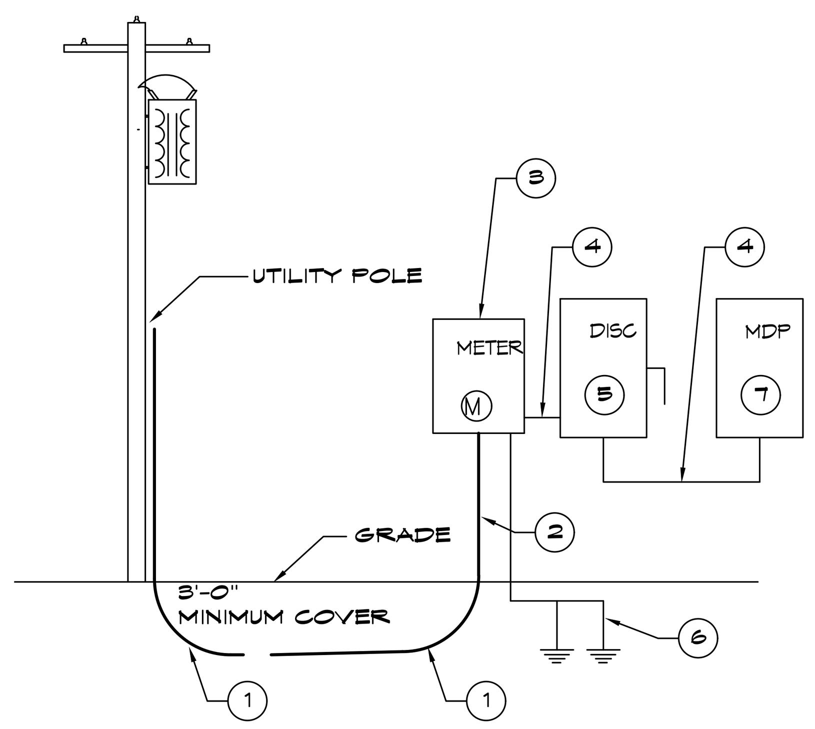
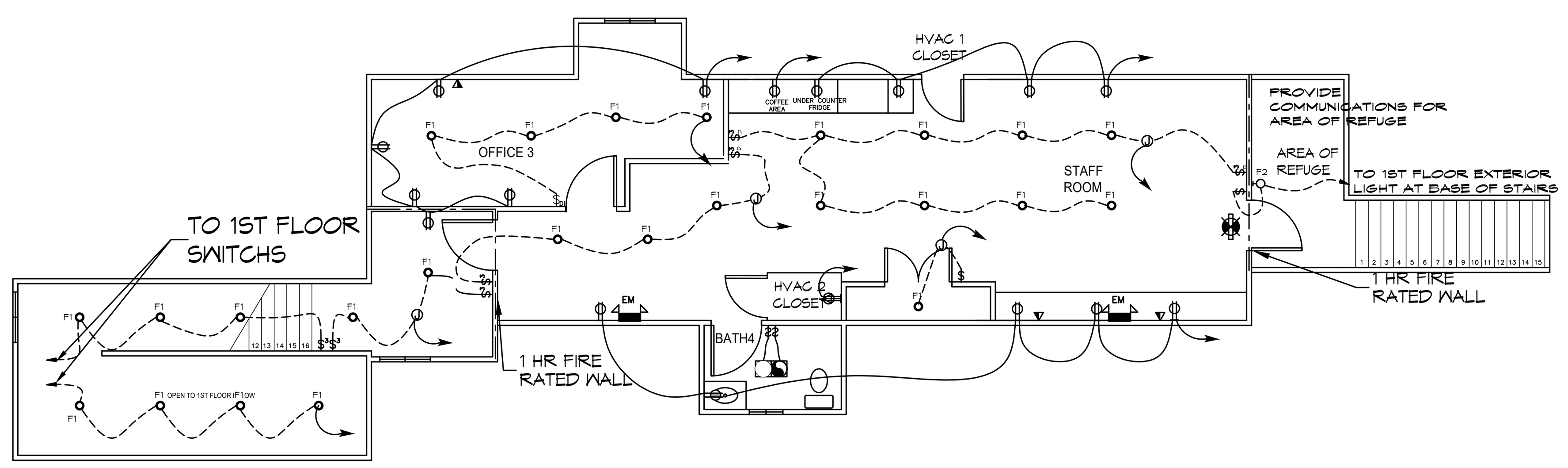
FILE NAME: J:\- Schools Private\2475 - Brighthouse Learning Academy\Drawings\Current Drawings\E101 - Electrical Power.dwg PLOT DATE & TIME: Thursday, May 11, 2023 11:57:56 AM



ONE LINE NOTES:

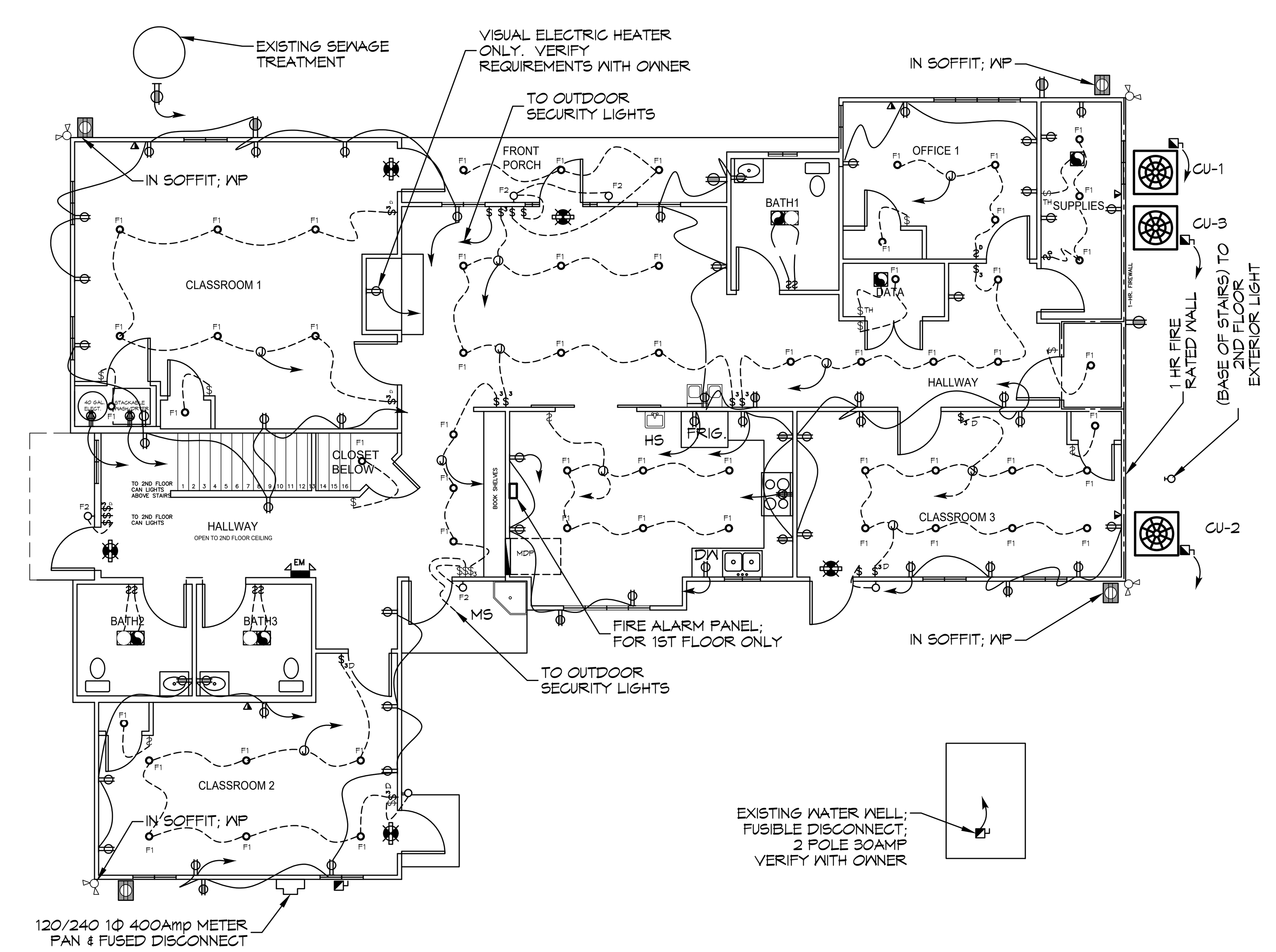
1. LONG SWEEP ELBOW
2. PROVIDE TWO (2) 4" SCHEDULE 40 PVC CONDUIT BELOW GRADE AND SCH 80 PVC CONDUIT ABOVE GRADE WITH SUITABLE FISH WIRE.
3. 120/240V 1Φ 400amp METER PAN.
4. 2(3-2/0 THHN, 1-#2 GND, 2" C)
5. 240V 1Φ 400A FUSED DISCONNECT.
6. 2-3/4" x 10' CU CLAD GND ROD, #1/0 CU GND WIRE. PROTECT IN PVC PIPE. CONNECT TO METAL BLDG, COLD WATER SUPPLY & GAS LINE. CAD WELD ALL CONNECTIONS.
7. 120/240V 1Φ 400A PANELBOARD WITH MAIN BREAKER.

RISER DIAGRAM
SCALE: N.T.S



B SECOND LEVEL
SCALE: 1/8"= 1'-0"

PARTIAL VIEW



A FIRST LEVEL
SCALE: 1/8"= 1'-0"

PARTIAL VIEW

1 LIGHTING AND POWER PLAN
SCALE: 3/8"=1'-0"

LIGHTING SCHEDULE

SYM	MARK	MFG	PART NUMBER	DESCRIPTION
◎	F1	ELITE	HH6-LED-1200L-DIM10-MVOLT-30K-WD-90/HH6-6501-CL-WH	6" LED DOWNLIGHT 1200LUMENS 90CRI 30K
	F2	LIGHT ALARMS	CAMACSDDB-CWP	LED EXT WALL LIGHT - EGRESS W/90 MINUTE BATTERY BACKUP
	EX	ELITE	ELX-603 -R-W	LED EXIT
	EM	ELITE	ELM-LED-803-W	LED EMG LIGHT W/90 MINUTE BATTERY BACKUP

NOTE: NAMING A CERTAIN BRAND, MAKE OR MANUFACTURER IS TO DESIGNATE THE GENERAL STYLE, TYPE, CHARACTER AND QUALITY STANDARD OF THE PRODUCT DESIRED OR EQUIVALENT.

ELECTRICAL LEGEND

$	125V SINGLE POLE LIGHT SWITCH
$3	125V THREE WAY LIGHT SWITCH
$D	125V DIMMER LIGHT SWITCH
$TH	125V IN-LINE THERMO SWITCH
	125V 20A DUPLEX RECEPTACLE.
	125V 20A GFI DUPLEX RECEPTACLE.
WP	125V 20A WEATHER PROOF GFI DUPLEX RECEPTACLE.
	240V 1Φ RECEPTACLE; MATCH EQUIPMENT INSTALLED.
Ⓙ	JUNCTION BOX
	FUSED DISCONNECT; FUSE TO MATCH EQUIPMENT INSTALLED.
▼	CAT 6 DATA RECEPTACLE
	EXHAUST FAN

PANEL SCHEDULE

PANEL: PANEL P1
LOCATION: STAFF ROOM
FEEDER SOURCE: ENTERGY
VOLTAGE: 120/240V, 400A, 1Φ, 3W
ENCLOSURE: FLUSH MOUNTED, NEMA 1 PNLBD W/EQUIP GND BAR, 400A M/B, 22KAIC

CKT NO	THHN WIRE SIZE	LOAD DESCRIPTION / LOCATION	BREAKER AMP	BREAKER POLE	LOAD (kva) AΦ	LOAD (kva) BΦ	BREAKER POLE	BREAKER AMP	LOAD DESCRIPTION / LOCATION	THHN WIRE SIZE	CKT NO
1	#12	RECEPTACLES	20	1	1.4	1.4	1	20	RECEPTACLES	#12	2
3	#12	RECEPTACLES	20	1	1.4	1.4	1	20	RECEPTACLES	#12	4
5	#12	RECEPTACLES	20	1	1.4	1.4	1	20	RECEPTACLES	#12	6
7	#12	RECEPTACLES	20	1	1.4	1.4	1	20	RECEPTACLES	#12	8
9	#12	DISH WASHER	20	1	0.8	0.8	1	20	REFRIGERATOR	#12	10
11	#12	LIGHTING	20	1	.4	.4	1	20	LIGHTING	#12	12
13	#12	LIGHTING	20	1	.4	.4	1	20	LIGHTING	#12	14
15	#12	SEPTIC TANK	20	1	0.8		1	20	SPARE		16
17		SPARE	20	1			1	20	SPARE		18
19		SPACE	-	-			-	-	SPACE		20
21		SPACE	-	-			-	-	SPACE		22
23 / 25	#10	CU-1	30	2	2.2 / 2.2	2.4 / 2.4	2	30	AHU-1; 3.6 kw HEAT	#10	24 / 26
27 / 29	#10	CU-2	30	2	2.5 / 2.5	2.7 / 2.7	2	30	AHU-2; 3.6 kw HEAT	#10	28 / 30
31 / 33	#10	CU-3	30	2	2.5 / 2.5	2.7 / 2.7	2	30	AHU-3 3.6 kw HEAT	#10	32 / 34
35 / 37	#10	CLOTHS DRYER	30	3	2.3 / 2.3	2.7 / 2.7	2	30	WATER PUMP	#10	36 / 38
39 / 41	#10	HOT WATER HEATER	30	3	2.3 / 2.3	2.7 / 2.7	2	30	KITCHEN RANGE	#10	40 / 42

SOLID NEUTRAL NEUTRAL WIRE (W)
TOTAL CONNECTED LOAD = 65.2 kva
AΦ =33.0 kva BΦ = 32.2 kva
GROUND BUS GROUND WIRE (G)

VERIFY WITH MECHANICAL CONTRACTOR NUMBER OF DISCONNECTS REQUIRED FOR AHU INSTALLED.

GENERAL POWER NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE GOVERNING ELECTRICAL CODE AND ALL OTHER INSPECTION DEPARTMENTS HAVING JURISDICTION. OBTAIN CERTIFICATES OR APPROVAL WHERE REQUIRED. ELECTRICAL CONTRACTOR SHALL VERIFY ALL WIRE AND CONDUIT SIZES FOR MECHANICAL EQUIPMENT TO BE INSTALLED.
2. ALL MATERIALS FURNISHED SHALL BE NEW AND SHALL BE U.L. LISTED.
3. THE DRAWINGS INDICATE SIZE AND GENERAL LOCATION OF WORK. SCALE DIMENSIONS SHALL NOT BE USED. THE EXACT LOCATION OF ALL LIGHTING FIXTURES, RECEPTACLES AND TELEPHONE OUTLETS, ETC. SHALL BE DETERMINED BY ACTUAL CONDITIONS IN THE FIELD.
4. PRIOR TO BIDDING, CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND WITH OTHER CONTRACTORS WHOSE WORK MAY AFFECT THIS INSTALLATION.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE INCOMING ELECTRICAL SERVICE WITH UTILITY COMPANY AND INCLUDE IN HIS BID ALL CHARGES AND FEES INCURRED IN MODIFICATIONS.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE THE TELEPHONE INSTALLATION WITH THE TELEPHONE COMPANY AND THE GENERAL CONTRACTOR.
8. ELECTRICAL CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILINGS, PLASTER, PARTITIONS, WALLS, ETC. AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS. IF ANY WORK IS INSTALLED AND IT LATER DEVELOPS THAT SUCH DETAILS OR DESIGN CANNOT BE FOLLOWED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL MAKE SUCH CHANGES IN THE WORK AS DIRECTED BY THE ARCHITECT, AS WELL AS TO PERMIT THE INSTALLATION OF THE ARCHITECTURAL WORK AS SHOWN ON THE PLANS AND DETAILS.
9. PERFORM TEST REQUIRED BY THE OWNER OR THE ENGINEER IN CONNECTION WITH THE OPERATION OF THE ELECTRICAL SYSTEM IN THE BUILDING. ALL TESTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST STANDARD OF THE IEEE AND THE NATIONAL ELECTRICAL CODE.
10. MINIMUM CONDUCTOR SIZE SHALL BE #12, 600V INSULATION. MINIMUM SIZE CONDUIT SHALL BE ¾" ELECTRICAL METALLIC TUBING (EMT) FOR INTERIOR USE, ¾" SCHEDULE 80 PVC FOR EXTERIOR USE ABOVE GRADE AND 1" SCHEDULE 40 PVC FOR EXTERIOR USE BELOW GRADE, BURIED A MINIMUM OF 18" FOR NON-VEHICLUAR TRAFFIC AREAS AND 36" IN VEHICULAR TRAFFIC AREAS. EMT SHALL BE USED WITH METAL STUD CONSTRUCTION AND ALL ASSEMBLY OCCUPANCIES. USE NMC IN WOOD CONSTRUCTION. 6 FT LENGTH MC CABLE IS ALLOWED ABOVE DROPPED CEILING. INTERIOR FITTINGS SHALL BE CAST WHERE EXPOSED ON WALLS, AND EXTERIOR FITTINGS SHALL BE CAST BOXES WITH NEMA 3R COVER(S).
11. CONTRACTOR SHALL INSTALL WIRING, CIRCUIT BREAKERS AND OTHER CIRCUIT COMPONENTS TO MATCH EQUIPMENT ACTUALLY INSTALLED.
12. ALL 120V RUNS LONGER THAN 60 FEET SHALL BE #10 AWG AND 277V RUNS LONGER THAN 150 FEET SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
13. INSTALL GROUND FAULT RECEPTACLES AT RECEPTACLE LOCATIONS WITHIN 5' OF SINKS OR LAVATORIES, AND AT EXTERIOR LOCATIONS. EXTERIOR RECEPTACLES SHALL ALSO BE WATERPROOF. ALL RECEPTACLES IN THE KITCHEN AREA SHALL HAVE GROUND FAULT PROTECTION.
14. BONDING AND GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 70:230-63, NFPR 250-23, 250-71 & 250-72.
15. GROUND NEUTRAL IN ACCORDANCE WITH NFPA 70:250-23b.
16. FUSES SHALL BE ITT CLASS K5, 250 VOLT, 200,000 AMP INTERRUPTING CAP.
17. PROVIDE SERVICES OF A FIRE/SMOKE DETECTION AND ALARM COMPANY TO DESIGN AND INSTALL ALARM SYSTEM TO MEET REQUIREMENTS OF THE STATE FIRE MARSHALL AND THE FIRE DISTRICT.
18. EXTERIOR LIGHTING SHALL BE SHADED OR INWARDLY DIRECTED IN SUCH A MANNER SO THAT NO DIRECT LIGHTING OR GLARE IS CAST BEYOND THE PROPERTY LINE. THE INTENSITY OF SUCH LIGHTING SHALL NOT EXCEED ONE FOOT CANDLE AS MEASURED AT THE ABUTTING PROPERTY LINE.
19. ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE PARTITIONS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E814.)
20. VERIFY ELECTRICAL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS.
21. ALL BRANCH CIRCUITS SERVING PATIENT CARE AREAS SHALL PROVIDE AN EFFECTIVE GROUND-FAULT CURRENT PATH BY INSTALLATION IN A METAL RACEWAY SYSTEM OR A MEDICAL GRADE MC CABLE (NEC ART. 517.13(A & B)).

GENERAL LIGHTING NOTES

1. ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES, RULES, REGULATIONS, AND REQUIREMENTS OF THE SERVICE UTILITY COMPANY.
2. GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONFLICTS OCCUR BETWEEN LIGHTING AND ANY OTHER TRADE. DO NOT PROCEED WITH INSTALLATION IN THAT AREA UNTIL CONFLICT HAS BEEN RESOLVED TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING INSTRUCTIONS FOR ALL LIGHT FIXTURES. NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ARCHITECTURAL PLANS RELATING TO QUANTITY, TYPE AND LOCATION OF DEVICES AND/OR FIXTURES.
4. WHEN SPECIFIC LIGHT FIXTURE HAS BEEN SPECIFIED IN THE FIXTURE SCHEDULE, ELECTRICAL CONTRACTOR SHALL PROVIDE COMPLETE ASSEMBLY INCLUSIVE ALL PARTS AND HARDWARE TO INSURE PROPER FUNCTIONING FIXTURE.
5. ALL CONDUCTORS SHALL BE A MINIMUM OF #12 AWG UNLESS NOTED OTHERWISE.
6. ALL 120V RUNS LONGER THAN 60 FEET SHALL BE #10 AWG AND 277V RUNS LONGER THAN 150 FEET SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
7. ALL CONDUCTORS SHALL BE COPPER.
8. WHERE CONDUCTOR SIZES ARE NOTED ON DRAWINGS, THAT WIRE SIZE SHALL BE THROUGH THE ENTIRE RUN UNLESS OTHERWISE NOTED.
9. MOUNTED LIGHT SWITCHES 48" AFF UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
10. WHERE MORE THAN ONE SWITCH OCCURS IN THE SAME LOCATION, THEY SHALL BE INSTALLED IN A GANG TYPE BOX UNDER ONE COVER PLATE. ALL GANGED SWITCHES SHALL HAVE A COMMON SEAMLESS FACEPLATE. EACH MULTI-GANGED BOX SHALL BE NO MORE THAN SIX (6) SWITCHES WIDE. WHERE MORE THAN SIX (6) SWITCHES ARE SHOWN AT ONE (1) LOCATION, ADDITIONAL MULTI-GANGED BOXES SHALL BE STACKED VERTICALLY AND THE WIDTH OF THE MULTI-GANGS SHALL BE AS EVEN AS POSSIBLE.
11. EACH DIMMER SWITCH SHALL HAVE A WATTAGE RATING 25% HIGHER THAN THE TOTAL WATTAGE OF AL LIGHTS TO BE CONTROLLED BY THE DIMMER. DIMMER SIZES 600, 1000, 1500, AND 2000 WATTS, LUTRON NOVA T-STAR. WHERE SWITCHES ARE GANGED WITH DIMMERS, THE SWITCHES SHALL ALSO BE LUTRON NOVA T-STAR. FLUORESCENT AND LOW VOLTAGE DIMMERS SHALL BE LUTRON NOVA T-STAR.
12. ALL EMERGENCY EXIT LIGHT FIXTURES SHALL HAVE 90 MINUTE BATTERY BACKUP WITH INTEGRAL TEST BUTTON AND SHALL BURN CONTINUOUSLY.
13. ALL FLUORESCENT FIXTURES THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS SHALL BE PROVIDED WITH A DISCONNECTING MEANS IN ACCORDANCE WITH NEC 410.73G.

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#	DESCRIPTION	DATE
REVISIONS		

SEAL:

RENOVATION FOR 5TH THROUGH 12TH GRADES
BRIGHTHOUSE LEARNING ACADEMY
21464 CLEAR CREEK DR
ABITA SPRINGS, LA

JOB No: 2475 DATE: 9/4/19
DRAWN BY: CKD CHECKED BY: BAM

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SHEET TITLE:
POWER AND LIGHTING PLAN

DRAWING NUMBER:
E101

SHEET No: 7 of #