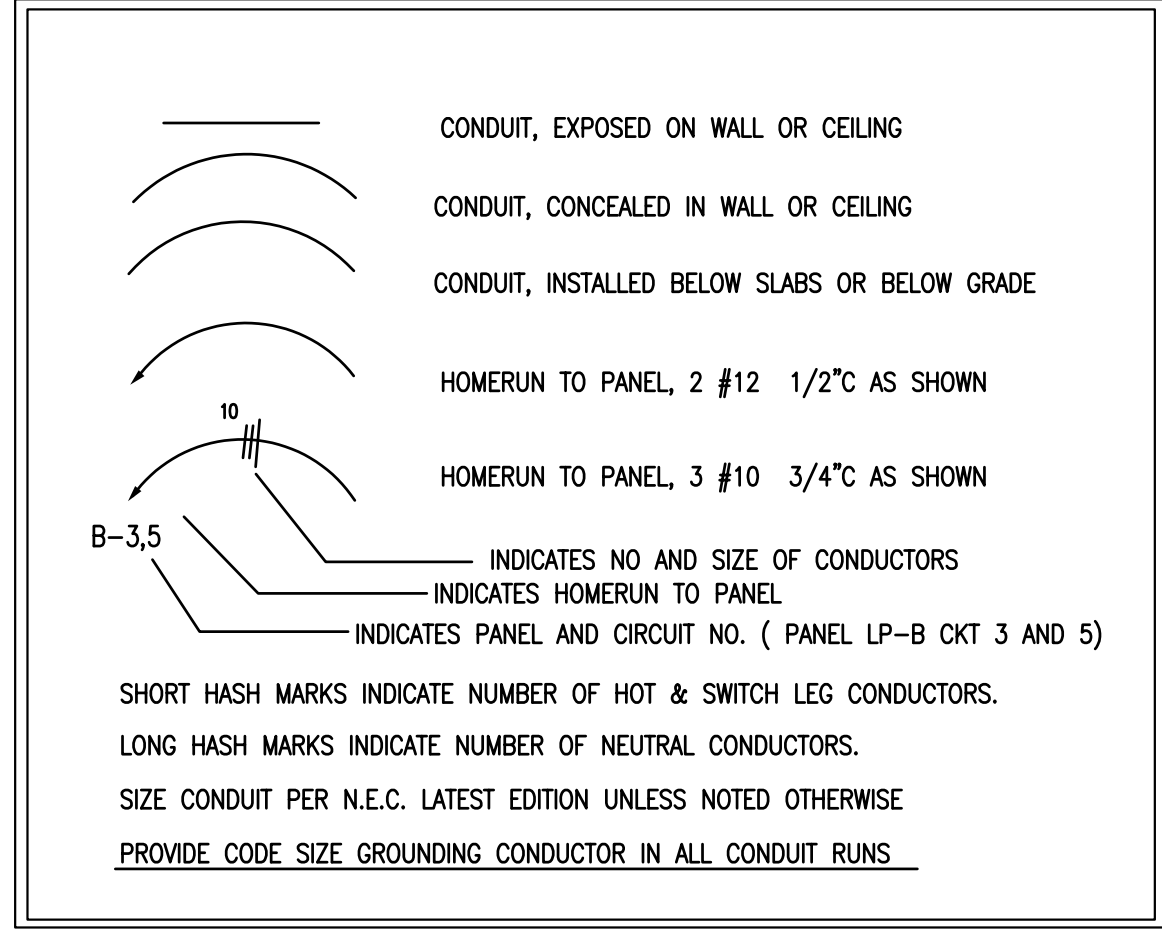
REVISIONS
ADDENDUM 1 10.30.20
ADDENDUM 5 12.21.20

SHEET TITLE
ELECTRICAL POWER PLAN

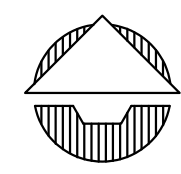
SHEET NUMBER
E-5
OF
8



- 10 DUPLEX OUTLET, GFCI TYPE, NEMA 5-15R, 125V, 15AMP
- 11 NON-FUSED DISCONNECT
- 12 SINGLE POLE TOGGLE DISCONNECT EQUAL TO SQUARE D 2510-KF1
- 13 TWO POLE TOGGLE DISCONNECT EQUAL TO SQUARE D 2510-KG1
- MOUNTING HEIGHTS OF WALL OUTLETS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
- WALL SWITCHES-----48"
- RECEPTACLES-----18"
- TELEPHONE-----18"
- THERMOSTAT-----48"
- ACT - ABOVE COUNTERTOP---2" ABOVE BACKSPLASH



- 1 ELECTRICAL EQUIPMENT POWER KEYED NOTES
- 1 ALTERNATE #1
- PROVIDE NEW 30A, NF, NEMA 1, DISCONNECT, WALL MOUNTED WITHIN SIGHT OF NEW BOILER. PROVIDE 3 #12, 1 #12G, 3/4" FROM BOILER TO DISCONNECT, AND FROM DISCONNECT TO EXISTING BOILER PANEL. PROVIDE NEW 15/3 BREAKER (22k A.I.C. MIN.) IN EXISTING SPACE. MARK EXISTING BOILER BREAKER AS SPARE.
- 2 ROOFTOP RECEPTACLE. PROVIDE 2 #12, 1 #12G, 3/4" TO NEAREST EXISTING 120V CIRCUIT.



ELECTRICAL EQUIPMENT POWER PLAN

SCALE: 3/32" = 1'-0"



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SHEET TITLE

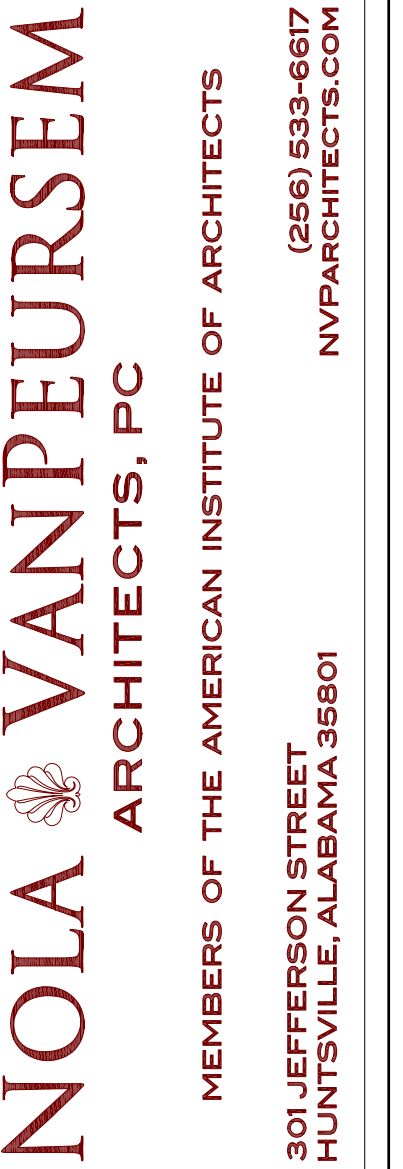
ELECTRICAL EQUIPMENT POWER PLAN

SHEET NUMBER

E-6

OF

8



ALABAMA A&M UNIVERSITY

ELMORE SPORTS MEDICINE RENOVATIONS

NORMAL, ALABAMA

8

PANEL RP-N2

SQUARE D

MFG. TYPE

MAIN AMPS _____, 200 _____

☐ NQO ☐ M.B. ☐ 480/277 3P-4W ☐ 18K IAC
☐ NF ☒ MLO ☐ 208/120 3P-4W ☐ 22K IAC
☐ NEMA 1 ☐ 240/120 1P-3W ☐ 65K IAC
☐ NEMA 3R
☐ SURFACE SUB-FEED BREAKER _____
☐ FLUSH SUB-FEED BREAKER _____

BRANCHES

ONE POLE

TWO POLES

THREE POLES

SPARES

QTY/AMPS

QTY/AMPS

QTY/AMPS

QTY/AMPS

56 20 4 15

4 20

4 20

LOADS:

LIGHTING

GEN. POWER

47.58

2.30

TOTALS

49.88

** = GFC BREAKER

1

201

RECEPT. 200, 201, 203

0.72

0.72

RECEPT. 201

3

201

RECEPT. 204

0.54

0.54

RECEPT. 205

5

201

RECEPT. 206

0.54

0.54

RECEPT. 207

7

201

RECEPT. 208

0.54

0.60

TV RECEPT. 209

9

201

RECEPT. 210

0.54

0.54

RECEPT. 209

11

201

RECEPT. 212

0.54

0.54

RECEPT. 211

13

201

QUAD RECEPT. 214

1.20

0.54

RECEPT. 213

15

201

QUAD RECEPT. 214

1.20

0.16

RECEPT. 214

17

201

POWER POLE #1 214

0.60

0.60

QUAD RECEPT. 214

19

201

POWER POLE #1 214

0.60

0.60

QUAD RECEPT. 214

21

201

POWER POLE #1 214

0.60

0.60

POWER POLE #2 214

23

201

RECEPT. 214, 215

0.90

0.60

POWER POLE #2 214

25

201

RECEPT. 217, 218, 219

0.54

0.60

POWER POLE #2 214

27

201

RECEPT. 220

0.54

0.60

QUAD RECEPT. 214

29

201

RECEPT. 220

0.54

0.60

POWER POLE #3 214

31

201

TV RECEPT. 220

1.20

0.60

POWER POLE #3 214

33

201

TV RECEPT. 220

1.20

0.60

POWER POLE #3 214

35

201

RECEPT. EM200, 216, 221, 222, 223

0.90

0.60

QUAD RECEPT. 214

37

201

WASHER

1.00

0.60

QUAD RECEPT. 214

39

201

DRYER

2.00

0.90

WATER COOLER**

41

2.00

0.90

WATER COOLER**

TOTALS

18.44

12.60

TOTALS

2

201

ELEV. PIT/SPUM POWER

1.00

1.00

RECEPT. 251

4

201

RECEPT. 251

0.54

0.54

RECEPT. 252

6

201

RECEPT. 252

0.54

0.54

RECEPT. 252

8

201

ICE MACHINE 250**

1.00

0.54

RECEPT. 255

10

201

ICE MACHINE 250**

1.00

1.00

RECEPT. 250

12

201

RECEPT. 250

1.00

1.00

RECEPT. 250

14

201

RECEPT. 250

0.72

1.20

TV RECEPT. 250

16

201

RECEPT. 250

0.72

1.20

TV RECEPT. 250

18

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