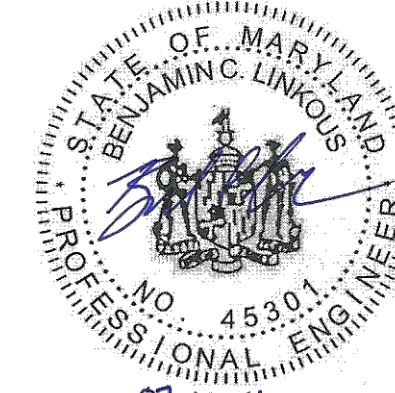
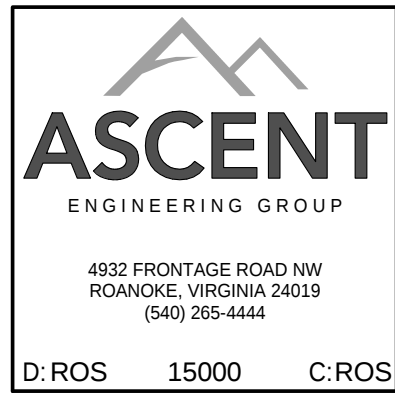
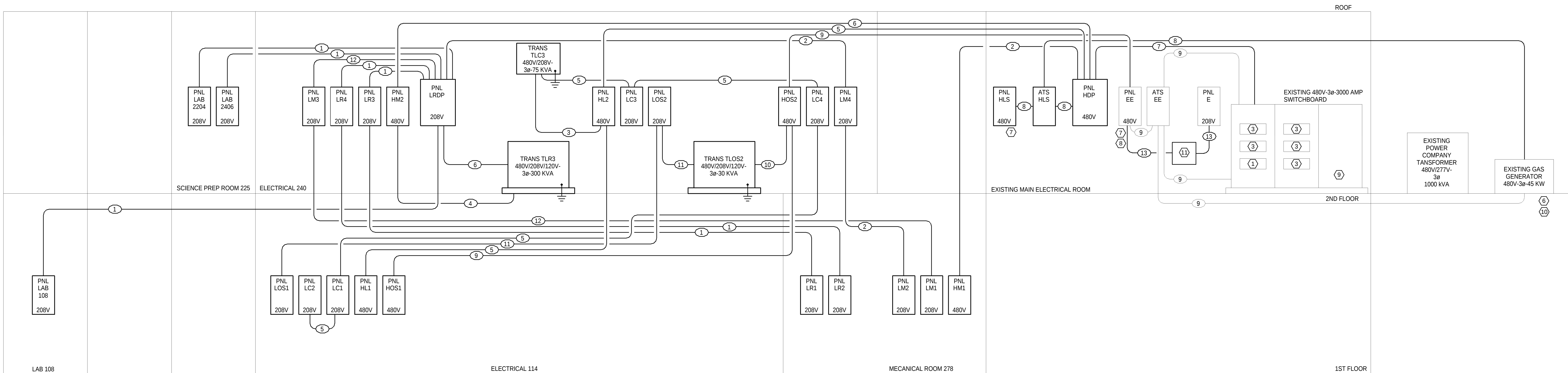




Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45301, Expiration Date: 04/17/18.



BRANCH CIRCUIT WIRE SIZE TABLE						
DEVICE RATING	RUNS	PHASE	NEUT.	EGC		CONDUIT
20	1	#12	#12	#12		3/4"
30	1	#10	#10	#10		3/4"
40	1	#8	#8	#10		3/4"
50	1	#6	#6	#10		1"
60	1	#4	#4	#10		1-1/4"
70	1	#4	#4	#8		1-1/4"
80	1	#3	#3	#8		1-1/4"
90	1	#2	#2	#8		1-1/2"
100	1	#1	#1	#8		1-1/2"
125	1	#1/0	#1/0	#6		2"
150	1	#1/0	#1/0	#6		2"
200	1	#3/0	#3/0	#6		2-1/2"
225	1	#4/0	#4/0	#4		2-1/2"
250	1	#250	#250	#4		3"
300	1	#350	#350	#4		3-1/2"
350	1	#500	#500	#3		4"
400	1	#500	#500	#3		4"
450	2	#4/0	#4/0	#2		2-1/2"
500	2	#250	#250	#2		3"
600	2	#350	#350	#1		3-1/2"
700	2	#500	#500	#1/0		4"
800	3	#350	#350	#1/0		3-1/2"

NOTES:
1. WIRE SIZING IS BASED ON 2008 NEC TABLES 250.66 AND 310.16.
2. DEVICE RATING REPRESENTS THE MAXIMUM SIZE OVERCURRENT PROTECTION DEVICE FOR WHICH THE ASSOCIATED WIRE MAY BE UTILIZED.
3. PROVIDE NEUTRALS IN ALL CIRCUITS AND FEEDERS UNLESS OTHERWISE INSTRUCTED BY THE EQUIPMENT MANUFACTURER THAT THE NEUTRAL CONDUCTOR IS NOT REQUIRE.

PARTIAL POWER RISER

SCHEMATIC

RISER NOTES:

- 1 4-#1/0 & 1-#6 EGC IN 2" CONDUIT.
- 2 4-#4/0 & 1-#2 EGC IN 2-1/2" CONDUIT.
- 3 3-#1 & 1-#6 EGC IN 1-1/2" CONDUIT.
- 4 2 (3-#4/0 & 1-#2/0 EGC IN 3" CONDUIT).
- 5 4-#250 & 1-#2 EGC IN 3" CONDUIT.
- 6 4 (4-#4/0 & 1-#2/0 EGC IN 3" CONDUIT.)
- 7 3 (4-#500 1-#3/0 EGC IN 4" CONDUIT.)
- 8 4-#6 & 1-#8 EGC IN 1-1/2" CONDUIT.
- 9 4-#4 & 1-#8 EGC IN 1-1/4" CONDUIT.
- 10 3-#6 & 1-#8 EGC IN 1" CONDUIT.
- 11 4-#1 & 1-#6 EGC IN 2" CONDUIT.
- 12 2 (4-#4/0 & 1-#2/0 EGC IN 3" CONDUIT.)
- 13 EXISTING FEEDER

POWER RISER NOTES:

- 1 SPARE 480V-3ø-600 AMP BREAKER SHALL BE CHANGED TO A 480V-3ø-1000 AMP BREAKER.
- 2 EXISTING ATS EE NORMAL POWER FEED IS TAPPED TO SWITCHBOARD.
- 3 EXISTING BREAKERS SERVING EXISTING PANELBOARD.
- 4 EXISTING GENERATOR FEEDER.
- 5 EXISTING GENERATOR HAS 40V-3ø-70 AMP BREAKER. SECOND BREAKER SHAL BE ADDED.
- 6 INSTALL A 480V-3P-50 AMP BREAKER OF MATCHING FRAME INSIDE THE GENERATOR.
- 7 RELOCATE ALL LIGHTING CIRCUITS IN THE EXISTING EE PANELBOARD TO THE NEW HLS PANELBOARD TO SPARE 20 AMP BREAKERS AND RECONNECT ALL EXISTING EMERGENCY WIRING FOR EGRESS AND WALK-THROUGH LIGHTING IN PANELBOARD HLS.
- 8 PROVIDE A 480V-3ø-70 AMP BREAKER OF MATCH FRAME IN EXISTING PANELBOARD EE TO SERVE PANELBOARD HOS2.
- 9 THE NEW CONNECTED LOAD WITH THE EXISTING DEMANDED LOAD AND RECEPTACLE DIVERSITY TAKEN ON THE NEW CONNECTED LOAD IS APPROXIMATELY 999.80 KVA.
- 10 THE NEW TOTAL GENERATOR LOAD IS 44.9 KVA. THE EMERGENCY LIGHTING LOAD IS 22.4 KVA. THE STANDBY ADDITIONAL RECEPTACLE LOAD IS 10.0 KVA. THE EXISTING MISCELLANEOUS LOAD GENERATOR LOAD IS 12.5 KVA.
- 11 EXISTING 15 KVA TRANSFORMER TE.



North Bethesda
Middle School
Addition
8935 Bradmoor Drive
Bethesda, Maryland 20817

Montgomery County Public Schools
45 West Gude Drive Room Suite 4300
Rockville, Maryland 20850

PERMIT SET

Sheet Title:
**ELECTRICAL -
RISER DIAGRAM**

Issue Date: 7/12/16
Sheet No. in Set:

E6.1

Principal: Paul Falkenbury ATA
Project Manager: Jenny Alvarez
Project Number: 136900.1