ALABAMA A & M UNIVERSITY

ELECTRICAL SERVICE REPLACEMENT FOR ELMORE GYMNASIUM

PROJECT LOCATION MAP

LIST OF DRAWINGS

TITLE

1–T0.0 TITLE SHEET

ELECTRICAL

2–E0.1 LEGEND AND NOTES
3–E1.1 DEMOLITION PLAN – ELECTRICAL
4–E2.1 PRIMARY RISER, NOTES TRANSFORMER DETAILS
5–E2.2 RISER DIAGRAMS
6–E2.3 PANEL SCHEDULES
7–E3.1 GROUND FLOOR PLAN – ELECTRICAL
8–E3.2 SECOND FLOOR PLAN AND ENLARGED PLANS

ARCHITECTURAL

9–A1.0 FLOOR PLANS AND DETAILS

PROJECT TEAM

OWNER:

ALABAMA A & M UNIVERSITY

ELECTRICAL ENGINEER:

HYDE ENGINEERING
1525 PERIMETER PARKWAY SUITE 275
HUNTSVILLE , ALABAMA 35801
PH. (256) 270–8013
ATTN: MORGAN REYES

ARCHITECT:

NOLA I VANPEURSEM ARCHITECTS
301 JEFFERSON STREET, NORTH
HUNTSVILLE , ALABAMA 35801
PH. (256) 533–6617
ATTN: STEPHAN WANK

CODES:

2020 NEC
2021 IBC
2021 IFC
2019 NFPA 72
2021 IEBC

Hyde Engineering, Inc.
1525 Perimeter Parkway Suite 275 • Huntsville , AL 35801
(256) 270-8013 • FAX (205) 982-9911 • morgan@hyde-egr.com

Alabama A&M University
Elmore Gym Electrical Service Replacement
Normal, Alabama

NO.	REVISION	DATE

SEAL:

ALABAMA REG. 35980 PROFESSIONAL ENGINEER MORGAN B. REYES
09/29/2023

DATE:	09/29/2023
JOB NUMBER:	23239.0
DRAWN BY:	BR
CHECKED BY:	MBR

DRAWING TITLE:
TITLE SHEET

DRAWING NO.
T0.0

RECEPTACLES

GFI	WALL OUTLET: DUPLEX RECEPTACLE, NEMA 5–20R.
WP	WALL OUTLET: SINGLE RECEPTACLE, NEMA 5–20R.

POWER

	CEILING EXHAUST FAN.
J	NON–FUSED DISCONNECT SWITCH.
J	FUSED DISCONNECT SWITCH.
J	CIRCUIT BREAKER.
ATS	AUTOMATIC TRANSFER SWITCH.
	ELECTRICAL PANEL: SEE SCHEDULE AND SPECIFICATIONS.
T	TRANSFORMER
	FUSED DISCONNECT SWITCH WITH CONNECTION TO EQUIPMENT.
$_T	MANUAL MOTOR STARTER THERMAL SWITCH. WALL MOUNT 5'–6"H. OR AT MOTOR AS SHOWN.

ABBREVIATIONS

A	ABOVE COUNTER	IG	ISOLATED GROUND
AFG	ABOVE FINISH GRADE	NL	NIGHT LIGHT
AFF	ABOVE FINISH FLOOR	MCB	MAIN CIRCUIT BREAKER
AIC	AVAILABLE INTERRUPT CURRENT	MLO	MAIN LUGS ONLY
AL	ALUMINUM	RR	REMOVE AND REPLACE WITH NEW
AWG	AMERICAN WIRE GAUGE	TBB	TELEPHONE BACK BOARD
C	CONDUIT RACEWAY	TP	TAMPER PROOF
CB	CIRCUIT BREAKER	TV	TELEVISION
CU	COPPER	TYP	TYPICAL
DISC	DISCONNECT	UC	UNDER COUNTER
EM	EMERGENCY	UG	UNDER GROUND
EMT	ELECTRICAL METALLIC TUBING	WAP	WIRELESS ACCESS POINT
EP	EXPLOSION PROOF	WP	WEATHERPROOF, NEMA 3R.
EX	EXISTING	XR	EXISTING – REMOVE
F	FUSE	XRR	EXISTING – REMOVE AND RELOCATE
G, GRD	GROUND	XRL	EXISTING – RELOCATED
GFI	GROUND FAULT INTERRUPTING		

NOTES

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL ORDINANCES. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS.
2. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL DETAILS OF THE WORK AND ALL EXISTING FIELD CONDITIONS.
3. CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL INSTALLATION INCLUDING ALL WORK CUSTOMARILY INCLUDED EVEN IF NOT SPECIFICALLY CALLED OUT.
4. THE ELECTRICAL CONTRACTOR SHALL CAREFULLY COORDINATE HIS WORK WITH OTHER CONTRACTORS THROUGH THE GENERAL CONTRACTOR FOR SPACE REQUIREMENTS, ETC.
5. CONTRACTOR SHALL VERIFY ALL MECHANICAL EQUIPMENT NAMEPLATE DATA BEFORE ANY WORK IS DONE AND MAKE ANY ADJUSTMENTS IN BREAKER AND WIRE SIZE AS MAY BE REQUIRED.
6. SHOULD THE CONTRACTOR FIND DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS OR BE IN DOUBT AS TO INTENT, HE SHALL IMMEDIATELY OBTAIN CLARIFICATION FROM THE ARCHITECT OR ENGINEER.
7. THE ELECTRICAL DRAWINGS ARE SCHEMATIC AND ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUITS, OUTLETS, ETC. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS AND SHALL FIT HIS WORK TO CONFORM WITH THE BUILDING CONSTRUCTION AND WITH THE OTHER TRADES.
8. ATTENTION IS CALLED TO THE FACT THAT THIS IS A RENOVATION OF AN EXISTING BUILDING. WHEN THE WORK IS FINISHED, THE ELECTRICAL SHALL BE COMPLETE IN EVERY RESPECT, COMPLETELY INTEGRATED WITH ALL THE EXISTING ELECTRICAL SYSTEMS. ELECTRICAL SERVICE TO THE EXISTING BUILDING SHALL NOT BE INTERRUPTED AT ANY TIME. PROVIDE ALL THE NECESSARY TIES AND TEMPORARY SERVICE TO ACHIEVE THIS CONDITION.
9. RENOVATION/ADDITION SHALL BE MADE TO TIE INTO EXISTING IN A UNIFORM MANNER. SIMILAR ITEMS IN NEW BUILDING SHALL BE CHECKED AGAINST EXISTING BUILDING AS FOR TYPE MOUNTING, MOUNTING HEIGHTS, ETC. ANY ITEMS SHOWN IN NEW ADDITION AT VARIANCE FROM ABOVE SHALL BE REFERRED TO ARCHITECT FOR DECISION BEFORE ROUGHING IN.
10. SHOULD ANY ELECTRICAL POWER, LIGHT OR AUXILIARY, CIRCUITS, FEEDERS OR EQUIPMENT BE SEVERED, DISCONNECTED OR DELETED IN THE PROCESS OF CONSTRUCTION OR REMODELING WHICH IS NOTED A RESULT OF CONTRACT PLANS AND SPECIFICATIONS, AND UNLESS IT IS SPECIFICALLY DESIGNATED BY THE DRAWINGS TO BE DELETED, THEN SAID CIRCUIT OR FEEDER SHALL BE RESTORED TO FIRST CLASS WORKING CONDITION. THE RESTORATION SHALL INCLUDE ANY RE–ROUTING, RELOCATIONS OR REPLACEMENT AS MAY BE NECESSITATED BY THE ARCHITECTURAL AND STRUCTURAL CONSTRUCTION. ANY SUCH WORK REQUIRED SHALL BE INCLUDED IN THE ELECTRICAL CONTRACT AND NO EXTRA COMPENSATION WILL BE GRANTED.
11. THE ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING, PATCHING AND REPAIRING REQUIRED TO DO THIS WORK. REPAIRING OF WORK SHALL BE COMPARABLE TO WORK CUT. PAINT TO MATCH ADJACENT SURFACES OR AS DIRECTED BY ARCHITECT. COORDINATE WITH GENERAL CONTRACTOR.
12. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION TYPE FITTINGS.
13. THE ATTACHED DRAWINGS WERE DEVELOPED FROM RECORD DRAWINGS AND INFORMATION PROVIDED BY OTHERS WHICH MAY NOT REFLECT ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD BEFORE PROCEEDING WITH SUBSEQUENT WORK. THE DESIGN TEAM SHALL BE NOTIFIED OF ANY DISCREPANCIES OR CONFLICTS WITH DRAWINGS FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.
14. QUESTIONS REGARDING THESE DRAWINGS SHALL BE ADDRESSED TO ENGINEER PRIOR TO AWARDING OF CONTRACT. OTHERWISE THE ENGINEER'S INTERPRETATION OF THE MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.
15. PROVIDE ARC FLASH WARNING LABELS ON EXISTING AND NEW PANELS THAT COMPLY WITH NEC110.16.
16. LABEL PANELS PER NEC110.24.

DO NOT SCALE DIMENSIONS FROM DRAWINGS. CONSULT OWNER/ARCHITECT FOR EXACT DIMENSIONAL DATA.

SPECIAL CONSTRUCTION NOTES

A. THE SHUT DOWN TO THIS BUILDING SHALL BE KEPT TO A MINIMUM. THE PROPOSED SCHEDULE IS FOR THE BUILDING TO BE SHUT DOWN FROM MID MAY 2025: TO MID JUNE 2025, A MAXIMUM OF 30 DAYS OF SHUT DOWN. THIS SHOULD ALLOW TIME FOR ALL EQUIPMENT TO ARRIVE. ANY WORK POSSIBLE MAY BE COMPLETED DURING OTHER SCHOOL BREAKS IN 2024.
B. ONCE THE NEW TRANSFORMER AND PRIMARY ARE INSTALLED THE OLD SHALL BE REMOVED.
C. CONTRACTOR SHALL REUSE EXISTING POLE MOUNTED PRIMARY SWITCHES.
D. ANY CEILING TILES BROKEN DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE CEILING TILE.

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SEAL:

ALABAMA
REG. 35960
PROFESSIONAL
ENGINEER
MORGAN B. ROYS
09/29/2023

DATE:	09/29/2023
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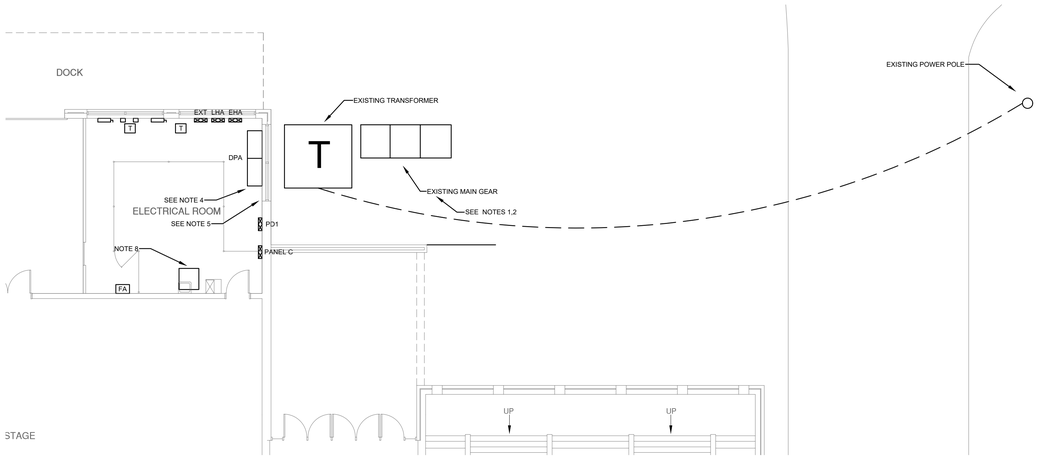
CHECKED BY:	MBR

DRAWING TITLE:
LEGEND, AND NOTES

DRAWING NO.
E0.1

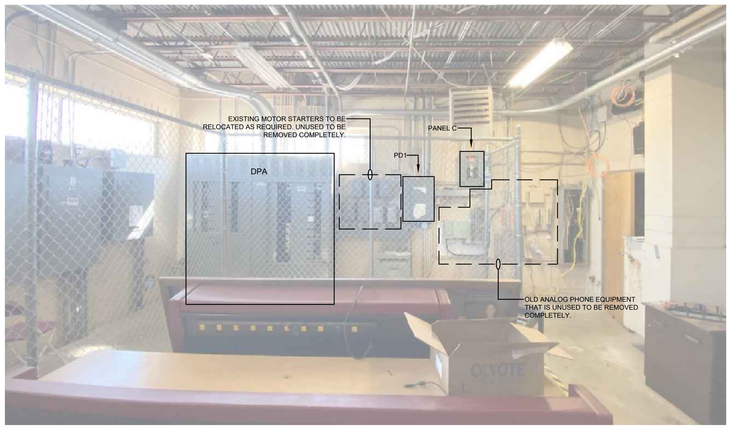


NORTH

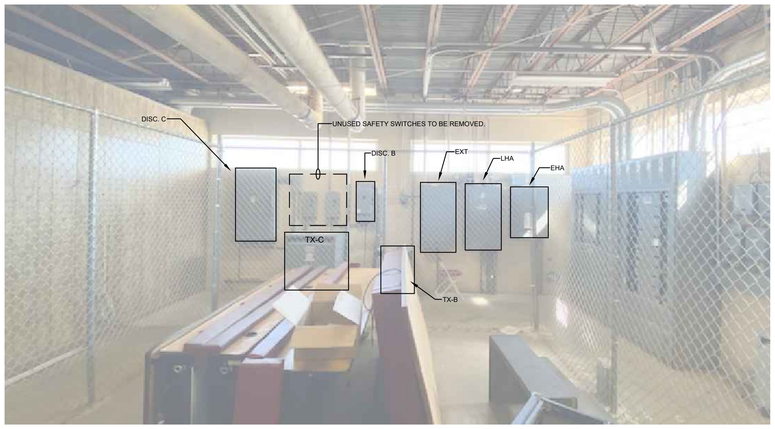
ENLARGED PLAN
ELECTRICAL - EXISTING - DEMOLITION
SCALE 1/8"=1'0"

DEMOLITION NOTES:

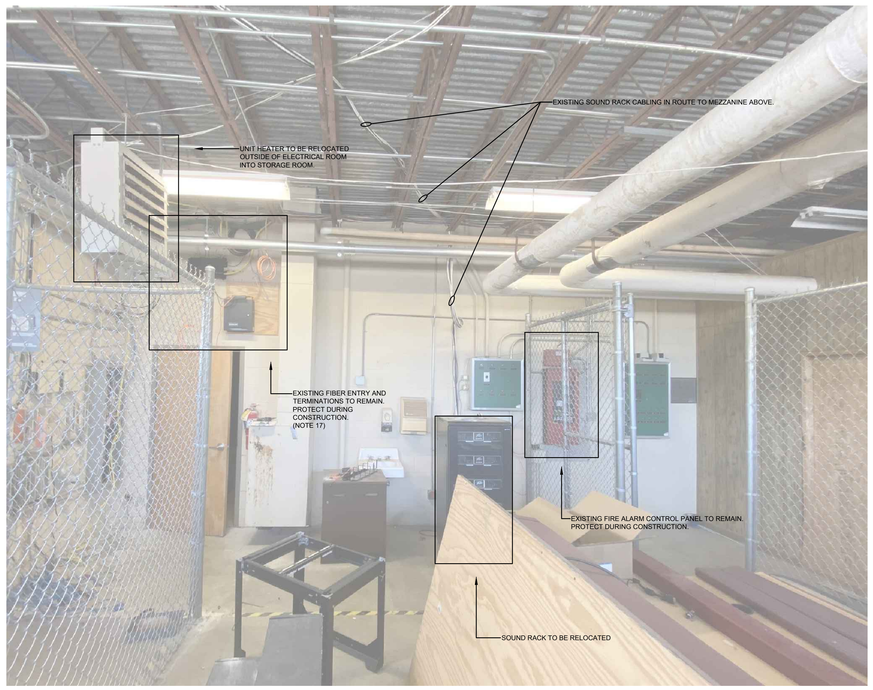
1. EXTERIOR TRANSFORMER AND EXTERIOR MAIN GEAR TO BE REMOVED.
2. EXTERIOR MAIN GEAR FEEDS THE FOLLOWING PANELS: SWBD MDP (POOL), SWBD DPA (GYM), EHA, LHA, LHB, DH, BH AND AN UNKNOWN PANEL (70A).
3. ALL PANEL FEEDERS WILL BE REFEED FROM NEW SWITCHBOARD WITHIN ELECTRICAL ROOM. SEE NEW RISER.
4. EXISTING PANEL DPA AND EXTERIOR MAIN GEAR WILL BE REPLACED WITH NEW MBP AS SHOWN ON RISER.
5. EXISTING EQUIPMENT STARTERS THAT ARE STILL IN USE SHALL BE RELOCATED AND RECONNECTED. ANY STARTERS THAT ARE NO LONGER IN USE SHALL BE REMOVED COMPLETELY AND THE CONDUIT AND WIRE REMOVED BACK TO THE PANEL.
6. PANEL PD1 AND PANEL C WILL BE REPLACED WITH NEW PANEL RPA
7. PANEL LHA AND PANEL EHA WILL BE REPLACED WITH NEW PANEL LPA. CONTRACTOR TO INSTALL A JUNCTION BOX ON THE UNDERGROUND CONDUITS LEAVING EHA AND EXTEND CIRCUITS TO NEW PANEL LPA. LPA SHALL BE LOCATED IN THE SAME APPROXIMATE LOCATION AS PANEL LHA.
8. SOUND SYSTEM EQUIPMENT RACK SHALL BE RELOCATED TO MEZZANINE ABOVE. WIRING ALREADY ROUTES UP THROUGH MEZZANINE FLOOR. CONTRACTOR SHALL LABEL AND TEMPORARY DISCONNECT EXISTING CABLING. MOVE RACK UP TO MEZZANINE AND RECONNECT EXISTING CABLE. COIL UP EXCESS CABLING AT RACK. PROVIDE A 120V/20A RECEPTACLE ROUTED TO A SPARE 20/1 BREAKER IN PANEL RPA.
9. PANEL FEEDER FOR BH SHALL BE NEW AS PART OF BASE BID. PANEL BH SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
10. PANEL BL AND TRANSFORMER TX-BL SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
11. PANEL FEEDER FOR DH SHALL BE NEW AS PART OF BASE BID. PANEL DH SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
12. PANEL DL AND TRANSFORMER TX-DL SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
13. A NEW 2000 AMP FEEDER SHALL BE ROUTED TO THE NEW POOL SWITCHBOARD, DPB.
14. PANEL LP-N1 SHALL HAVE A NEW PANEL FEEDER PULLED INTO THE EXISTING CONDUIT. SEE RISER.
15. PANEL CL AND TRANSFORMER TX-CL SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
16. PANEL LHB WILL HAVE A NEW PANEL FEEDER. PANEL WILL NOT BE REPLACED.
17. PANEL EL AND TX-EL SHALL BE REPLACED AS PART OF ADDITIVE ALTERNATE #1.
18. A NEW HARD CEILING WILL BE INSTALLED IN NEW ELECTRICAL ROOM. ANY JUNCTION BOXES OR CABLING WILL NEED TO BE RELOCATED TO BELOW THE NEW CEILING. CONTRACTOR SHALL FIRE CAULK ALL PENETRATIONS.
19. UNIT HEATER SHALL BE RELOCATED CLEAR OF ELECTRICAL ROOM.



EXISTING EAST WALL OF ELECTRICAL ROOM
SCALE 1/8"=1'0"



EXISTING NORTH WALL OF ELECTRICAL ROOM
SCALE 1/8"=1'0"



EXISTING NORTH WALL OF ELECTRICAL ROOM
SCALE 1/8"=1'0"

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DEMOLITION PLAN - ELECTRICAL

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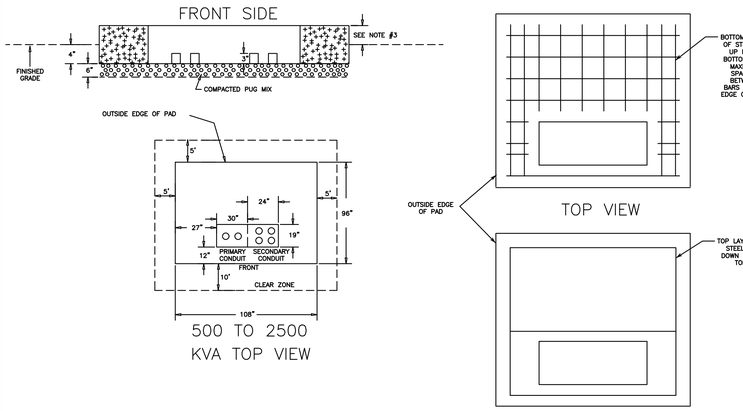
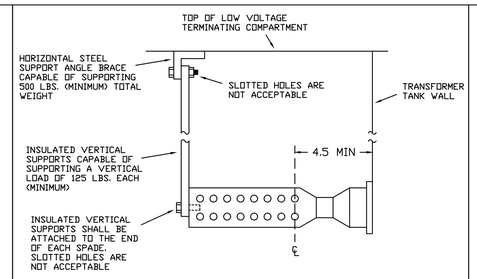


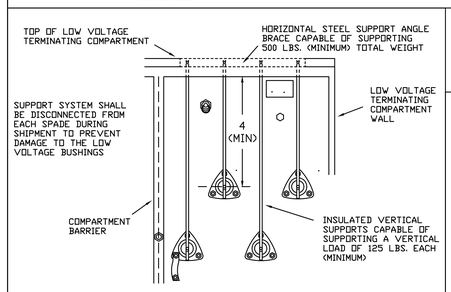
TRANSFORMER DETAIL
CONCRETE TRANSFORMER PAD
NO SCALE

NOTES

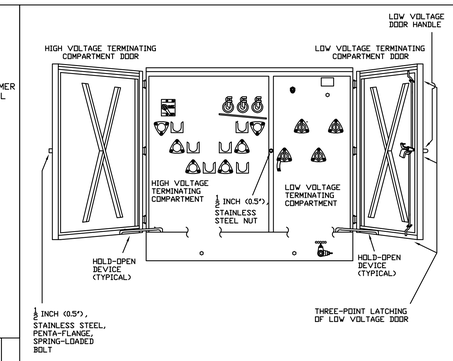
1. FOR NUMBER AND SIZE OF PRIMARY CONDUITS, CONSULT JOB DRAWING. HUNTSVILLE UTILITIES.
2. PADS MUST HAVE A BRUSHED OUTSIDE FINISH.
3. HEIGHT OF PAD SHALL BE 12" ATG.
4. NO SECONDARY CABLES MAY BE PULLED UNTIL TRANSFORMER IS PLACED.
5. FROM OUTSIDE OF PRIM. TO OUTSIDE OF SEC. EQUALS 48".
6. MINIMUM THICKNESS OF CONCRETE PAD IS 24".
7. TWO LAYERS #4 (1/2") REBAR ARE REQUIRED.
8. IT IS NOT PERMISSABLE TO FLOAT EITHER LAYER OF REBAR.
9. NO REBAR SHOULD BE WITHIN 6" OF ANY SURFACE OF THE PAD.
10. PAD FORM (WITH STEEL INSTALLED) MUST BE INSPECTED BEFORE POURING CONCRETE.



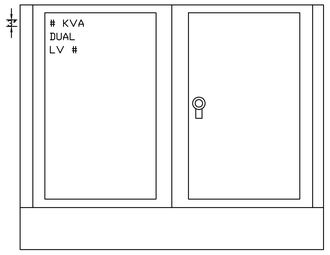
TRANSFORMER DETAIL
SIDE VIEW
NO SCALE



TRANSFORMER DETAIL
FRONT VIEW
NO SCALE



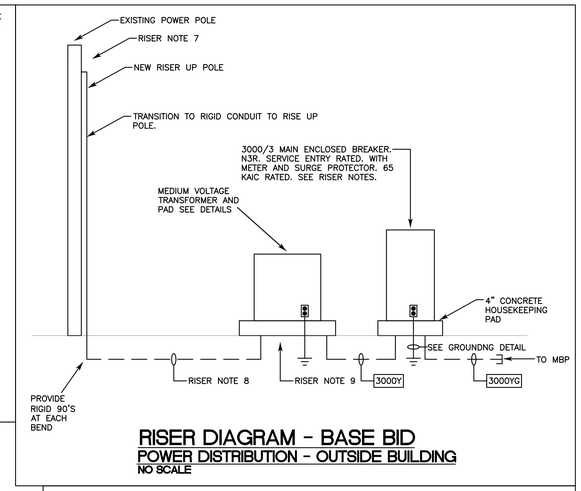
TRANSFORMER DETAIL
FRONT ELEVATION
NO SCALE



TRANSFORMER DETAIL
OVERALL FRONT VIEW
NO SCALE

NOTES

1. ALL LETTER AND NUMBER HEIGHT SHALL BE 3" MINIMUM HEIGHT REFER TO SPECIFICATION FOR COLOR.



RISER DIAGRAM - BASE BID
POWER DISTRIBUTION - OUTSIDE BUILDING
NO SCALE

FEEDER SCHEDULE

20SG	2#12 & 1#12G.-1/2"C.	30DG	4#2 & 1#8G.-2"C.
40YG	4#2 & 1#8G.-2"C.	50DG	3#8 & 1#10G.-1"C.
50YG	4#2 & 1#8G.-2"C.	60DG	3#6 & 1#10G.-1 1/4"C.
60YG	4#2 & 1#8G.-2"C.	70YG	4#2 & 1#8G.-2"C.
80DG	3#4 & 1#8G.-1 1/2"C.	100YG	4#2 & 1#8G.-2"C.
125YG	4#1 & 1#6G.-2"C.	150DG	3#1/0 & 1#6G.-2"C.
150YG	4#1/0 & 1#6G.-2 1/2"C.	175DG	3#2/0 & 1#6G.-2 1/2"C.
200YG	4#3/0 & 1#6G.-3"C.	250YG	4#250MCM & 1#4G.-3"C.
300YG	4#350MCM & 1#4G.-3 1/2"C.	400YG	4#500MCM & 1#2G.-4"C.
420YG	4#500MCM & 1#2G.-4"C.	2000YG	3 SETS OF 4#500MCM & 1#2/0G.-4"C.
3000YG	3 SETS OF 4#500MCM & 1#2/0G.-4"C.	3000Y	3 SETS OF 4#500MCM & 1#2/0G.-4"C.

SERVICE NOTES:

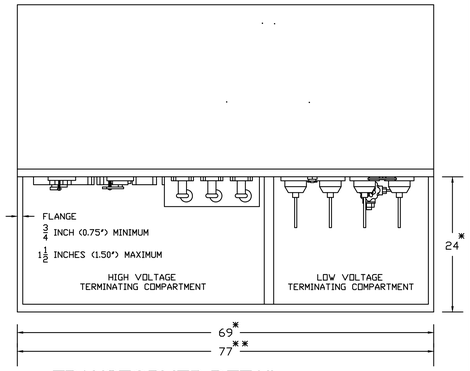
1. THE SECONDARY SERVICE: 277/480V, 3ø, 4W., GROUNDED NEUTRAL, WYE CONNECTED AS SHOWN ON SINGLE LINE DIAGRAM.

RISER NOTES:

1. INDUSTRY AVERAGE EQUIPMENT SIZES WERE USED TO DETERMINE FIT AND WORKING CLEARANCES. E.C. IS TO VERIFY FIT AND WORKING CLEARANCES BASED ON ACTUAL EQUIPMENT CONSIDERED.
2. FOR 277/480 VOLT SYSTEMS 1000A. & OVER, PROVIDE GFI PROTECTION FOR EACH PROTECTIVE DEVICE RATED 1000A. OR MORE. FIELD TEST PER NEC 230.95(C).
3. PROTECTIVE DEVICES RATED 800A & GREATER SHALL BE STATIC TRIP TYPE WITH LSI SETTINGS.
4. PROTECTIVE DEVICES RATED 1200A & GREATER SHALL HAVE ENERGY REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR OR ARC-FLASH ENERGY REDUCTION SCHEME/METHOD APPROVED BY ENGINEER.
5. SEE FLOOR PLANS FOR PLACEMENT OF EQUIPMENT.
6. ALL EXTERIOR EQUIPMENT TO BE IN NEMA 3R ENCLOSURES.
7. FURNISH AND INSTALL A NEW TRIMOUNT BRACKET WITH 3 EACH OUTDOOR TERMINTATORS FOR NEW PRIMARY CABLING. THIS CONTRACTOR IS RESPONSIBLE FOR TERMINATING THE PRIMARY CABLE ON THE AAMU OWNED PRIMARY. CONTRACTOR MAY REUSE EXISTING SWITCHES ON POWER POLE.
8. FURNISH AND INSTALL 3 EACH #4/0-1C-15KV TAPE SHIELD 133% INSULATION EPR CONDUCTORS IN A NEW 4" PVC CONDUIT. CONTRACTOR WILL NEED TO BORE UNDER EXISTING ROAD. TERMINATE CABLES AT EACH END.
9. FURNISH AND INSTALL EXTERIOR 1500 KVA 12470 DELTA-480Y/277 PAD MOUNTED TRANSFORMER. TRANSFORMER TO BE DEAD FRONT, +/- 2.5% TAPS, 95KV BIL, (HIGHSIDE), 30 KV BIL (LOWSIDE), MINERAL OIL FILLED, 3 PHASE 60 HZ. SEE SPECIFICATIONS AND DETAILS.
10. CONTRACTOR SHALL FURNISH AND INSTALL REBAR ENFORCED CONCRETE PAD PER DETAILS PROVIDED.
11. PRIMARY AND TRANSFORMER PAD SHALL BE INSPECTED BY ENGINEER PRIOR TO COVER UP.

SHORT CIRCUIT, COORDINATION, AND ARC FLASH:

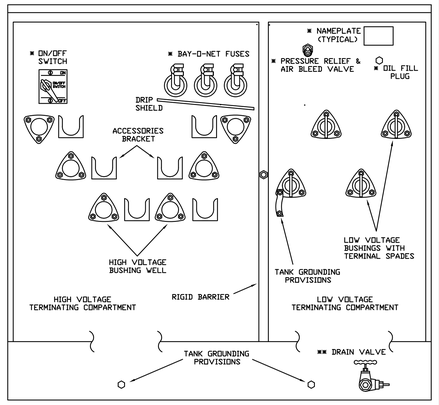
1. ACTUAL AVAILABLE FAULT CURRENT DATA WAS NOT OBTAINED FROM THE POWER COMPANY. E.C. IS TO OBTAIN FAULT CURRENT DATA FROM POWER COMPANY.
2. E.C. TO PROVIDE SHORT CIRCUIT, COORDINATION, AND ARC FLASH STUDIES FOR ALL NEW EQUIPMENT AS WELL AS EXISTING UPSTREAM EQUIPMENT.
3. STUDIES ARE TO START AT UTILITY SOURCE AND/OR GENERATOR AND INCLUDE ALL EXISTING UPSTREAM EQUIPMENT.
4. E.C. IS RESPONSIBLE FOR COLLECTING ALL DATA NECESSARY TO COMPLETE STUDY.
5. STUDIES ARE TO BE PERFORMED USING SKM POWERWARE, EASYPOWER, OR ETAP SOFTWARE UNDER THE SUPERVISION OF A REGISTERED ENGINEER. ARC FLASH STUDIES SHALL BE CONSISTENT WITH IEEE 1584.
6. PROVIDE PRELIMINARY STUDY REPORT AT TIME OF POWER EQUIPMENT SUBMITTALS. POWER EQUIPMENT SUBMITTALS WILL BE REJECTED WITHOUT PRELIMINARY STUDY.
7. USE RESULTS OF STUDY TO SELECT AIC RATINGS, BREAKER TYPES, ETC. FOR POWER EQUIPMENT PRIOR TO ORDERING EQUIPMENT.
8. MARK EQUIPMENT PER BOTH NFPA 70 AND 70E TO INCLUDE, BUT NOT LIMITED TO, ARC FLASH LABELS.
9. PROVIDE FINAL STUDY REPORT AS PART OF CLOSE-OUT DOCUMENTATION (BOTH HARD COPY AND ELECTRONIC PDF FORM).



TRANSFORMER DETAIL
HIGH/LOW VOLTAGE COMPARTMENT - NO DOORS
NO SCALE

NOTES

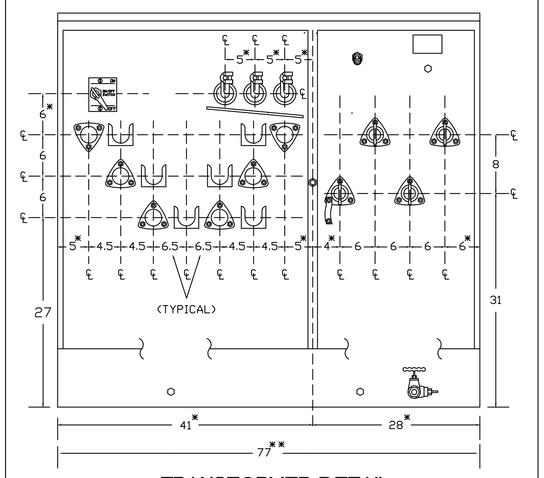
1. VALUES WITH AN ASTERISK (*) DENOTE MINIMUM DIMENSIONS. VALUES WITH AN ASTERISK (**) DENOTE MAXIMUM DIMENSIONS. ALL OTHER DIMENSIONS HAVE A TOLERANCE OF +/- 1/4 INCH (+/- 0.25").
2. TANK SHOWN WITHOUT COOLING FINS OR RADIATORS.
3. ALL DIMENSIONS ARE IN INCHES.



TRANSFORMER DETAIL
FRONT ELEVATION - NO DOORS
NO SCALE

NOTES

1. ACCESSORIES DENOTED WITH A SINGLE ASTERISK (*) SHALL BE LOCATED PER THE MANUFACTURER'S DISCRETION (WITHIN THE DIMENSIONAL RESTRICTIONS SPECIFIED ON SHEET #3)
2. DOUBLE ASTERISKS (**): TRANSFORMERS RATED 750-2500KVA - ONE INCH (1") NPT DRAIN VALVE WITH BUILT-IN SAMPLING DEVICE (BUILT-IN SAMPLING DEVICE OPTIONAL).



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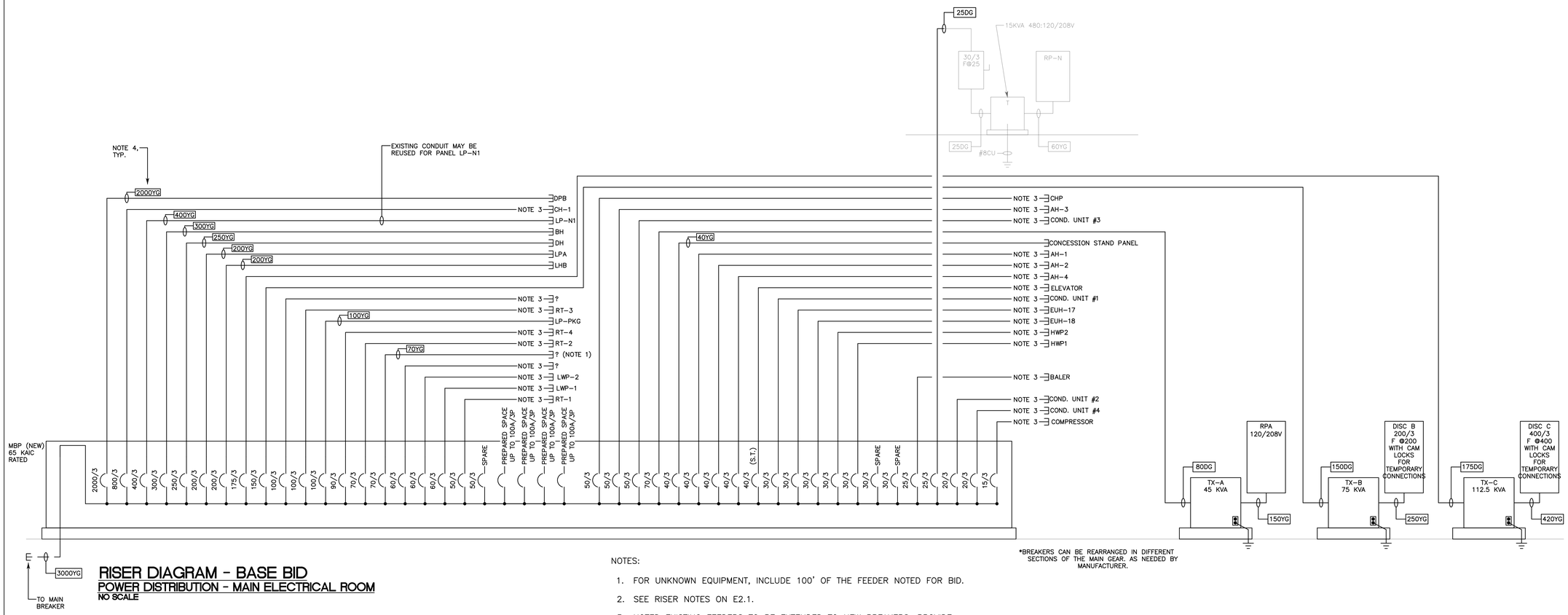
PRIMARY RISER, NOTES, AND TRANSFORMER DETAILS

DRAWING NO.
E2.1

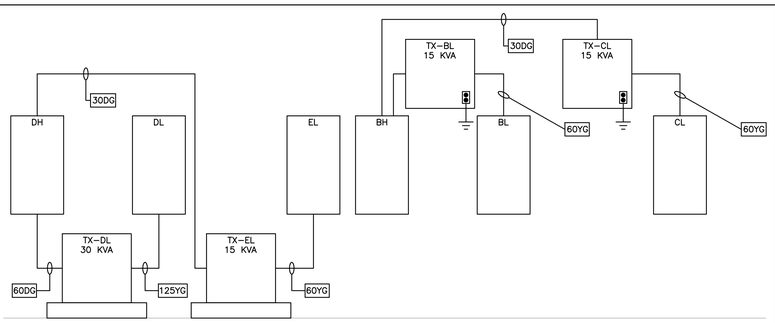


*BREAKERS CAN BE REARRANGED IN DIFFERENT SECTIONS OF THE MAIN GEAR. AS NEEDED BY MANUFACTURER.

RISER DIAGRAM - BASE BID
POWER DISTRIBUTION - MAIN ELECTRICAL ROOM
NO SCALE

NOTES:

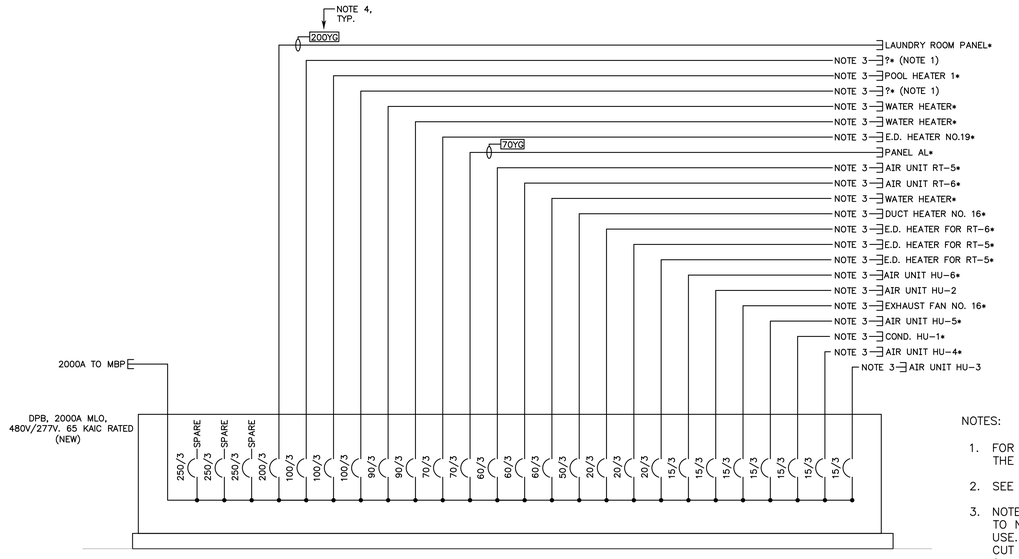
1. FOR UNKNOWN EQUIPMENT, INCLUDE 100' OF THE FEEDER NOTED FOR BID.
2. SEE RISER NOTES ON E2.1.
3. NOTED EXISTING FEEDERS TO BE EXTENDED TO NEW BREAKERS. PROVIDE JUNCTION BOX FOR SPLICING AS NECESSARY.
4. FEEDERS WITH A SIZE NOTED ARE TO BE NEW FROM MBP TO THE PANEL OR TRANSFORMER.



ADDITIVE ALTERNATE #1 RISER
POWER DISTRIBUTION
NO SCALE

NOTES:

1. FOR ADDITIVE ALTERNATE REPLACE THE PANELS, TRANSFORMERS, AND FEEDERS FROM MBP SHOWN. SEE PANEL SCHEDULES. RECONNECT ALL EXISTING LOADS TO NEW PANEL. PANEL FEEDER FOR DH AND BH ARE IN THE BASE BID. IT IS ASSUMED THAT TX-BL AND TX-CL ARE SUSPENDED ABOVE THE CORRIDOR CEILING CURRENTLY AND SHOULD BE REPLACED IN THE SAME LOCATION.
2. SEE RISER NOTES ON E2.1.



RISER DIAGRAM - BASE BID
POWER DISTRIBUTION - POOL ELECTRICAL ROOM
NO SCALE

NOTES:

1. FOR UNKNOWN EQUIPMENT, INCLUDE 100' OF THE FEEDER NOTED FOR BID.
2. SEE RISER NOTES ON E0.1.
3. NOTED EXISTING FEEDERS SHALL BE EXTENDED TO NEW BREAKERS IF EQUIPMENT IS STILL IN USE. EQUIPMENT NO LONGER N USE MAY BE CUT SHORT OF PANEL BOARD AND ABANDONED. (* EQUIPMENT IS ASSUMED TO BE STILL IN USE.)
4. FEEDERS WITH A SIZE NOTED ARE TO BE NEW FROM MBP TO THE PANEL OR TRANSFORMER.

Hyde Engineering, Inc.
1525 Perimeter Parkway Suite 275 • Huntsville , AL 35801
(256) 270-0013 • FAX (205) 982-9911 • morgan@hyde-egr.com

Alabama A&M University
Normal, Alabama

Elmore Gym Electrical Service Replacement

NO.	REVISION	DATE

SEAL:
ALABAMA LICENSED PROFESSIONAL ENGINEER
Reg. 32960
09/29/2023

DATE:	09/29/2023
JOB NUMBER:	23239.0
DRAWN BY:	BR
CHECKED BY:	MBR

DRAWING TITLE:
RISER DIAGRAMS

DRAWING NO.
E2.2

PANEL: BH (ADDITIVE ALTERNATE #1)

VOLTAGE: 277 | 480V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 300A | MAIN CB TRIP: MLO

MOUNTING: FLUSH | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 42 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	ELH #5, BACK LOBBY	1	0				2				
50	1	ROOM 6 HEAT AND AIR				2						
50	1	ROOM 7 HEAT AND AIR N	3	0			4				SOUTH UNIT #6	20
50	1	ROOM 7 HEAT AND AIR S						6			NORTH UNIT #5	20
50	1	ROOM 6 HEAT AND AIR S	7	0				8			ROOM 3 HEAT AND AIR N	50
50	1	ROOM 4 HEAT AND AIR S						10			ROOM 3 HEAT AND AIR S	50
50	1	ROOM 3 HEAT AND AIR S	11	0				12			ROOM 2 HEAT AND AIR N	50
50	1	ROOM 2 HEAT AND AIR S						14			ELH #6, BACK LOBBY	20
50	1	ROOM 1 HEAT AND AIR N	15	0				16			ELH, BACK LOBBY	20
50	1	ROOM 1 HEAT AND AIR S						18			ELH #13, FRONT LOBBY	20
20	1	ELH #12, FRONT LOBBY	19	0				20			ELH #11, FRONT LOBBY	20
20	1	CLASSROOM LIGHTS						22			CLASSROOM LIGHTS #3	20
20	1	LIGHTS, CORRIDOR & LOBBY	23	0				24			CLASSROOM LIGHTS	20
20	1	LIGHTS, CLASSROOM #7						26			CLASSROOM LIGHTS	20
20	1	UH #3, BATHROOM AND BALCONY	27	0				28			CLASSROOM LIGHTS	20
20	1	SPARE						30			SPARE	20
20	3	TRANSFORMER #2, PANEL BH	31	0				32			UH#1, ROOM 104	20
			33					34			SPARE	20
			35	0				36			SPARE	20
20	3	SPARE	37					38			SPARE	20
			39	0				40			SPARE	20
			41					42			SPARE	20
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: CL (ADDITIVE ALTERNATE #1)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 50A | MAIN CB TRIP: 50A MB

MOUNTING: FLUSH | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	RCPTS, CLASSROOM	1	0				2				
25	1	RCPTS, OFFICE	3			0		4				
20	1	RCPTS, CORRIDOR & GYM	5	0				6			EXISTING LOAD	20
20	1	SCOREBOARD	7			0		8			SPARE	20
20	1	SCOREBOARD	9	0				10			RCPTS, BALCONY & ROOM 104	20
20	1	SCOREBOARD	11			0		12			EXHAUST FAN ROOM 104	20
50	3	BLEACHERS	13	0				14			BLEACHERS	30
			15			0		16				
			17					18				
20	1	EXISTING LOAD	19	0				20			EXISTING LOAD	20
20	1	SPARE	21			0		22			SCORE BOARD	20
20	1	SPARE	23	0				24			SPARE	20
20	1	SPARE	25			0		26			SPARE	20
20	1	SPARE	27	0				28			SPARE	20
20	1	SPARE	29			0		30			SPARE	20
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: BL (ADDITIVE ALTERNATE #1)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 50A | MAIN CB TRIP: 50A MB

MOUNTING: FLUSH | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	RCPTS, CLASSROOM	1	0				2				
25	1	RCPTS, OFFICE	3			0		4				
20	1	RCPTS, CORRIDOR & GYM	5	0				6			EXISTING LOAD	20
20	1	SCOREBOARD	7			0		8			SPARE	20
20	1	SCOREBOARD	9	0				10			RCPTS, BALCONY & ROOM 104	20
20	1	SCOREBOARD	11			0		12			EXHAUST FAN ROOM 104	20
50	3	BLEACHERS	13	0				14			BLEACHERS	30
			15			0		16				
			17					18				
20	1	EXISTING LOAD	19	0				20			EXISTING LOAD	20
20	1	SPARE	21			0		22			SCORE BOARD	20
20	1	SPARE	23	0				24			SPARE	20
20	1	SPARE	25			0		26			SPARE	20
20	1	SPARE	27	0				28			SPARE	20
20	1	SPARE	29			0		30			SPARE	20
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: CL (ADDITIVE ALTERNATE #1)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 50A | MAIN CB TRIP: 50A MB

MOUNTING: FLUSH | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	RCPTS, CLASSROOM	1	0				2				
25	1	RCPTS, OFFICE	3			0		4				
20	1	RCPTS, CORRIDOR & GYM	5	0				6			EXISTING LOAD	20
20	1	SCOREBOARD	7			0		8			SPARE	20
20	1	SCOREBOARD	9	0				10			RCPTS, BALCONY & ROOM 104	20
20	1	SCOREBOARD	11			0		12			EXHAUST FAN ROOM 104	20
50	3	BLEACHERS	13	0				14			BLEACHERS	30
			15			0		16				
			17					18				
20	1	EXISTING LOAD	19	0				20			EXISTING LOAD	20
20	1	SPARE	21			0		22			SCORE BOARD	20
20	1	SPARE	23	0				24			SPARE	20
20	1	SPARE	25			0		26			SPARE	20
20	1	SPARE	27	0				28			SPARE	20
20	1	SPARE	29			0		30			SPARE	20
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: DH (ADDITIVE ALTERNATE #1)

VOLTAGE: 277 | 480V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 400A | MAIN CB TRIP: MLO

MOUNTING: SURFACE | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 42 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	RCPTS, CLASS ROOM	1	0				2			LIGHTS CORRIDOR	20
20	3	PANEL EL	3			0		4			EUH #14	20
			5	0				6			EUH #15	20
20	3	HU #6, ROOM 404	7			0		8			LIGHTS, ROOMS 33-39	20
			9	0				10			LIGHTS, ROOMS 33-39	20
			11			0		12			LIGHTS, ROOMS 33-39	20
20	3	SPARE	13	0				14			LIGHTS, BACK ENTRY	20
			15			0		16			SPARE	20
			17	0				18			EUH #8	20
20	3	EXISTING LOAD	19			0		20			EUH #16, FRONT ENTRY	20
			21	0				22			LIGHTS, ROOMS 44-53	20
			23			0		24			LIGHTS, ROOM 43	20
20	3	HU #2	25	0				26			LIGHTS, ROOMS 44-53	20
			27			0		28			HEATER CLASSROOM #43	20
			29	0				30			SPARE	20
20	3	PANEL DL	31			0		32			SPARE	20
			33	0				34			SPARE	20
			35			0		36			SPARE	20
20	3	SPARE	37	0				38			SPARE	20
			39			0		40			SPARE	20
			41	0				42			SPARE	20
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: DL (ADDITIVE ALTERNATE #1)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 100A | MAIN CB TRIP: 100A MB

MOUNTING: SURFACE | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	RCPT, STAGE	1	0				2				
20	1	RCPTS, TELEPHONE BOARD	3			0		4			RCPT, RMS 34, 37, 40, 42	1
20	1	EXISTING LOAD	5	0				6			RCPT, RMS 34, 37, 40, 42	1
20	1	RCPTS, CORRIDOR	7			0		8			RCPT, RMS 30, 33, 36	1
20	1	RCPTS, CORRIDOR	9	0				10			RCPT, RMS 30, 33, 36	1
20	1	RCPTS, BALCONY	11			0		12			EXISTING LOAD	20
20	1	RCPT, RM 106, BALCONY	13	0				14			SPARE	1
30	3	BLEACHERS	15			0		16			BLEACHERS	30
			17	0				18				
			19			0		20			SPARE	1
20	1	COKE MACHINES	21	0				22			SPARE	1
20	1	COKE MACHINES	23			0		24			SPARE	1
20	1	COKE MACHINES	25	0				26			SPARE	1
20	1	SPARE	27			0		28			SPARE	1
20	1	SPARE	29	0				30			SPARE	1
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: EXT (N)

VOLTAGE: 277 | 480V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 100A | MAIN CB TRIP: MLO

MOUNTING: SURFACE | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 42 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	SPARE	1	0				2				
20	3	FCU #5, EDH #9	3			0		4			FCU #1, EDH #5	3
			5	0				6				
30	3	BLEACHERS	7			0		8				
			9	0				10			CT SUMP HEATER	3
			11			0		12				
20	3	SPARE	13	0				14			SOCCER 58, N PL LIGHTS	3
			15			0		16				
			17	0				18				
20	3	SPARE	19			0		20				
			21	0				22			SPARE	1
20	3	VM ROOM 7	23			0		24			SPARE	1
			25	0				26			SPARE	1
20	3	SPARE	27			0		28			SPARE	1
			29	0				30			SPARE	1
20	3	SPARE	31			0		32			SPARE	1
			33	0				34			SPARE	1
			35			0		36			SPACE	
20	3	SPARE	37	0				38			SPACE	
			39			0		40			SPACE	
			41	0				42			SPACE	
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: EL (ADDITIVE ALTERNATE #1)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 50A | MAIN CB TRIP: 50A MB

MOUNTING: FLUSH | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
50	2	RCPTS, RMS 44,47,48,43	1	0				2				
20	1	RCPTS, CORRIDOR & LOBBY	3			4			RCPTS, RMS 49,53,LOBBY	2	50	
20	1	RCPTS, CORRIDOR & LOBBY	5	0				6				
20	1	RCPTS, CORRIDOR & LOBBY	7			8			RCPTS, BALCONY	1	20	
20	1	LIGHTS, GYM, BALCONY, MAIN	9	0				10			LIGHTS, GYM, BALCONY	1	20	
20	1	LIGHTS, GYM, BALCONY	11			12			LIGHTS, GYM, BALCONY	1	20	
20	1	LIGHTS, GYM, BALCONY	13	0				14			RCPTS, BALCONY	2	30	
20	1	LIGHTS, GYM, BALCONY	15			16			SPARE	1	20			
20	1	LIGHTS, GYM, BALCONY	17	0				18			LOBBY WATER FOUNT	1	20	
20	1	LIGHTS, GYM, BALCONY	19			20			FCU #4, RM 45	1	20			
20	1	LIGHTS, GYM, BALCONY	21	0				22			SPACE			
20	1	LIGHTS, GYM, BALCONY	23			24			SPACE					
20	1	LIGHTS, GYM, BALCONY	25	0				26			SPACE			
20	1	LIGHTS, GYM, BALCONY	27			28			SPACE					
20	1	LIGHTS, GYM, BALCONY	29	0				30			SPACE			
20	1	LIGHTS, GYM, BALCONY	31			32			SPACE					
20	1	LIGHTS, GYM, BALCONY	33	0				34			SPACE			
20	1	LIGHTS, GYM, BALCONY	35			36			SPACE					
20	1	LIGHTS, GYM, BALCONY	37	0				38			SPACE			
20	1	LIGHTS, GYM, BALCONY	39			40			SPACE					
20	1	LIGHTS, GYM, BALCONY	41	0				42			SPACE			
TOTAL				0		0		0						

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

PANEL: RPA (NEW REPLACES PD1 AND C)

VOLTAGE: 120/208V | PHASE/WIRE: 3P., 4W | MAIN BUS RATING: 150A | MAIN CB TRIP: 150A MB

MOUNTING: SURFACE | MINIMUM BREAKER INTERRUPTING CAPACITY (IRMS SYM AMPS): 22 KAIC

DEVICE:	BRANCH CIRCUIT								PHASE LOAD (VOLT - AMPS)		BRANCH CIRCUIT			DEVICE:
AMPS TRIP	POLES	DESIGNATION	VOLTS-AMPS	NO.	Ø A	Ø B	Ø C	NO.	VOLTS-AMPS	POLES	DESIGNATION	AMPS TRIP
20	1	SPARE	1	0				2				
20	1	SPARE	3			0		4				
30	3	LIGHTS, GYM	5	0				6				
			7			0		8				
			9	0				10				
30	3	EXISTING LOAD	11			0		12				
			13	0				14				
			15			0		16				
30	3	LIGHTS, GYM	17	0				18				
			19			0		20				
20	3	RCPTS, ELECTRICAL ROOM & OUTSIDE MAIN	21	0				22				
			23			0		24				
60	2	PANEL C	25	0				26				
			27			0		28				
20	1	SPARE	29	0				30				
20	1	SPARE	31			0		32				
15	3	EXISTING LOAD	33	0				34				
			35			0		36				
			37	0				38				
20	1	FIRE ALARM	39			0		40				
			41	0				42				
20	2	EXISTING LOAD	43			0		44				
			45	0				46				
			47			0		48				
			49	0				50				
			51			0		52				
			53	0				54				
			55			0		56				
			57	0				58				
			59			0		60				
TOTAL				0		0		0				

TOTAL CONNECTED LOAD (AMPS): 0.00

REQUIRED AMPACITY (AMPS) 0.00

TRANSFORMER TABLE – 480V PRIMARY – 208/120V SECONDARY

TRANSFORMER								
KVA	AMPS	FL SIZE	FDR	GROUNDING CONDUIT	AMPS	FL SIZE	BKR FDR
	3PH	480V	(1)	(2)	WIRE AWG	CONDUIT IN	208V	(1) (2)
15	18	30	350G	8	3/4	41.7	50	60YG
30	36.1	50	600G	6	3/4	83.3	100	125YG
45	54.1	70	800G	6	3/4	124.9	150	150YG
112.5	135.4	175	1750G	1/0	1	312.5	400	420YG
75	90.2	125	1500G	2	3/4	208.2	250	250YG
150	180.4	225	2250G	1/0	1	416.4	500	500YG
225	270.6	350	4000G	2/0	1	625.5	800	840YG

NOTES:
1 – USE DEVICE TYPES INDICATED ON SINGLE LINE DIAGRAM.
2 – REFERENCE FEEDER TABLE FOR FEEDER SIZE
3 – PROVIDE COPPER GROUNDING ELECTRODE

ENCLOSURE FOR ALL EXTERIOR TRANSFORMERS.

DRY–TYPE TRANSFORMER WITH COPPER WINDINGS, PROVIDE NEMA 3R

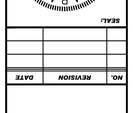
Hyde Engineering, Inc.
1525 Perimeter Parkway, Suite 275 ● Huntsville, AL 35801
(256) 270-0013 ● FAX (205) 982-6911 ● mengel@hyde-engr.com

Elmore Gym Electrical Service Replacement

Alabama A&M University
Normal, Alabama

NO.	REVISION	DATE

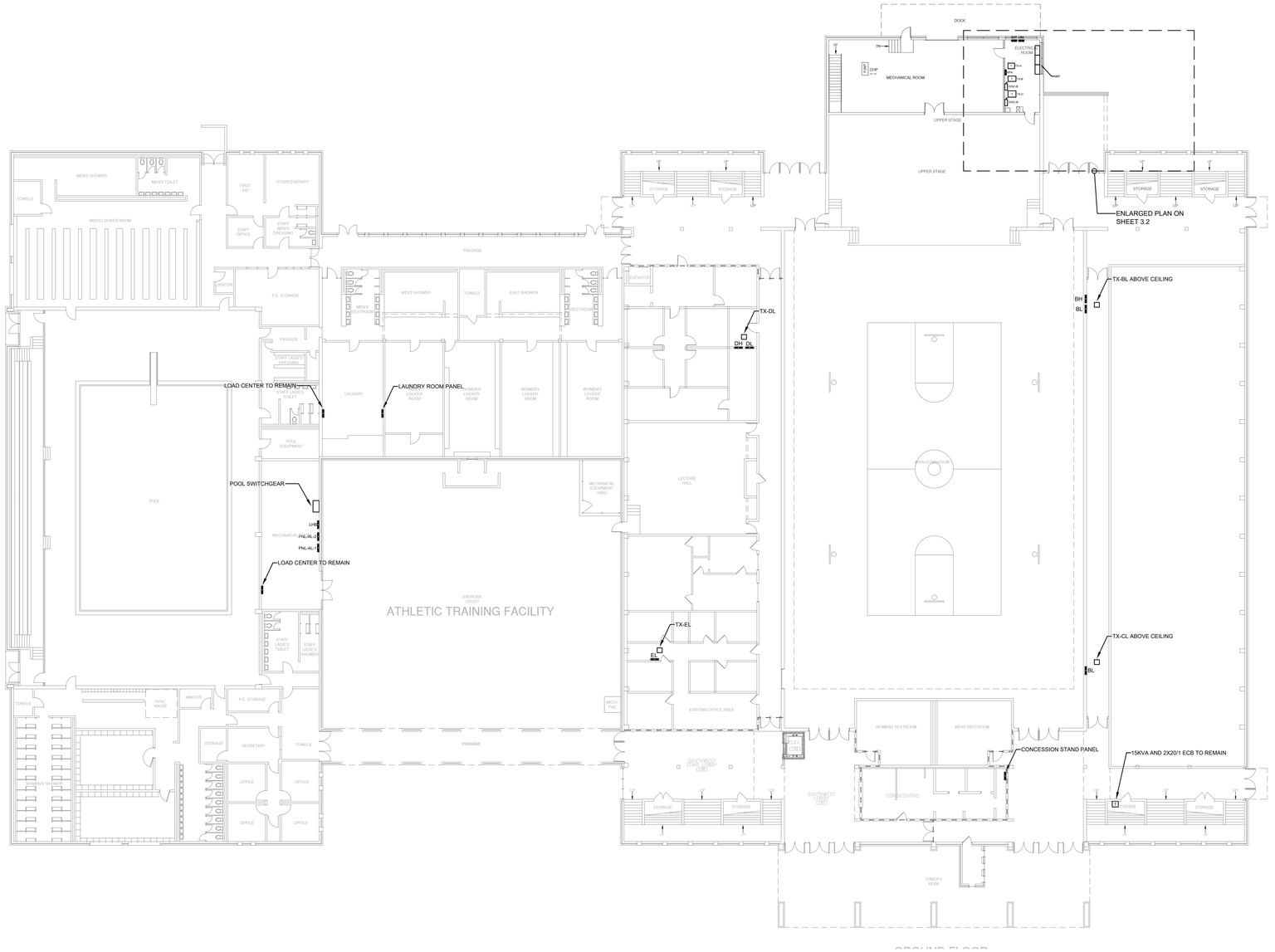
SEAL:



DATE: 09/29/2023
JOB NUMBER: 2223.0
DRAWN BY: BR
CHECKED BY: MBR

DRAWING TITLE:
PANEL SCHEDULES

DRAWING NO.
E2.3



NORTH

GROUND FLOOR PLAN
ELECTRICAL
SCALE 1/16"=1'0"

Hyde Engineering, Inc.
1525 Perimeter Parkway Suite 275 • Huntsville , AL 35801
(256) 270-08013 • FAX (205) 982-9911 • morgan@hyde-egr.com

Alabama A&M University

Elmore Gym Electrical Service Replacement

Normal, Alabama

NO.	REVISION	DATE

SEAL:

ALABAMA LICENSED 25893 REG. 35960 PROFESSIONAL ENGINEER MORGAN B. RICE

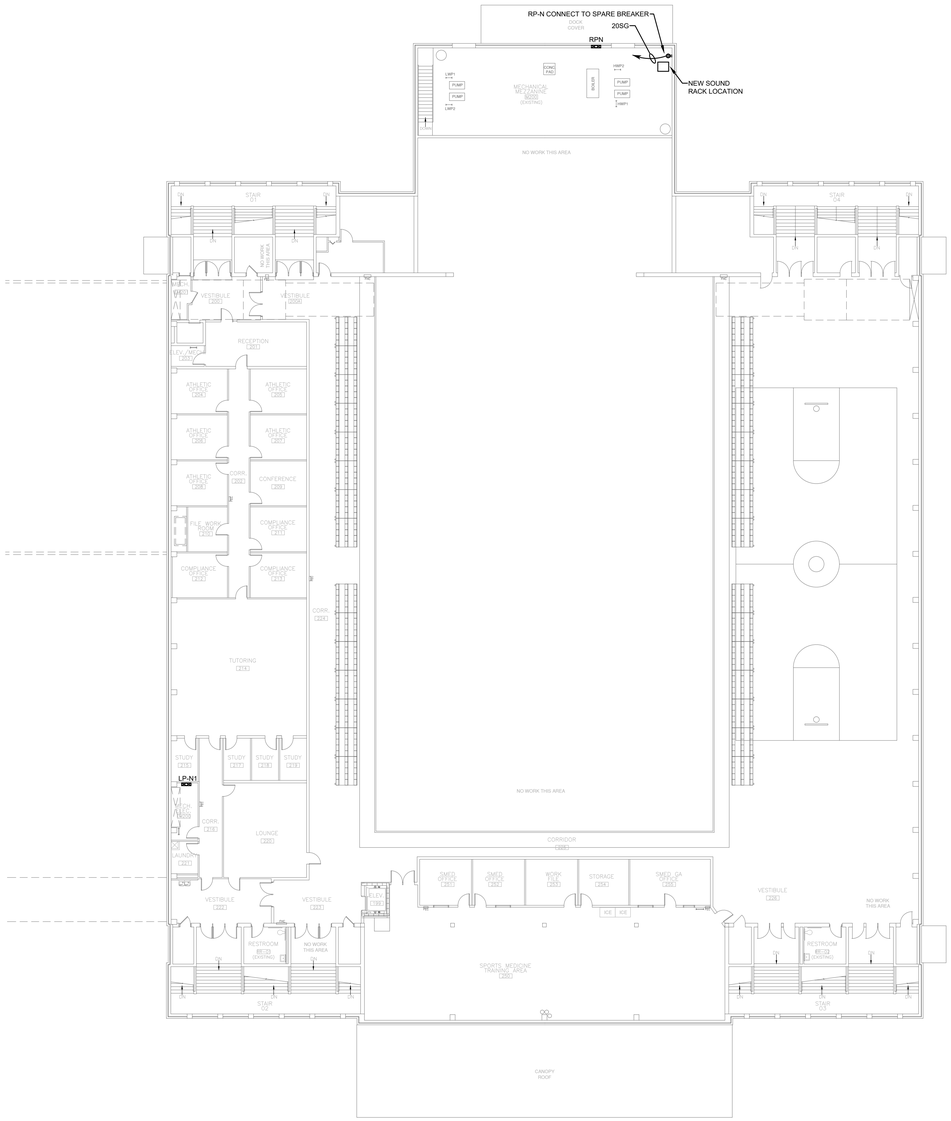
09/29/2023

DATE:	09/29/2023
JOB NUMBER:	23239.0
DRAWN BY:	BR
CHECKED BY:	MBR

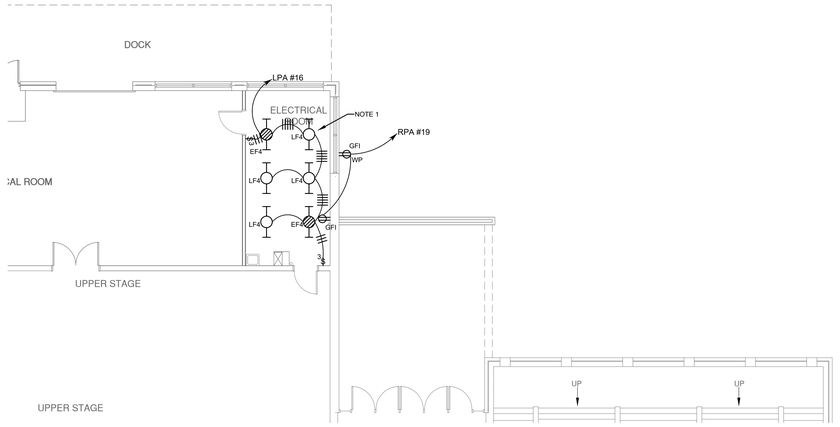
DRAWING TITLE:
GROUND FLOOR PLAN - ELECTRICAL

DRAWING NO.

E3.1



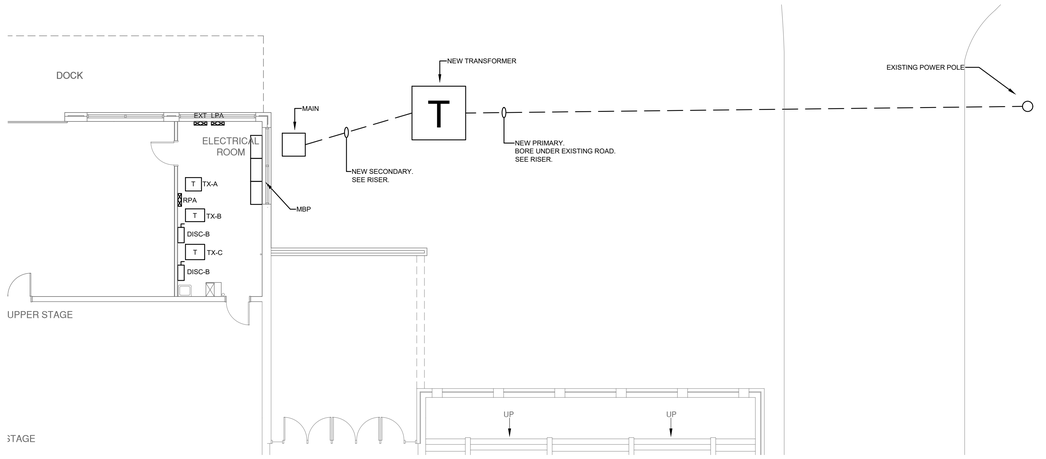
SECOND FLOOR PLAN
ELECTRICAL
SCALE 1/16"=1'0"



ENLARGED PLAN
ELECTRICAL - NEW
SCALE 1/8"=1'0"

NOTES:

1. LF4/EF4 FIXTURES ARE 4' LED STRIP LIGHTS. THESE ARE TO BE EQUAL TO METALUX#4SNX-26SL-LN-UNV-CC83-CD-1-EL10W-U. EMERGENCY BATTERY WILL BE REQUIRED ONLY FOR EF4 FIXTURES.



ENLARGED PLAN
ELECTRICAL - NEW
SCALE 1/8"=1'0"

Hyde Engineering, Inc.
1525 Perimeter Parkway Suite 275 • Huntsville , AL 35801
(256) 270-0613 • FAX (205) 902-9911 • morgan@hyde-egr.com

Alabama A&M University
Normal, Alabama

Elmore Gym Electrical Service Replacement

NO.	REVISION	DATE

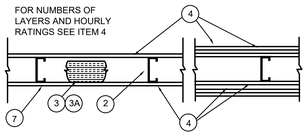
SEAL:

ALABAMA LICENSED PROFESSIONAL ENGINEER MORGAN B. RICE NO. 35960
09/29/2023

DATE:	09/29/2023
JOB NUMBER:	23239.0
DRAWN BY:	BR
CHECKED BY:	MBR

DRAWING TITLE:
SECOND FLOOR PLAN AND ENLARGED PLANS

DRAWING NO.
E3.2



U.L. DESIGN NO. U419
NON-BEARING WALL RATING - **1, 2, 3 or 4 Hr (See Items 3 & 4)**

1. **Floor and Ceiling Runners** (Not shown) -- Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

2. **Steel Studs** Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

3. **Batts and Blankets*** (Required as indicated under Item 4) -- Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

3A. **Batts and Blankets*** (Optional) -- Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.
--

4. **Gypsum Board*** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CANADIAN GYPSUM COMPANY -- 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

UNITED STATES GYPSUM CO -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

USG MEXICO S A DE C V -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

4A. Gypsum Board* (As an alternate to Item 4) -- 5/8 in. thick gypsum panels, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 5.
CANADIAN GYPSUM COMPANY -- Type FRX
UNITED STATES GYPSUM CO -- Type FRX

4B. Gypsum Board* (As an alternate to Items 4 and 4A) -- 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering (Item 7) not required.
CANADIAN GYPSUM COMPANY -- Type SHX.
UNITED STATES GYPSUM CO -- Type SHX.
USG MEXICO S A DE C V -- Type SHX.

5. Fasteners (Not shown) -- Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6. Furring Channels (Optional, not shown, for single or double layer systems) -- Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.

7. Joint Tape and Compound Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

8. Siding, Brick or Stucco (Optional, not shown) -- Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

9. Caulking and Sealants* (Optional, not shown) -- A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO -- Type AS

*Bearing the UL Classification Mark

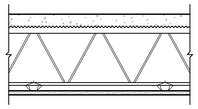
FLOOR-CEILING SYSTEMS, NONCOMBUSTIBLE

GA FILE NO. FC 2030	GENERIC	2 HOUR FIRE	50 to 54 STC SOUND

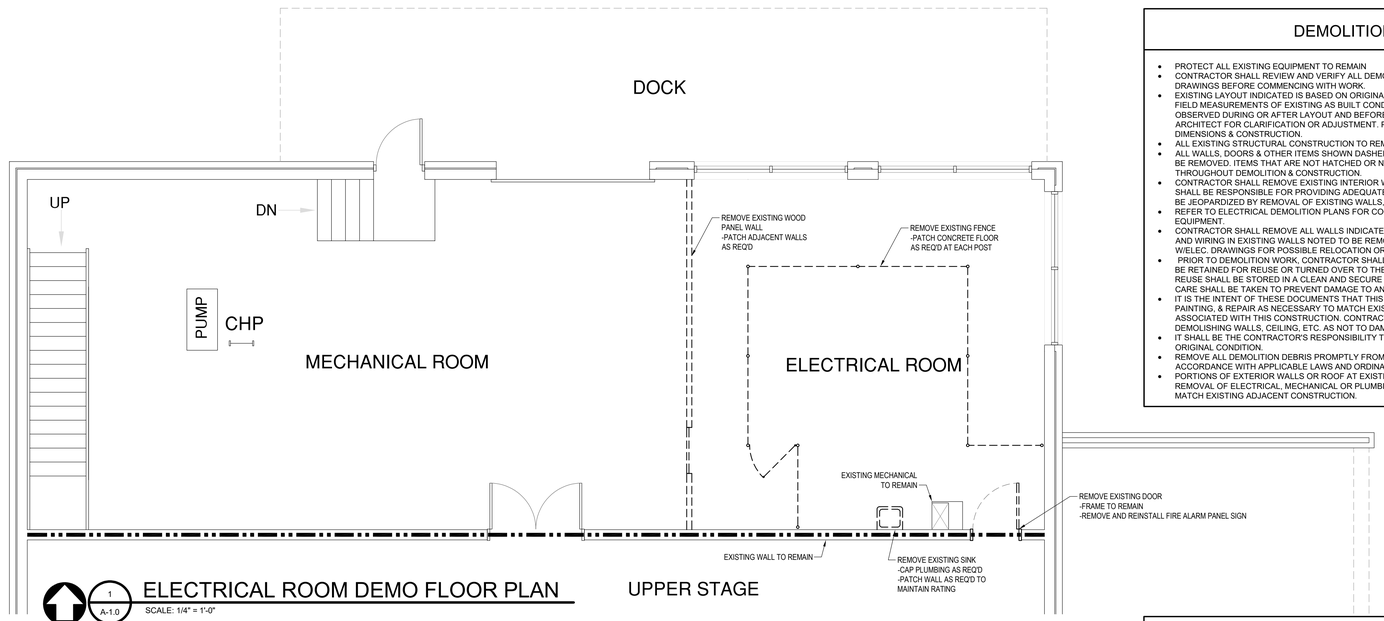
STEEL JOISTS, CONCRETE SLAB, GYPSUM WALLBOARD

One layer 1/2" type X gypsum wallboard or gypsum veneer base applied at right angles to rigid furring channels 24" o.c. with 1" Type S drywall screws 12" o.c. Gypsum board end joints located midway between continuous channels and attached to additional pieces of channel 54" long with screws 12" o.c. Furring channels attached with 18 gage wire ties 48" o.c. to open web steel joists 24" o.c. supporting 3/8" rib metal lath or 9/16" deep 28 gage corrugated steel and 2 1/2" concrete slab measured from top of flute. Furring channels may be attached to 1 1/2" cold rolled carrying channels 48" o.c. suspended from joists by 8 gage wire hangers not over 48" o.c. **(Two hour restrained and unrestrained.)**

(See GA File No. BM 3310)



Approx. Ceiling Weight: 2 psf
Fire Test: UL R3501-28, 2-7-64, UL Design G514; ULC Design I511
Sound Test: NGC 4075, 3-25-69



1 / A-1.0 ELECTRICAL ROOM DEMO FLOOR PLAN
SCALE: 1/4" = 1'-0"

PROJECT NORTH

DEMOLITION NOTES

- PROTECT ALL EXISTING EQUIPMENT TO REMAIN.
- CONTRACTOR SHALL REVIEW AND VERIFY ALL DEMOLITION AGAINST NEW CONSTRUCTION DRAWINGS BEFORE COMMENCING WITH WORK.
- EXISTING LAYOUT INDICATED IS BASED ON ORIGINAL BUILDING CONSTRUCTION DOCUMENTS OR FIELD MEASUREMENTS OF EXISTING AS BUILT CONDITIONS. ANY MINOR OR OTHER DISCREPANCIES OBSERVED DURING OR AFTER LAYOUT AND BEFORE ACTUAL CONSTRUCTION SHALL BE NOTED TO ARCHITECT FOR CLARIFICATION OR ADJUSTMENT. PRIOR TO CONSTRUCTION VERIFY ALL EXISTING DIMENSIONS & CONSTRUCTION.
- ALL EXISTING STRUCTURAL CONSTRUCTION TO REMAIN UNDISTURBED.
- ALL WALLS, DOORS & OTHER ITEMS SHOWN DASHED & HATCHED ON THE DEMOLITION PLAN SHALL BE REMOVED. ITEMS THAT ARE NOT HATCHED OR NOTED SHALL REMAIN & SHALL BE PROTECTED THROUGHOUT DEMOLITION & CONSTRUCTION.
- CONTRACTOR SHALL REMOVE EXISTING INTERIOR WALLS, DOORS & FIXTURES AS INDICATED AND SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORT WHERE EXISTING STRUCTURE MAY BE JEOPARDIZED BY REMOVAL OF EXISTING WALLS, DOORS OR WINDOWS.
- REFER TO ELECTRICAL DEMOLITION PLANS FOR COORDINATION OF REMOVAL OF EXISTING ITEMS & EQUIPMENT.
- CONTRACTOR SHALL REMOVE ALL WALLS INDICATED TO BE REMOVED. ANY ELECTRICAL DEVICES AND WIRING IN EXISTING WALLS NOTED TO BE REMOVED SHALL ALSO BE REMOVED. COORDINATE W/ELEC. DRAWINGS FOR POSSIBLE RELOCATION OR TERMINATION.
- PRIOR TO DEMOLITION WORK, CONTRACTOR SHALL REVIEW WITH OWNER, ALL EXISTING ITEMS TO BE RETAINED FOR REUSE OR TURNED OVER TO THE ANY EQUIPMENT REMOVED AND RETAINED FOR REUSE SHALL BE STORED IN A CLEAN AND SECURE LOCATION. DURING HANDLING AND STORAGE, CARE SHALL BE TAKEN TO PREVENT DAMAGE TO ANY STORED.
- IT IS THE INTENT OF THESE DOCUMENTS THAT THIS RENOVATION WORK REQUIRES PATCHING, PAINTING, & REPAIR AS NECESSARY TO MATCH EXISTING QUALITY OF WALLS & SURFACES, ETC. ASSOCIATED WITH THIS CONSTRUCTION. CONTRACTOR IS TO EXERCISE GREAT CARE WHEN DEMOLISHING WALLS, CEILING, ETC. AS NOT TO DAMAGE AREAS TO REMAIN.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY DAMAGED ITEMS TO ITS ORIGINAL CONDITION.
- REMOVE ALL DEMOLITION DEBRIS PROMPTLY FROM THE SITE AND DISPOSE OF PROPERLY IN ACCORDANCE WITH APPLICABLE LAWS AND ORDINANCES.
- PORTIONS OF EXTERIOR WALLS OR ROOF AT EXISTING BUILDING THAT ARE AFFECTED BY THE REMOVAL OF ELECTRICAL, MECHANICAL OR PLUMBING ITEMS SHALL BE PATCHED AS REQUIRED TO MATCH EXISTING ADJACENT CONSTRUCTION.

LIFE SAFETY NOTES

NOTE: THE OCCUPANCY GROUP, CONSTRUCTION TYPE, BUILDING HEIGHT, AND BUILDING AREA WILL NOT CHANGE BY THIS PROJECT.

APPLICABLE CODES:

- INTERNATIONAL BUILDING CODE - 2021 EDITION
- ADA STANDARDS FOR ACCESSIBLE DESIGN - 2010 EDITION
- NATIONAL ELECTRICAL CODE (NFPA 70) - 2020 EDITION
- INTERNATIONAL FIRE CODE - 2021 EDITION
- NATIONAL FIRE ALARM AND SIGNALING CODE - 2019 EDITION

FIRE RATING LEGEND

NON-RATED WALL ASSEMBLY

TWO-HOUR RATED WALL ASSEMBLY

GENERAL NOTES

1. FIRE RATING SHALL CONTINUE ACROSS DOOR HEADERS
2. FIRE CAULK ALL OPENINGS/PENETRATIONS IN WALLS

WALL TYPES

(1) 3-5/8" METAL STUDS WITH 2 LAYERS OF TYPE "X" GYP BD. EACH SIDE. EXTEND TO BOTTOM OF STRUCTURE. PAINT EACH SIDE.

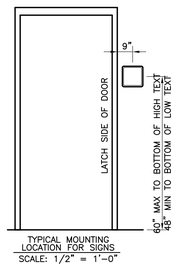
2 / A-1.0 ELECTRICAL ROOM FLOOR PLAN
SCALE: 1/4" = 1'-0"

PROJECT NORTH

SIGNAGE NOTES

1. ALL SIGNS TO COMPLY WITH ADAAG
2. ALL SIGNS TO BE MECHANICALLY FASTENED W/ TAMPER PROOF FASTENERS
3. NUMBERING ON DOORS SIGNS TO MATCH ROOM NUMBERING SHOWN ON FLOOR PLANS.

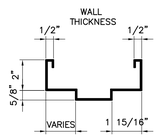
3 / A-1.0 SIGNAGE DETAILS
SCALE: 1/4" = 1'-0"



TYPICAL MOUNTING LOCATION FOR SIGNS
SCALE: 1/2" = 1'-0"

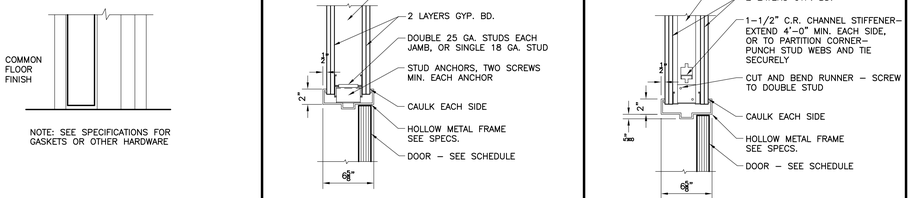
NOTE: ALL NEW METAL DOORS SHALL BE PAINTED

A 4 / A-1.0 DOOR TYPES
SCALE: 1/4" = 1'-0"



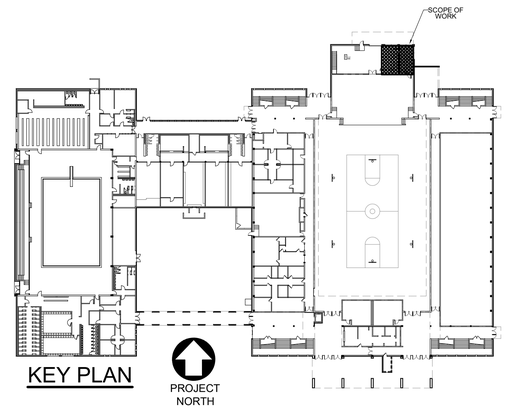
A 5 / A-1.0 HOLLOW METAL DOOR FRAME DETAIL
SCALE: NTS

DOOR DETAILS



DOOR SCHEDULE

DOOR NO.	LOCATION	DOOR HW	TYPE	W x H x T	MAT'L	FRAME ELEV	DOOR DETAILS HEAD	JAMB	SILL	FIRE RATING	DOOR SIGN	REMARKS
E100A	ELECTRICAL ROOM TO UPPER STAGE	1	A	3'x6'-8"x1-3/4"	METAL	EXIST	-	-	-	90MIN	A - "ELECTRICAL ROOM"	NEW DOOR IN EXISTING FRAME
E100B	ELECTRICAL ROOM TO MECHANICAL ROOM	1	A	3'x7'x1-3/4"	METAL	A	3	2	1	90MIN	A - "ELECTRICAL ROOM"	



KEY PLAN

PROJECT NORTH

Hyde Engineering, Inc.
1525 Perimeter Parkway Suite 275 • Huntsville , AL 35801
(256) 270-8013 • FAX (205) 982-9911 • mcigan@hyde-egr.com

Switchgear Package for
Alabama A&M - Elmore Gym
Normal, Alabama

NO.	REVISION	DATE

SEAL: STATE OF ALABAMA · FRANK J. NOLAN JR · 3871 · REG. NO. · 3535 · ROBERT VAN PELT IV · REGISTERED ARCHITECTS

DATE:	09/29/2023
JOB NUMBER:	23239.0
DRAWN BY:	SPW
CHECKED BY:	RVP

DRAWING TITLE: FLOOR PLANS AND DETAILS

DRAWING NO. A-1.0