PANEL BOARD SCHEDULE: PANEL 'A - LEFT'

MAIN BREAKER:	400A/3P	SERVICE:	120/208V, 3PH, 4 WIRE	LOCATION:	CORRIDOR
MOUNTING:	RECESSED	FEEDER:	EXISTING 4-#500 MCM	AIC:	22,000 AMPS

FEEDER SIZE	LOAD DESCRIPTION	WATTAGE	BREAKER TRIP/POLE	SPACE	PHASE	SPACE	BREAKER TRIP/POLE	WATTAGE	LOAD DESCRIPTION	FEEDER SIZE
EXISTING	REC - PREP 15A	360	20A/1P	1	A	2	20A/1P	1,200	WATER COOLER - CAFE	EXISTING
EXISTING	TOILET HTR RM 17	750	20A/1P	3	B	4	20A/1P	360	REC - RM 16	EXISTING
2-#12THWN+GND, 1/2"C	LAB HOOD - PREP 15A	460	20A/1P	5	C	6	20A/1P	720	REC - RM 14/15	EXISTING
2-#12THWN+GND, 1/2"C	LAB HOOD - RM 15	460	20A/1P	7	A	8	20A/1P	1,200	WATER COOLER	EXISTING
EXISTING	REC - RM 16	360	20A/1P	9	B	10	20A/1P	720	REC - RM 16 FRONT	EXISTING
EXISTING	REC -RM 15	360	20A/1P	11	C	12	20A/2P	1,269	HEAT - CORRIDOR	EXISTING
EXISTING	CORR. UNIT HEATER	3,335	40A/3P	13	A	14		1,269		
		3,335		15	B	16	20A/2P	1,269	HEAT - CORRIDOR	EXISTING
		3,335		17	C	18		1,269		
EXISTING	CORR. UNIT HEATER	3,335	40A/3P	19	A	20	20A/2P	1,269	HEAT - CORRIDOR	EXISTING
		3,335		21	B	22		1,269		
		3,335		23	C	24	40A/3P	3,864	MAU-1	3-#8THWN+#10G, 3/4" C
2-#12THWN+GND, 1/2"C	REC - RM 15 FRONT	900	20A/1P	25	A	26		3,864		
EXISTING	REC - RM 14	360	20A/1P	27	B	28		3,864		
EXISTING	REC - RM 16 FRONT	720	20A/1P	29	C	30	20A/1P	180	REC - ROOF	2-#12THWN+GND, 1/2"C
EXISTING	REC - RM 14 SIDE	360	20A/1P	31	A	32	20A/1P	1,080	REC - RM 15 BENCH	2-#12THWN+GND, 1/2"C
2-#12THWN+GND, 1/2"C	REC - RM 14 BENCHES	900	20A/1P	33	B	34	20A/1P	1,080	REC - RM 15 BENCH	2-#12THWN+GND, 1/2"C
2-#12THWN+GND, 1/2"C	REC - RM 14 BENCHES	1,080	20A/1P	35	C	36	20A/1P	1,080	REC - RM 15 BENCH	2-#12THWN+GND, 1/2"C
	SPARE		20A/1P	37	A	38	20A/1P		SPARE	
	SPARE		20A/1P	39	B	40	20A/1P		SPARE	
				41	C	42				

NOTES: PROVIDE PARALLEL OR FEED-THRU LUGS TO FEED PANEL 'A - RIGHT'

TOTAL VA PHASE A =	18,632
TOTAL VA PHASE B =	17,602
TOTAL VA PHASE C =	17,672
TOTAL VA =	53,906

PANEL BOARD SCHEDULE: PANEL 'A - RIGHT'

MAIN BREAKER:	400A/3P	SERVICE:	120/208V, 3PH, 4 WIRE	LOCATION:	CORRIDOR
MOUNTING:	RECESSED	FEEDER:	EXISTING 4-#500MCM	AIC:	22,000 AMPS

FEEDER SIZE	LOAD DESCRIPTION	WATTAGE	BREAKER TRIP/POLE	SPACE	PHASE	SPACE	BREAKER TRIP/POLE	WATTAGE	LOAD DESCRIPTION	FEEDER SIZE
EXISTING	LIGHTS - RM 14	760	20A/1P	43	A	44	20A/1P	760	LIGHTS - RM 16	EXISTING
EXISTING	LIGHTS - RM 14	532	20A/1P	45	B	46	20A/1P	532	LIGHTS - RM 16	EXISTING
EXISTING	LIGHTS - RM 15	760	20A/1P	47	C	48	20A/1P	432	LIGHTS - LOBBY	EXISTING
EXISTING	LIGHTS - RM 15	532	20A/1P	49	A	50	20A/1P		SPARE	
EXISTING	LIGHTS - RM 17	760	20A/1P	51	B	52	20A/1P	100	EXH FAN - RM 17	EXISTING
EXISTING	LIGHTS - RM 17	532	20A/1P	53	C	54	20A/1P	360	REC - RM 17 FLOOR	EXISTING
EXISTING	UNIT VENT - RM 17	6,252	100A/3P	55	A	56	20A/1P	360	REC - RM 17 FLOOR	EXISTING
		6,252		57	B	58			SPARE	
		6,252		59	C	60			SPARE	
EXISTING	UNIT VENT - RM 16	6,252	100A/3P	61	A	62	100A/3P	6,252	UNIT VENT - RM 15	EXISTING
		6,252		63	B	64		6,252		
		6,252		65	C	66		6,252		
3-#12THWN+GND, 1/2"C	EF-1	552	20A/3P	67	A	68	100A/3P	6,252	UNIT VENT - RM 14	EXISTING
		552		69	B	70		6,252		
		552		71	C	72		6,252		
	SPARE		20A/1P	73	A	74	20A/1P		SPARE	
	SPARE		20A/1P	75	B	76	20A/1P		SPARE	
				77	C	78				
				79	A	80				
				81	B	82				
				83	C	84				

NOTES:

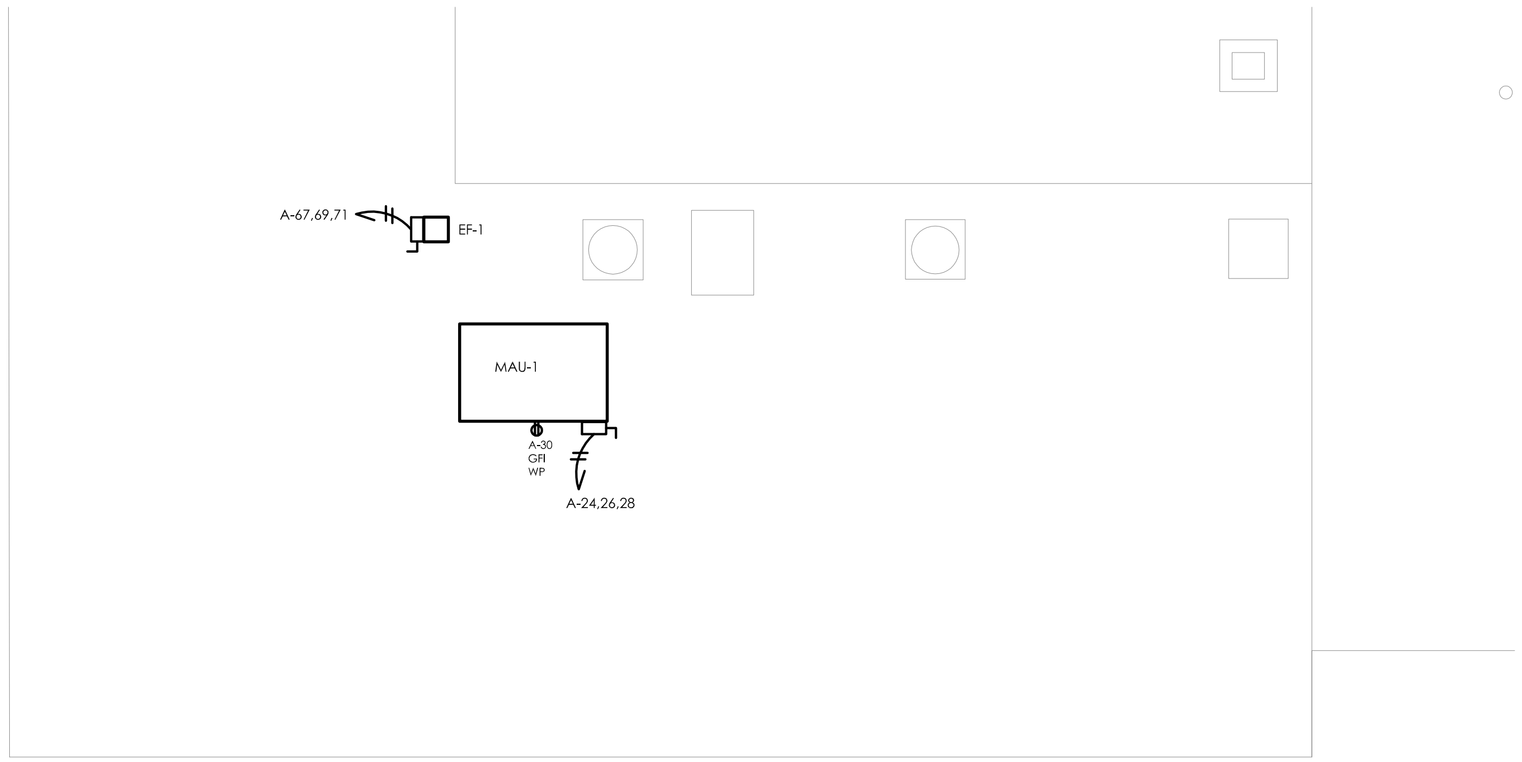
TOTAL VA PHASE A =	27,972
TOTAL VA PHASE B =	27,484
TOTAL VA PHASE C =	27,644
TOTAL VA =	83,100

ELECTRICAL LEGEND

- FLUSH MOUNTED PANELBOARD
- SURFACE MOUNTED PANELBOARD
- WALL TYPE SWITCH:
- 3=3-WAY
- 4=4-WAY
- @ #'-#" MOUNTING HEIGHT
- DEMOLITION (PLANS)/ EXISTING (DIAGRAMS)
- 2 WIRE CONDUCTOR
- 3 WIRE CONDUCTOR
- 4 WIRE CONDUCTOR
- JUNCTION BOX
- GROUND
- DISCONNECT SWITCH
- HOMERUN TO PANELBOARD
- MOTOR
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- NEMA RECEPTACLE
- QUAD RECEPTACLE
- FLOOR RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- LIGHTING FIXTURE TYPES
- TELEPHONE OUTLET
- DATA OUTLET
- TELE/DATA OUTLET
- TELEVISION CABLE OUTLET

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE STATE OR LOCAL CODES.
2. EXISTING CONDITIONS ARE SHOWN BY LIGHT LINE WORK; NEW CONSTRUCTION IS SHOWN BY BOLD LINE WORK. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT NECESSARILY SHOW ALL OFFSETS AND FITTINGS THAT WILL BE REQUIRED. COORDINATE CAREFULLY WITH EXISTING UTILITIES, EQUIPMENT AND STRUCTURE.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL FIELD CONDITIONS PRIOR TO PLACING BID, PURCHASING EQUIPMENT OR MATERIALS AND COMMENCEMENT OF ANY WORK. NOTIFY ENGINEER OF ANY DISCREPANCIES FOR RESOLUTION.
4. REPORT ANY OBSERVED CODE VIOLATIONS OF EXISTING SYSTEMS TO ENGINEER.
5. INSTALL ALL EQUIPMENT PER MANUFACTURES INSTRUCTIONS.
6. SLEEVE OR CORE-DRILL FLOOR SLABS, WALLS, ETC. AS REQUIRED FOR CONDUIT AND PROVIDE FIRE-STOPPING AT OPENING AROUND CONDUIT WHERE REQUIRED. VERIFY LOCATION OF STRUCTURAL BEAMS, JOIST, ETC. BEFORE DRILLING. COORDINATE ALL SAWCUT AND FLOOR PENETRATIONS LOCATIONS WITH THE GENERAL CONTRACTOR.
7. WHERE REQUIRED, CONTRACTOR SHALL PROVIDE COMPLETE FIRE SEALING OF ALL CONDUIT PENETRATIONS THROUGH FLOOR, WALLS AND CEILINGS. THE FIRE SEALING METHODS AND MATERIALS SHALL BE UL CLASSIFIED. USE WATER BASED MORTAR FIRE SEAL MATERIALS FOR PENETRATIONS THROUGH CONCRETE FLOORS AND MASONRY WALLS. FIRE SEALS SHALL BE AIRTIGHT, MOISTURE AND HUMIDITY RESISTANT.
8. MAINTAIN A MINIMUM OF 6'8" CLEARANCE TO THE UNDERSIDE OF CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGH-OUT ACCESS ROUTES IN MECHANICAL/ELECTRICAL EQUIPMENT ROOMS.
9. REFER TO ARCHITECTURAL ELEVATION'S AND REFLECTED CEILING PLANS, WHERE SUCH ARE SHOWN, FOR EXACT LOCATION OF ALL WALL AND CEILING MOUNTED ELECTRICAL WORK.
10. WHERE 2 SWITCHES ARE SHOWN CONTROLLING ONE LIGHT FIXTURE, CONNECT THE SWITCH CLOSEST TO DOOR WAY TO THE OUTER LAMPS AND THE OTHER SWITCH TO TH INNER LAMP(S).
11. COORDINATE FINAL LIGHTING FIXTURE LOCATIONS IN MECHANICAL/ELECTRICAL SPACES WITH EQUIPMENT, DUCTWORK, PIPING, CONDUITS, ETC. FOR BEST POSSIBLE UNIFORMITY.
12. ALL WIRING IN FINISHED AREAS SHALL BE CONCEALED IN WALLS, ABOVE THE CEILING, BELOW THE FLOOR OR CONTAINED IN SURFACE RACEWAY SYSTEMS.
13. ALL EXPOSED BRANCH CIRCUITS (ABOVE LIGHTING LEVEL) SHALL BE 2-#12+1-#12G,3/4" CONDUIT, UNLESS OTHERWISE NOTED.
14. ALL WIRING SHALL BE COPPER TYPE THHN OR THWN.
15. TYPE MC (METAL CLAD) CABLE IS ALLOWED TO FEED RECEPTACLES IN CONCEALED AREAS AND ABOVE DROP CEILINGS FOR LIGHTING FIXTURE WIRING WHIPS. WHIP LENGTH TO LIGHTING FIXTURES SHALL NOT EXCEED 6'. JUNCTION BOXES FOR RECEPTACLE SHALL BE SET ON WALL ABOVE SUSPENDED CEILING AND EXPOSED LENGTH OF MC CABLE ABOVE SUSPENDED CEILING SHALL NOT EXCEED 3'. MC CABLE SHALL NOT BE PERMITTED TO RUN FROM/TO THE PANELBOARD.
16. ALL BACK TO BACK WALL MOUNTED BOXES SHALL BE SEPERATED BY A MINIMUM OF ONE STUD SPACE AT INTERIOR WALL LOCATIONS.



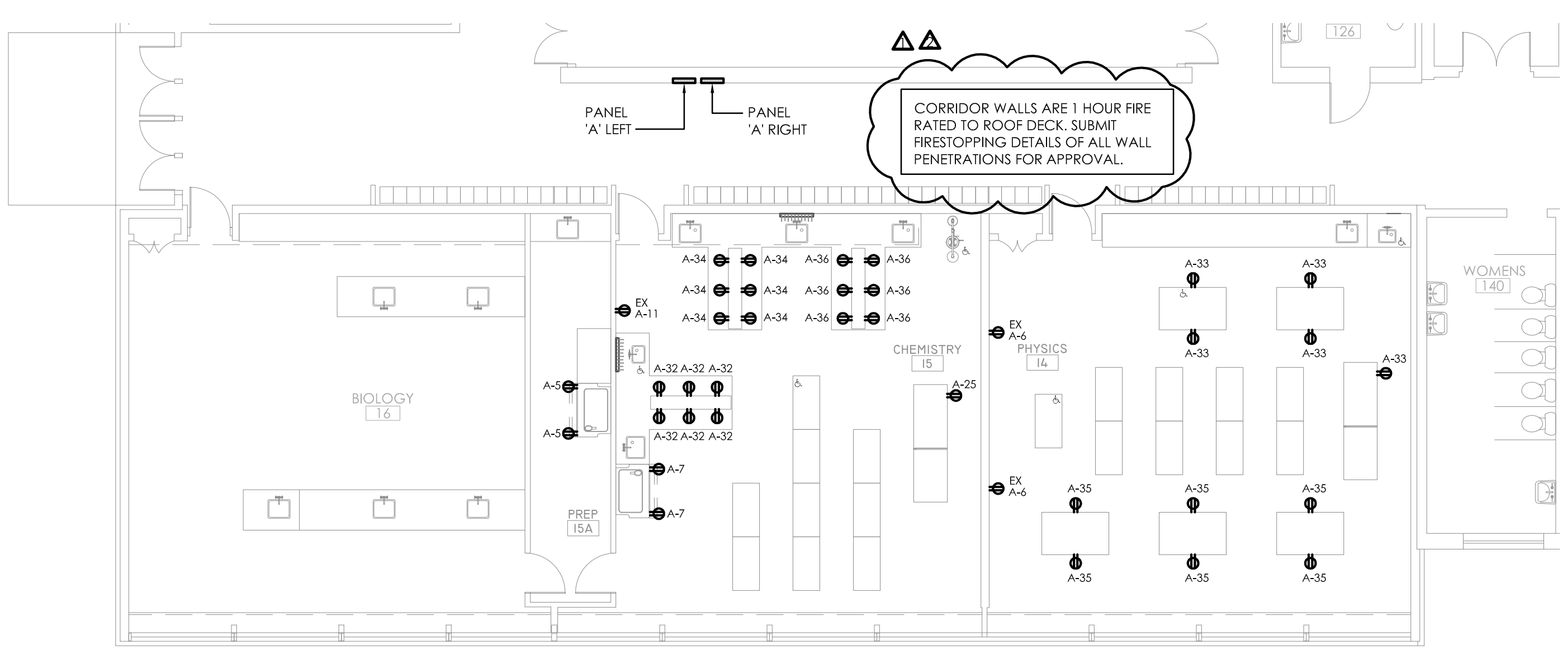
3 E1 ROOF ELECTRICAL PLAN
SCALE: 1/8" = 1'

PRODUCTS/MATERIALS

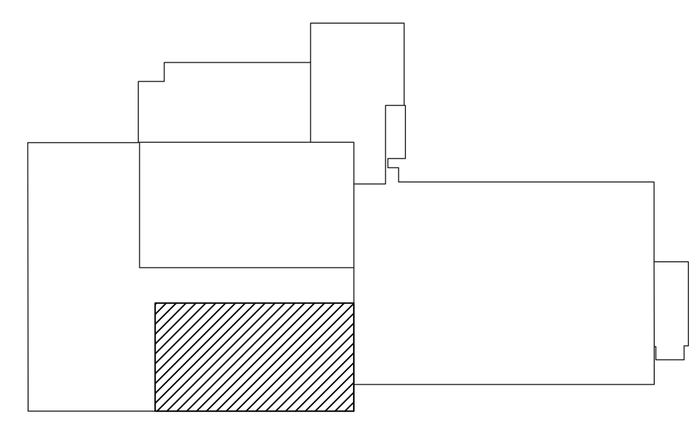
SAFETY SWITCH
-SQUARE D GENERAL DUTY
WIRE MOLD
-5400 SERIES SURFACE NON-METALLIC RACEWAY
SECURITY SMOKE DETECTORS
-PROVIDED AND INSTALLED BY OTHERS
SWITCHES
-LEVITON #CSB1-20-I
-LEVITON #CSB3-20-I
SWITCH COVER PLATES
-LEVITON #80701-I (SINGLE GANG)
-LEVITON #80709-I (DOUBLE GANG)
RECEPTACLES
-LEVITON #5362A-I
-LEVITON #5361-I
RECEPTACLE COVER PLATES
-LEVITON #80704-I (SINGLE GANG)
-LEVITON #80703-I (DOUBLE GANG)
WEATHERPROOF DUPLEX RECEPTACLE COVER PLATES
-LEVITON #4926
FLOOR RECEPTACLES
-HUBBELL #B2529
-HUBBELL #S3725 (COVER)
TELE/DATA COVER PLATE
-LEVITON #41080-2IP
HANGER RODS
-THREADED HIGH TENSILE STRENGTH GALVANIZED CARBON STEEL WITH FREE RUNNING THREADS.
CONDUIT CLAMPS FOR TRAPEZE HANGERS
-GALVANIZED STEEL, NOTCHED TO FIT TRAPEZE WITH SINGLE BOLT TO TIGHTEN.
CONDUIT
-UNDERGROUND: PVC SCHEDULE 80
-INSIDE WALLS: MC CABLE
-OTHERS: EMT OR AS INDICATED
CONDUIT CLAMPS
-GENERAL PURPOSE: ONE HOLE MALLEABLE IRON FOR SURFACE MOUNTED CONDUITS.
CABLE TIES
-HIGH STRENGTH NYLON TEMPERATURE RATED TO 185°F, SELF LOCKING.

ELECTRICAL ABBREVIATIONS

&	AND	ELEC	ELECTRICAL
Ø	PHASE	EMERG	EMERGENCY
A	AMPERAGE	ETC	ETCETERAS
A.C.	ABOVE COUNTER	EXH	EXHAUST
A.F.F.	ABOVE FINISHED FLOOR	FIXT(S)	FIXTURE(S)
A.I.C.	AMPS INTERRUPT CAPACITY	FR	FROM
C	CONDUIT	G	GROUND
CO	COMPANY	GFI	GROUND FAULT INTERRUPT
CR	CARD READER		
CU	COPPER	kVA	KILO VOLT AMPS
DIST	DISTRIBUTION	kW	KILO WATTS
DN	DOWN	LED	LIGHT EMITTING DIODE
DT	DOUBLE TUBE		
E.C.	ELECTRICAL CONTRACTOR	LTG	LIGHTING
EF	EXHAUST FAN	MAX	MAXIMUM
MH	METAL HALIDE	M.C.	MECHANICAL
MIN	MINIMUM	MECH	CONTRACTOR MECHANICAL
MLO	MAIN LUGS ONLY		
N	NEUTRAL	RT	ROOF TOP
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	RM	ROOM
		SAN	SANITARY
		T	TRANSFORMER
OL	OVERLOAD	TT	TWIN TUBE
PB	PUSH BUTTON SWITCH	TTT	TRIPLE TUBE
P.C.	PLUMBING CONTRACTOR	UH	UNIT HEATER
PL	PILOT LIGHT	UL	UNDERWRITERS LABORATORY
PNL	PANELBOARD		
(R)	RELOCATED	V	VOLTS
RCPT(S)	RECEPTACLE(S)	W	WIRE
REF	REFERENCE	WP	WEATHERPROOF
		XFMR	TRANSFORMER



2 E1 FIRST FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'



1 E1 KEY PLAN
SCALE: NONE

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
FRANK ALAN PENO
ENGINEER
SOLEMNLY PLEDGED TO THE PROFESSION

PROGRESS DATES

DESIGN REVIEW SET	02/18/13
CODE & BIDDING SET	02/25/13
△ CODE RESUBMISSION	05/21/13
△ CODE RESUBMISSION	06/06/13

ST. JOSEPH'S CATHOLIC ACADEMY

901 Boalsburg Pike
Boalsburg, PA 16827

SCIENCE LAB RENOVATIONS

ELECTRICAL PLANS & SPECIFICATIONS

E1