

Generator and Electrical Equipment Replacement

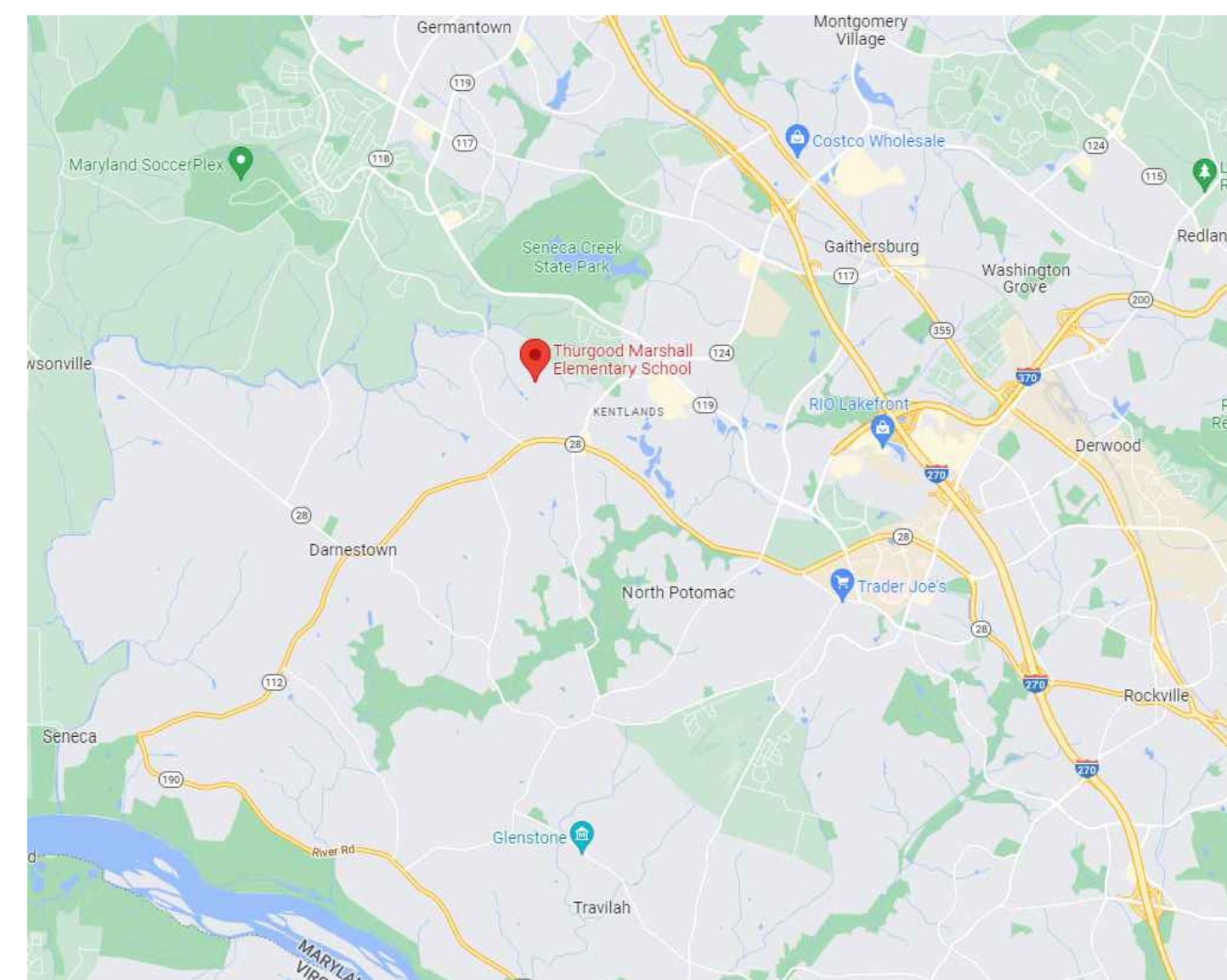
THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE, GAITHERSBURG, MD 20878
 Montgomery County Public Schools

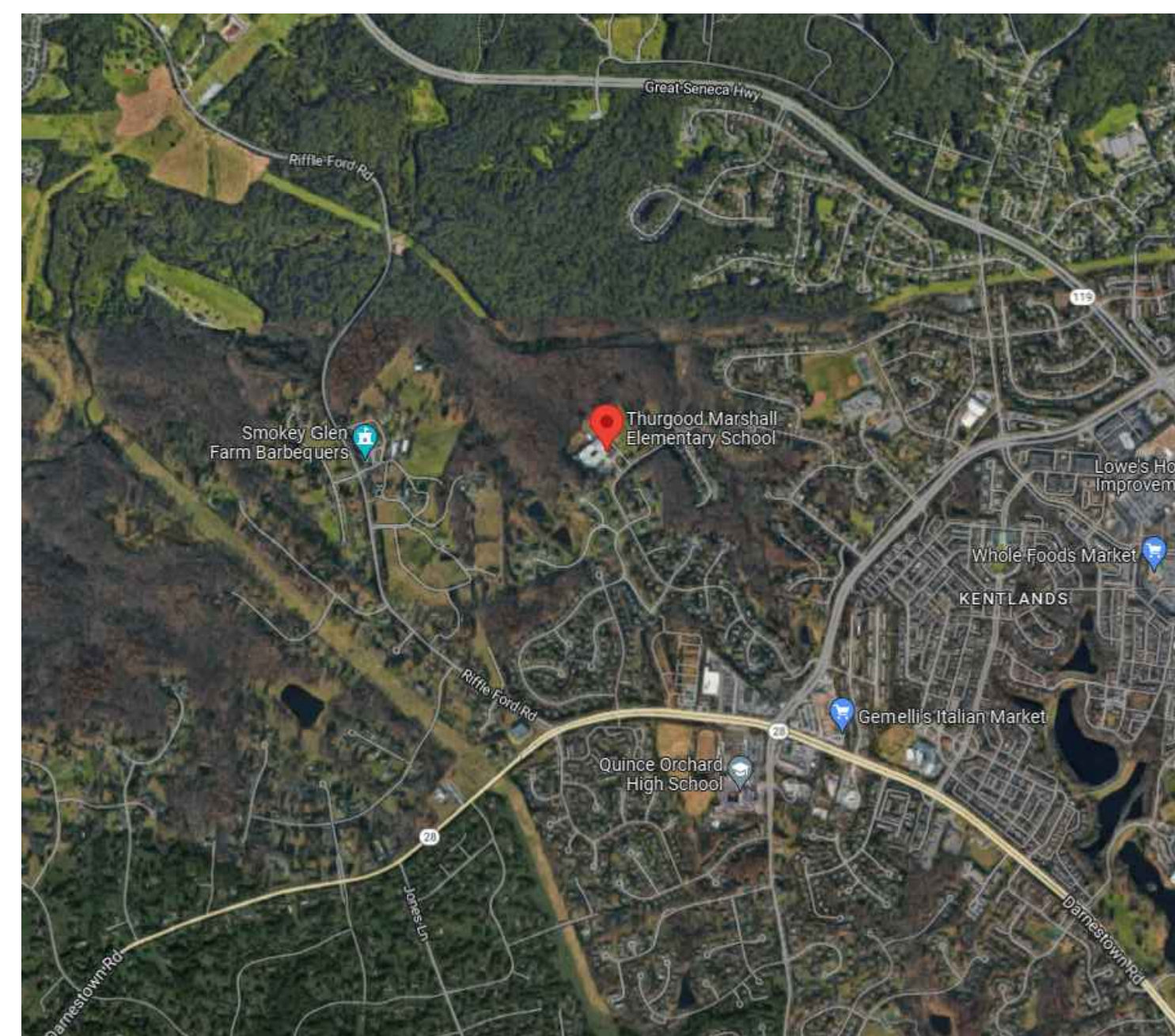
MECHANICAL AND ELECTRICAL ENGINEERS
 JAMES POSEY ASSOCIATES, INC.
 11155 RED RUN BOULEVARD, SUITE 310
 BALTIMORE, MARYLAND 21117
 PHONE: 410.265.6100

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
 12260 MCDONALD CHAPEL DRIVE
 GAITHERSBURG, MD 20878
 MONTGOMERY COUNTY PUBLIC SCHOOLS

VICINITY PLAN



AERIAL SITE PLAN



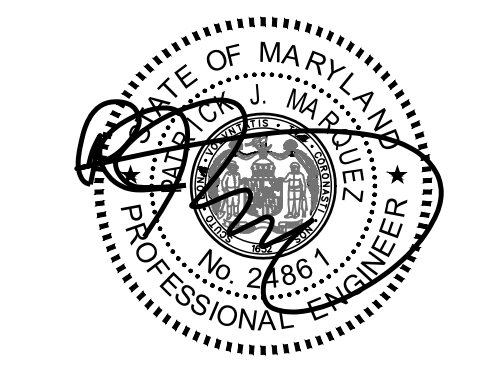
DRAWING INDEX

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PROFESSIONAL CERTIFICATION

These contract documents for Thurgood Marshall Elementary School were prepared under my supervision and to the best of my knowledge, information, and belief, they comply with the relevant building codes of the State of Maryland.

02/06/23 (Date)
 Maryland Professional Engineer Registration No. 24861



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. 24861, Expiration date 02-24-2024.

APPLICABLE CODES & STANDARDS

- 2018 IBC: INTERNATIONAL BUILDING CODE
- 2018 IMC: INTERNATIONAL MECHANICAL CODE
- 2018 IPC: INTERNATIONAL PLUMBING CODE WITH WSSC AMENDMENTS
- ASHRAE 90.1: ENERGY STANDARD FOR BUILDINGS EXCEPT LOW RISE RESIDENTIAL BUILDINGS.
- NEC 2017: NATIONAL ELECTRICAL CODE
- ASHRAE 2017-2020 HANDBOOKS.

James Posey Associates
 Engineering Your Vision

Mechanical & Electrical Consulting Engineers

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SCOPE OF WORK

SCOPE OF WORK GENERALLY CONSISTS OF THE FOLLOWING OVER TWO PHASES. PHASE 1 SHALL CONSIST OF THE FOLLOWING:

- PROVIDE CONDUITS AND RACEWAYS FOR NEW GENERATOR.
- PROVIDE CONDUITS AND RACEWAYS FOR NEW DEVICES AND CONNECTIONS TO EXISTING EQUIPMENT. FINAL CONNECTIONS TO NEW DEVICES AND EXISTING EQUIPMENT SHALL BE PERFORMED DURING THE SECOND SUMMER.
- PROVIDE NEW CONCRETE PAD FOR NEW GENERATOR.
- CONNECT LIGHTING FIXTURES IN TOILET ROOMS ON NORMAL CIRCUITS TO EXISTING EMERGENCY LIGHTING CIRCUITS, WHERE INDICATED ON DRAWINGS.

PROJECT SCOPE SHALL INCLUDE THE WORK FOR PHASE 2:

- PROVIDE NEW GENERATOR AND ASSOCIATED EQUIPMENT.
- CONNECT EXISTING BOILERS AND ASSOCIATED PUMPS TO THE NEW STANDBY PANELBOARD.
- CONNECT EXISTING KITCHEN REFRIGERATION EQUIPMENT TO NEW STANDBY PANELBOARD.
- CONNECT EXISTING INTERCOMMUNICATIONS/PUBLIC ADDRESS SYSTEM TO THE NEW STANDBY PANELBOARD.
- CONNECT EXISTING MAIN TELECOM ROOM RECEPTACLES TO THE NEW STANDBY PANELBOARD.
- CONNECT NORMAL LIGHTING FIXTURES IN THE MAIN MECHANICAL ROOM/BOILER ROOM AND MAIN ELECTRICAL ROOM TO THE NEW EMERGENCY PANELBOARD.
- CONNECT LIGHTING FIXTURES IN TOILET ROOMS ON NORMAL CIRCUITS TO THE NEW EMERGENCY PANELBOARD, WHERE INDICATED ON DRAWINGS.

THE SCOPE OF WORK INDICATED ON THIS SHEET IS INTENDED AS A BRIEF SUMMARY FOR GENERAL INFORMATIONAL PURPOSES ONLY, AND DOES NOT NECESSARILY INCLUDE ALL OF THE WORK REQUIRED. THE CONTRACTOR SHALL PROVIDE MATERIALS AND LABOR AS REQUIRED TO COMPLETE THE WORK AS INDICATED IN THE CONTRACT DOCUMENTS.

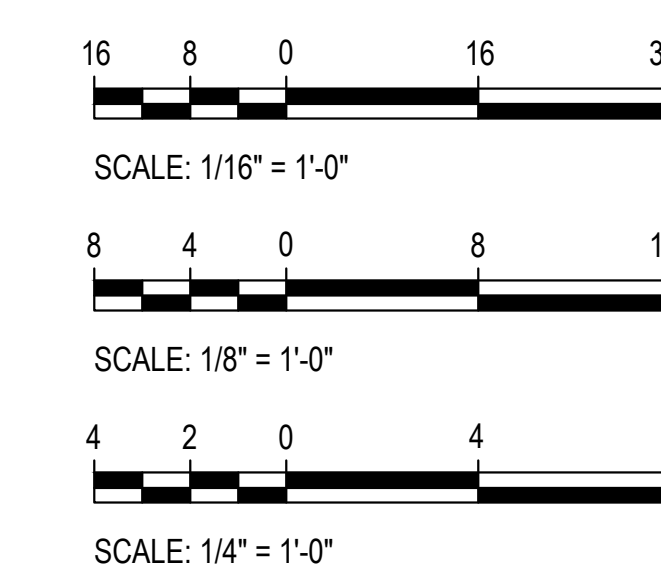
BOARD OF EDUCATION

DR. MONIFA B. MCKNIGHT	SUPERINTENDENT
GARY MOSESMAN	DIRECTOR I, DIVISION OF DESIGN & CONSTRUCTION
MS. BRENDA WOLFF	DISTRICT 5
KARLA SILVESTRE	PRESIDENT / AT-LARGE
GRACE RIVERA-OVEN	DISTRICT 1
MRS. SHEBRA L. EVANS	VICE PRESIDENT / DISTRICT 4
LYNNE HARRIS	AT-LARGE
JULIE YANG	DISTRICT 3
MRS. REBECCA SMONDROWSKI	DISTRICT 2
MR. ARVIN KIM	STUDENT MEMBER

CODE ANALYSIS

CODE ANALYSIS (FROM INTERNATIONAL BUILDING CODE/2018)		
	EXISTING BLDG	PROPOSED ALTERATION
IBC OCCUPANCY CLASSIFICATION	E	THE SCOPE OF THIS WORK IS TO REPLACE EXISTING GENERATOR AND REVISE NORMAL LIGHTING CIRCUITS IN TOILET ROOMS, BOILER ROOM AND ELEC ROOM TO EMERGENCY LIGHTING.
TYPE OF CONSTRUCTION	IIB	THERE IS NO INCREASE IN FLOOR AREA, NO SITE CHANGES, NO CHANGE IN CLASSIFICATION OR TYPE OF CONSTRUCTION.
NUMBER OF STORIES ABOVE GRADE	1	
HIGH RISE (Y/N)	N	
FIRE ALARM (Y/N)	Y	
FULLY SPRINKLERED (Y/N)	Y	
TOTAL BUILDING FLOOR AREA	77,798 SF	

GRAPHIC SCALES



CAUTION: EXCEPT WHERE DIMENSIONS ARE INDICATED, GRAPHIC SCALE MUST BE USED.

Tag	Description	Date
	BID SET	02/06/23
PSC No		
Scale	AS NOTED	
Project No	7738-22	
Date	FEBRUARY 6, 2023	
Drawing Title	TITLE SHEET	
Sheet No:	T-1	

MECHANICAL SYMBOLS AND ABBREVIATIONS			
— G —	LOW PRESSURE GAS PIPE	Ø	INDICATES DIAMETER
— G (2 PSI) —	MEDIUM PRESSURE GAS PIPE	A/D	ACCESS DOOR
— C —	PIPE CAP OR PLUG	AVV	AUTOMATIC AIR VENT
— U —	UNION	ABV	ABOVE
— S —	SHUT-OFF VALVE	AFF	ABOVE FINISHED FLOOR
— SV —	SOLENOID VALVE	BLDG	BUILDING
— R —	PRESSURE REDUCING / REGULATING VALVE	BLW	BELOW
(M)	METER	BTUH	BRITISH THERMAL UNITS PER HOUR
— GC —	GAUGE COCK / TEST PORT	CFH	CUBIC FEET PER HOUR
— CR —	CONCENTRIC REDUCER	CFM	CUBIC FEET PER MINUTE
— ER —	ECCENTRIC REDUCER	CLG	CEILING
— F —	FLOW DIRECTION ARROW	CONC	CONCRETE
— S —	STRAINER	CW	DOMESTIC COLD WATER PIPE
●	POINT OF CONNECTION, NEW TO EXISTING	DIA	DIAMETER
●	DEMOLITION WORK TERMINATION POINT	EA	EXHAUST AIR
①	SYMBOL FOR SPECIFIC NOTE, NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.	ETR	EXISTING TO REMAIN
③ / M1	DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING M1	EX	EXISTING
		EXH	EXHAUST
		FL	FLOOR
		FT	FEET
		G	GAS PIPE
		GALV	GALVANIZED
		IN	INCH INCHES
		MAX	MAXIMUM
		MBH	THOUSAND BTU'S PER HOUR
		MCPS	MONTGOMERY COUNTY PUBLIC SCHOOLS
		MECH	MECHANICAL
		MFR	MANUFACTURER
		MIN	MINIMUM
		NC	NORMALLY CLOSED
		NIC	NOT IN CONTRACT
		NO	NORMALLY OPEN
		OA	OUTDOOR AIR
		PSI	POUNDS PER SQUARE INCH
		RX	REMOVE EXISTING
		TYP	TYPICAL
		UON	UNLESS OTHERWISE NOTED

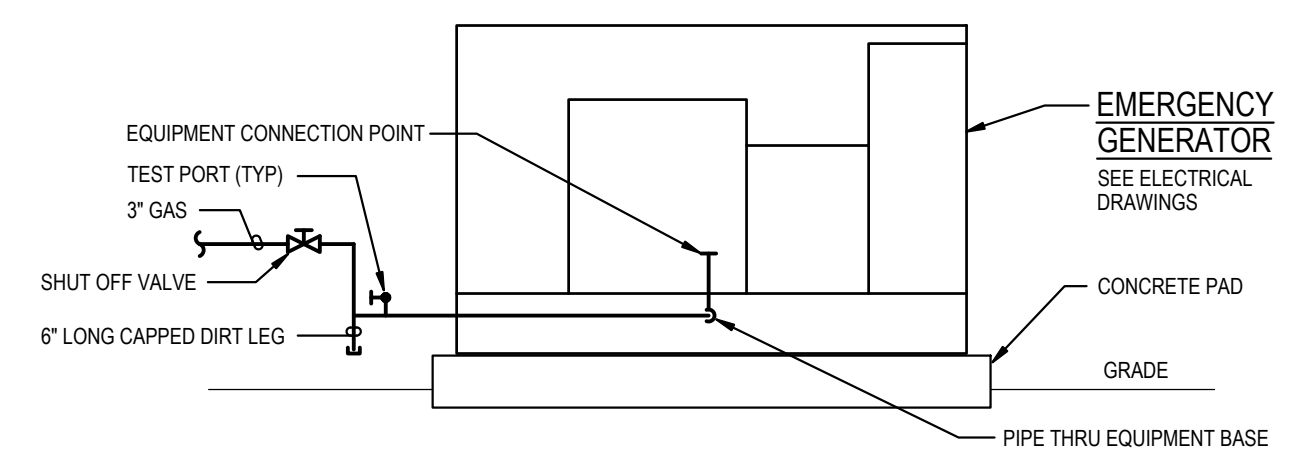
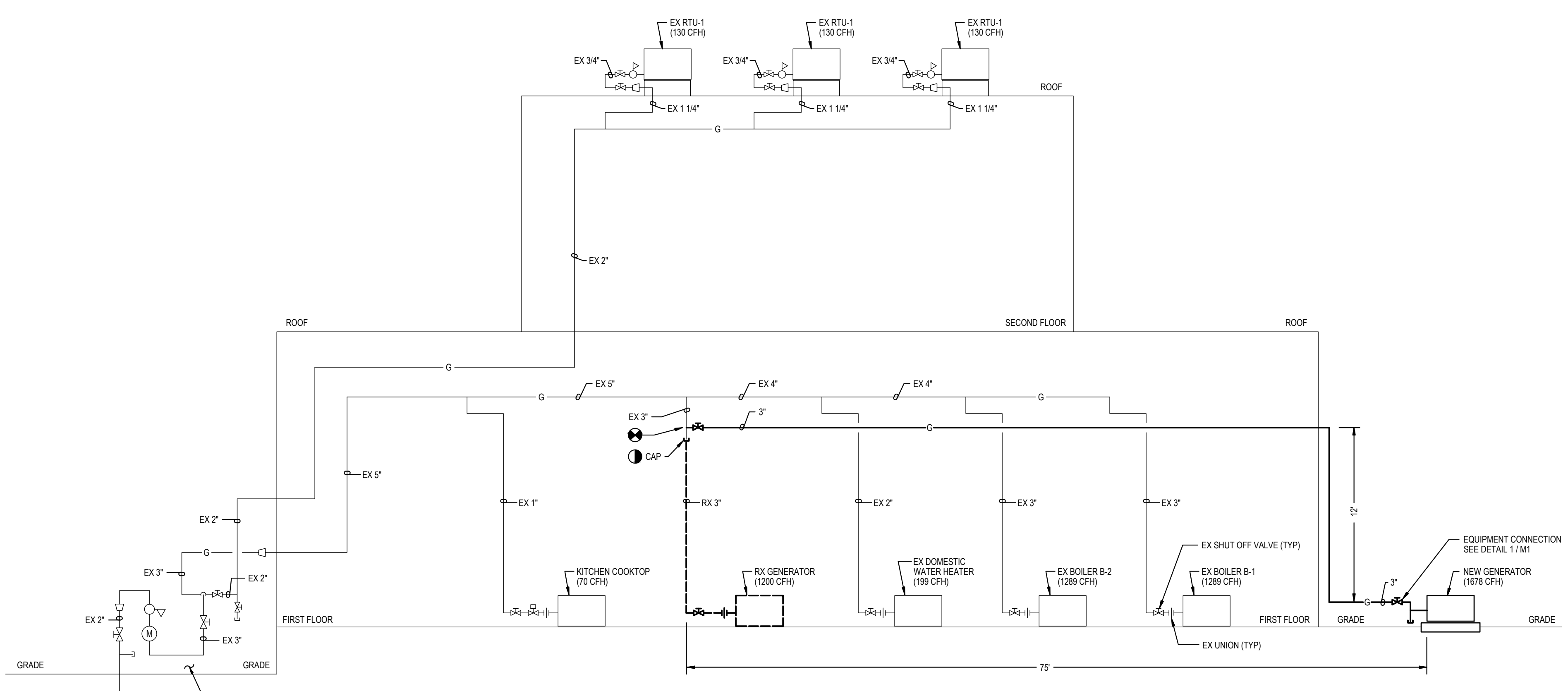
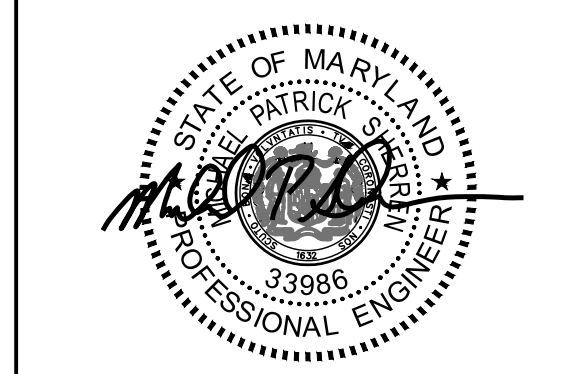


DIAGRAM 1
M-1
EQUIPMENT CONNECTION
 NOT TO SCALE



ABOVE GROUND PIPE, SCHEDULE 40 STEEL PIPE,
 PIPE AND VENT REGULATORS PER IFGC 2018
 408, 410.2 AND 410.3

DIAGRAM 2
M-1
GAS RISER
 NOT TO SCALE



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. 33986, Expiration date 01-15-2025.



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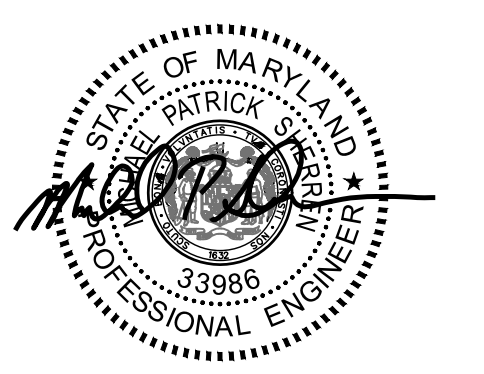
Drawing Title
DIAGRAMS, SYMBOLS AND ABBREVIATIONS

Sheet No:
M-1



- GENERAL NOTES:**
- A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
 - B. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY MECHANICAL AND RELATED ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - C. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY DASHED (——) SHALL BE REMOVED AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (——) SHALL REMAIN.
 - D. NEW GENERATOR AND GAS PIPING TO BE INSTALLED BEFORE EXISTING IS REMOVED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.

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 MONTGOMERY COUNTY PUBLIC SCHOOLS



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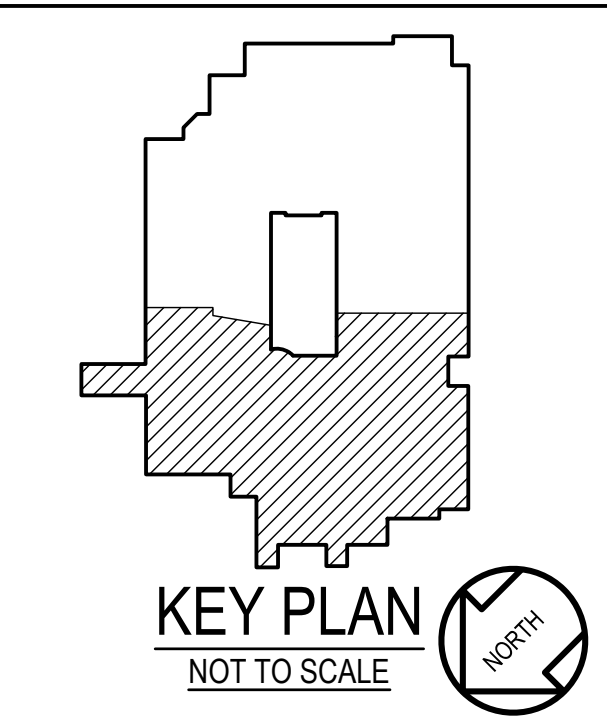
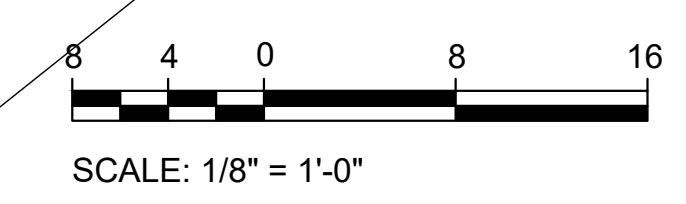
Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
PART FIRST FLOOR PLAN - DEMOLITION

Sheet No:
M-2

1 PART FIRST FLOOR PLAN
M-2 DEMOLITION
 SCALE: 1/8" = 1'-0"





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- A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
 - B. DO NOT LOCATE PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
 - C. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY (——) SHALL BE NEW AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT (——) ARE EXISTING TO REMAIN.
 - D. NEW GENERATOR AND GAS PIPING TO BE INSTALLED BEFORE EXISTING IS REMOVED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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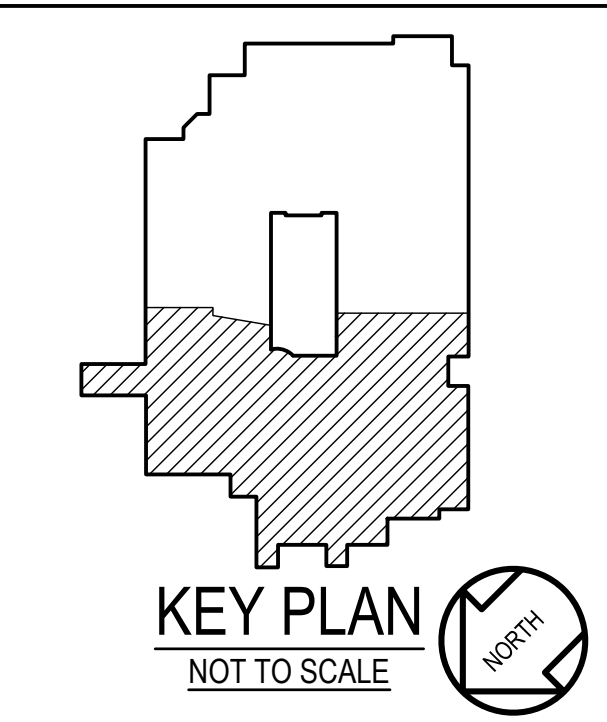
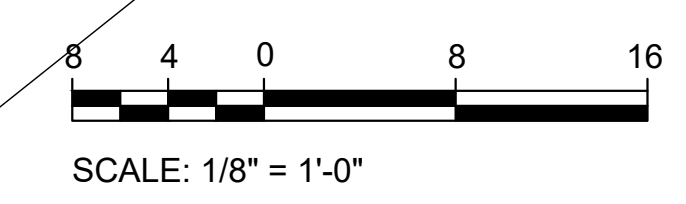
Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
PART FIRST FLOOR PLAN - NEW WORK

Sheet No:
M-3

1 PART FIRST FLOOR PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"





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Tag	Description	Date
	BID SET	02/06/23

PSC No

Scale AS NOTED

Project No 7738-22

Date FEBRUARY 6, 2023

Drawing Title

SYMBOLS LIST, ABBREVIATIONS, DETAILS AND DIAGRAMS

Sheet No:

E-0

ELECTRICAL SYMBOLS AND ABBREVIATIONS

GENERAL

- ① DENOTES REFERENCE TO SPECIFIC NOTE ON DRAWING.
- 1 E-0 DETAIL, DIAGRAM OR PLAN NUMBER
- #/E-# DRAWING NUMBER WHERE DETAIL, DIAGRAM OR PLAN IS LOCATED.
- #/E-# DETAIL, DIAGRAM OR PLAN REFERENCE: DETAIL, DIAGRAM OR PLAN NUMBER/DRAWING NUMBER

NOTES:

- A. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
- B. THE EXISTING FACILITY WILL REMAIN IN OPERATION DURING RENOVATION. INTERRUPTION TO THE EXISTING BUILDING ELECTRIC SERVICE SHALL BE COORDINATED WITH THE USER TO MINIMIZE DISRUPTION. INTERRUPTION OF UTILITIES SHALL NOT OCCUR DURING SCHOOL WORK HOURS.

DEMOLITION

- EM--- DISCONNECT AND REMOVE EXISTING WIRING IN CONDUIT.
- DISCONNECT AND REMOVE EXISTING HOMERUN WIRING IN CONDUIT BACK TO SOURCE.

EXISTING

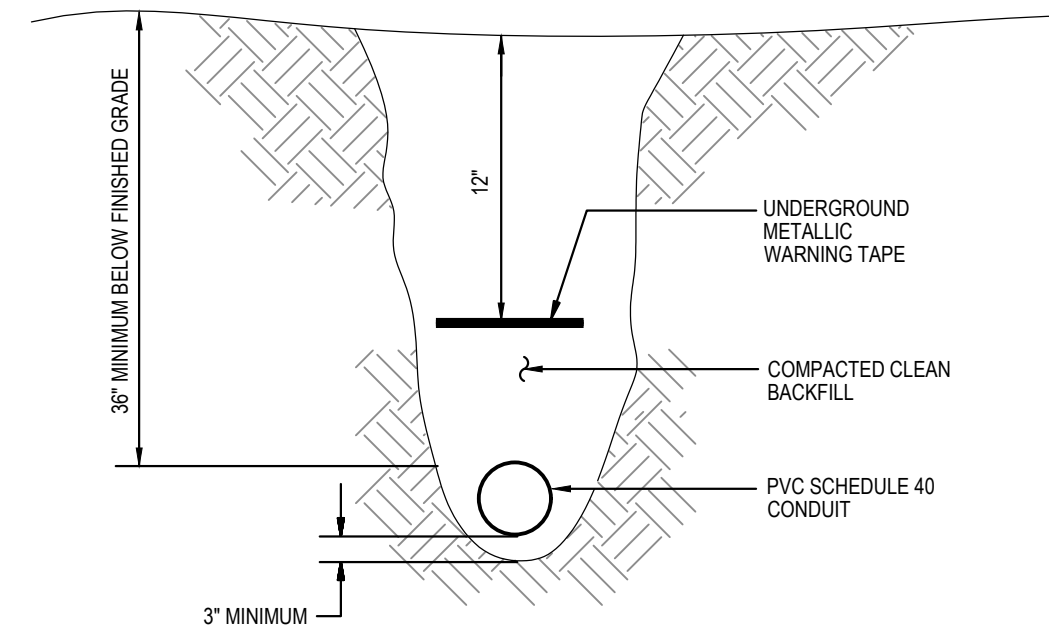
- EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE.
- EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE.
- EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.
- EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE ON GENERATOR POWER CIRCUIT, OR PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.
- EXISTING TO REMAIN WALL MOUNTED SWITCH.
- EXISTING TO REMAIN EXIT SIGN.
- EXISTING TO REMAIN 120/208V PANELBOARD, SURFACE OR RECESSED MOUNTED.
- EXISTING TO REMAIN EQUIPMENT CABINET AS INDICATED.
- EXISTING TO REMAIN WIRING IN CONDUIT.
- EXISTING TO REMAIN WIRING IN CONDUIT CONTINUED.
- EXISTING TO REMAIN WIRING IN CONDUIT TURNING DOWN.
- EXISTING TO REMAIN HOMERUN WIRING IN CONDUIT BACK TO SOURCE.
- EXISTING TO REMAIN CEILING MOUNTED JUNCTION BOX.
- EXISTING MOTOR CONNECTION TO BE RECONNECTED WHERE INDICATED.
- EXISTING EQUIPMENT CONNECTION TO BE RECONNECTED WHERE INDICATED.
- EXISTING TO REMAIN ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH).
- EXISTING TO REMAIN MOTOR STARTER.
- EXISTING TO REMAIN DUPLEX RECEPTACLE.
- EXISTING TO REMAIN DUPLEX RECEPTACLE ON GENERATOR CIRCUIT.
- EXISTING TO REMAIN QUADRUPLX (DOUBLE-DUPLEX) RECEPTACLE.
- EXISTING TO REMAIN SPECIAL-PURPOSE RECEPTACLE.

POWER

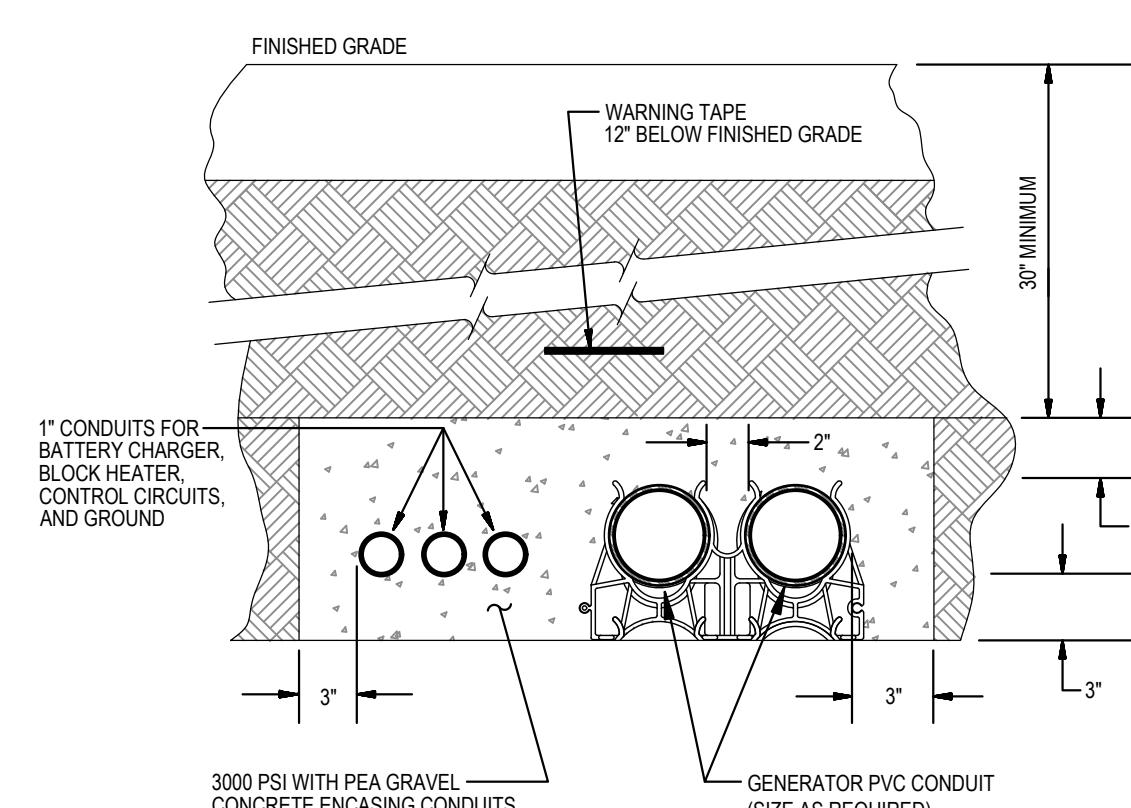
- HOMERUN TO PANELBOARD. NUMBER OF HASH MARKS INDICATES NUMBER OF WIRES PLUS GROUND WIRE. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.
- HOMERUN TO PANELBOARD. RUN BELOW GRADE. NUMBER OF HASH MARKS INDICATES NUMBER OF WIRES PLUS GROUND WIRE. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.
- WIRING IN CONDUIT RUN CONCEALED IN CEILING SPACE ABOVE CEILINGS AND EXPOSED IN OPEN CEILINGS, UNLESS OTHERWISE NOTED. WIRING IN CONDUIT DESIGNATED WITH "EM" DENOTE EMERGENCY LIGHTING CIRCUIT. PROVIDE GROUND WIRES IN CONDUITS.
- WIRING IN CONDUIT RUN BELOW GRADE.
- WIRING IN CONDUIT CONTINUED.
- JUNCTION BOX WITH BLANK COVER PLATE.
- ELECTRIC PANELBOARD (120/208V), SURFACE MOUNTED.
- EQUIPMENT CABINET AS NOTED.
- AUTOMATIC TRANSFER SWITCH.
- ENCLOSED CIRCUIT BREAKER.
- ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH) IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED. MOUNT 5'-6" ABOVE FLOOR TO TOP OF ENCLOSURE, UNLESS OTHERWISE NOTED. RATING AND FUSING AS INDICATED.
- MOTOR CONNECTION.
- HARD-WIRED ELECTRICAL CONNECTION. CONNECT TO EQUIPMENT AS NOTED.
- SURGE PROTECTIVE DEVICE IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED.
- DUPLEX RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT. SURFACE WALL-MOUNTED 48" ABOVE FLOOR TO TOP OF BOX. RECEPTACLES DESIGNATED WITH A "WP" SHALL BE WEATHER-RESISTANT AND GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLE (NEMA 5-20R) WITH WEATHERPROOF WHILE-IN-USE COVER. RECEPTACLES DESIGNATED WITH A "H" SHALL BE HOSPITAL GRADE TYPE.
- DOUBLE-DUPLEX (QUADRUPLX) RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT. SURFACE WALL-MOUNTED 48" ABOVE FLOOR TO TOP OF BOX.
- 4-POLE CONTACTOR IN NEMA TYPE 1 ENCLOSURE. PROVIDE 2 #12 + #12 GROUND IN 3/4" CONDUIT FROM CONTACTOR TO EACH EMERGENCY BOILER SHUT-OFF SWITCH IN MAIN MECHANICAL ROOM, AND FROM CONTACTOR TO EACH SHUNT-TRIP CIRCUIT BREAKER IN PANEL SP SERVING BOILERS. MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION.

FIRE DETECTION AND ALARM

REFER TO SPECIFIC NOTE 10 ON DRAWING E-1 AND DRAWING E-4 FOR INFORMATION ON MODIFICATIONS TO EXISTING FIRE DETECTION AND ALARM SYSTEM.



8
 E-0 **DETAIL**
DIRECTLY-BURIED CONDUIT
 NOT TO SCALE



7
 E-0 **DETAIL**
GENERATOR DUCTBANK
 NOT TO SCALE

GENERATOR DOCKING STATION
 FOR CONNECTIONS TO A TEMPORARY PORTABLE GENERATOR
 CONFIGURE TEMPORARY PORTABLE GENERATOR WITH GENERATOR NEUTRAL CONNECTED TO GENERATOR GROUND. GENERATOR SHALL BE A SEPARATELY DERIVED SYSTEM.

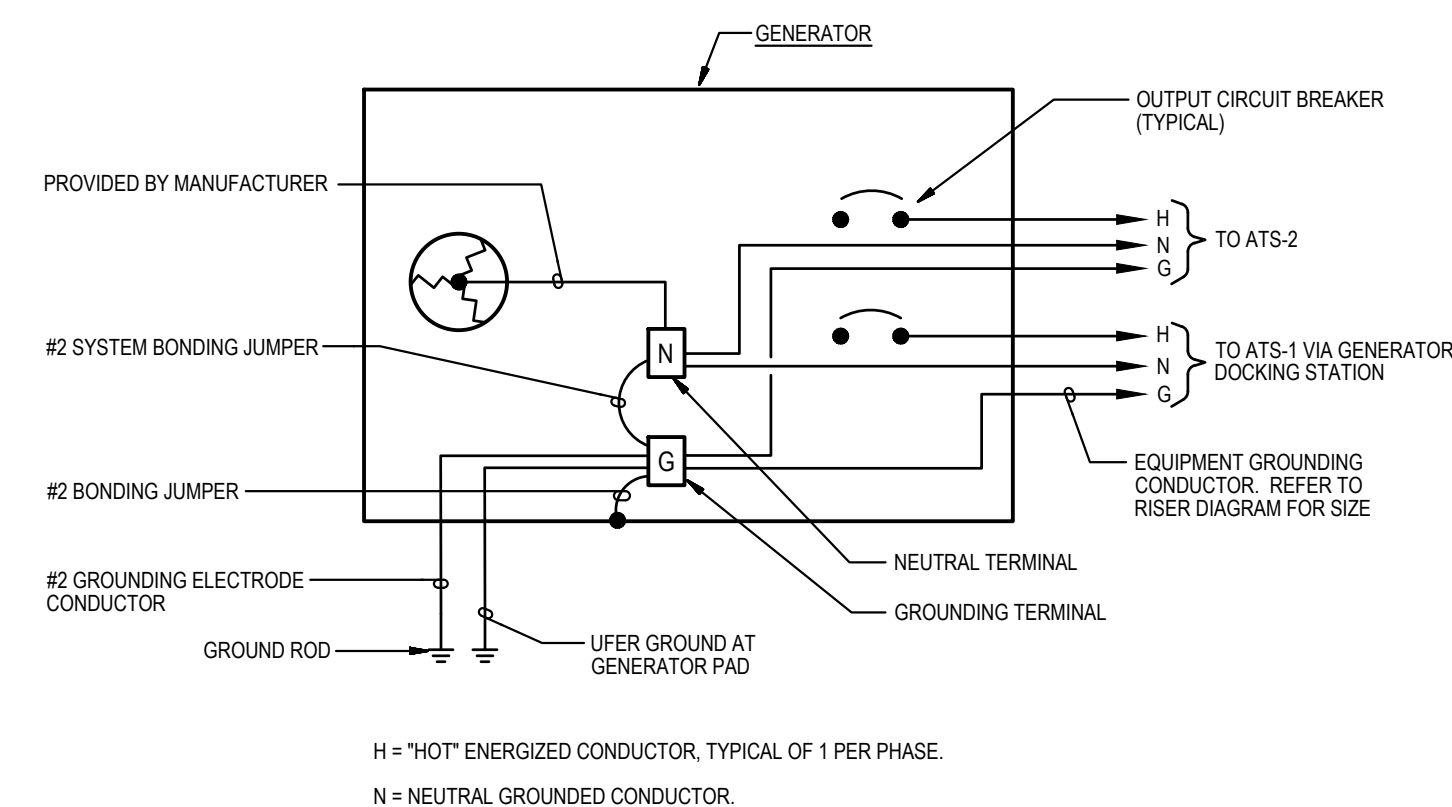
MECHANICALLY FASTEN SIGN TO FRONT OF GENERATOR DOCKING STATION

6
 E-0 **DETAIL**
PLACARD AT GENERATOR DOCKING STATION
 NOT TO SCALE

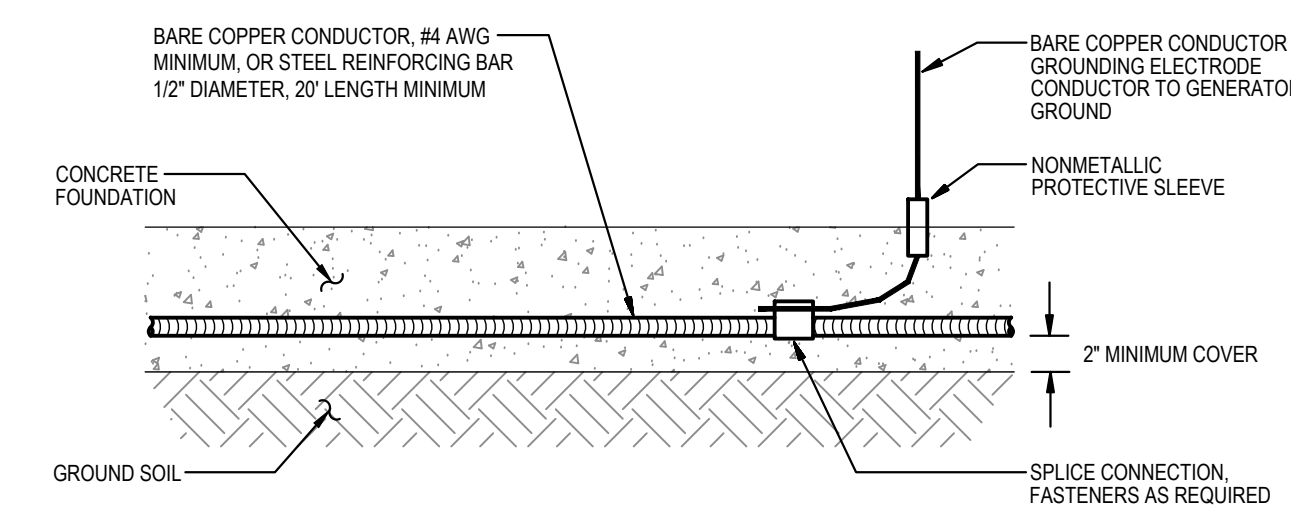
EMERGENCY AND STANDBY POWER
 250KW, 120/208 VOLTS, 3-PHASE, 4-WIRE
 NATURAL GAS GENERATOR
 LOCATED OUTDOORS
 NEXT TO LOADING DOCK AND
 MECHANICAL ROOM

MECHANICALLY FASTEN SIGN TO FRONT OF MAIN SWITCHBOARD

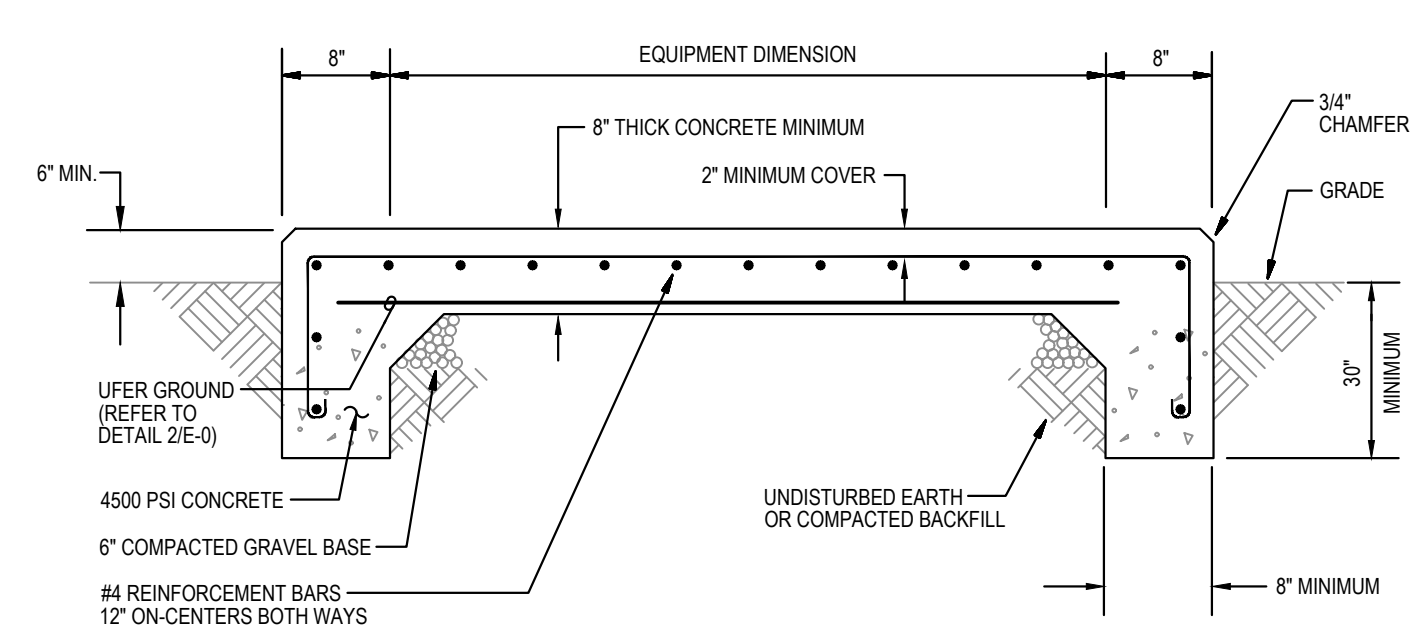
5
 E-0 **DETAIL**
PLACARD AT MAIN SERVICE
 NOT TO SCALE



3
 E-0 **DIAGRAM**
GENERATOR GROUNDING WIRING
 NOT TO SCALE



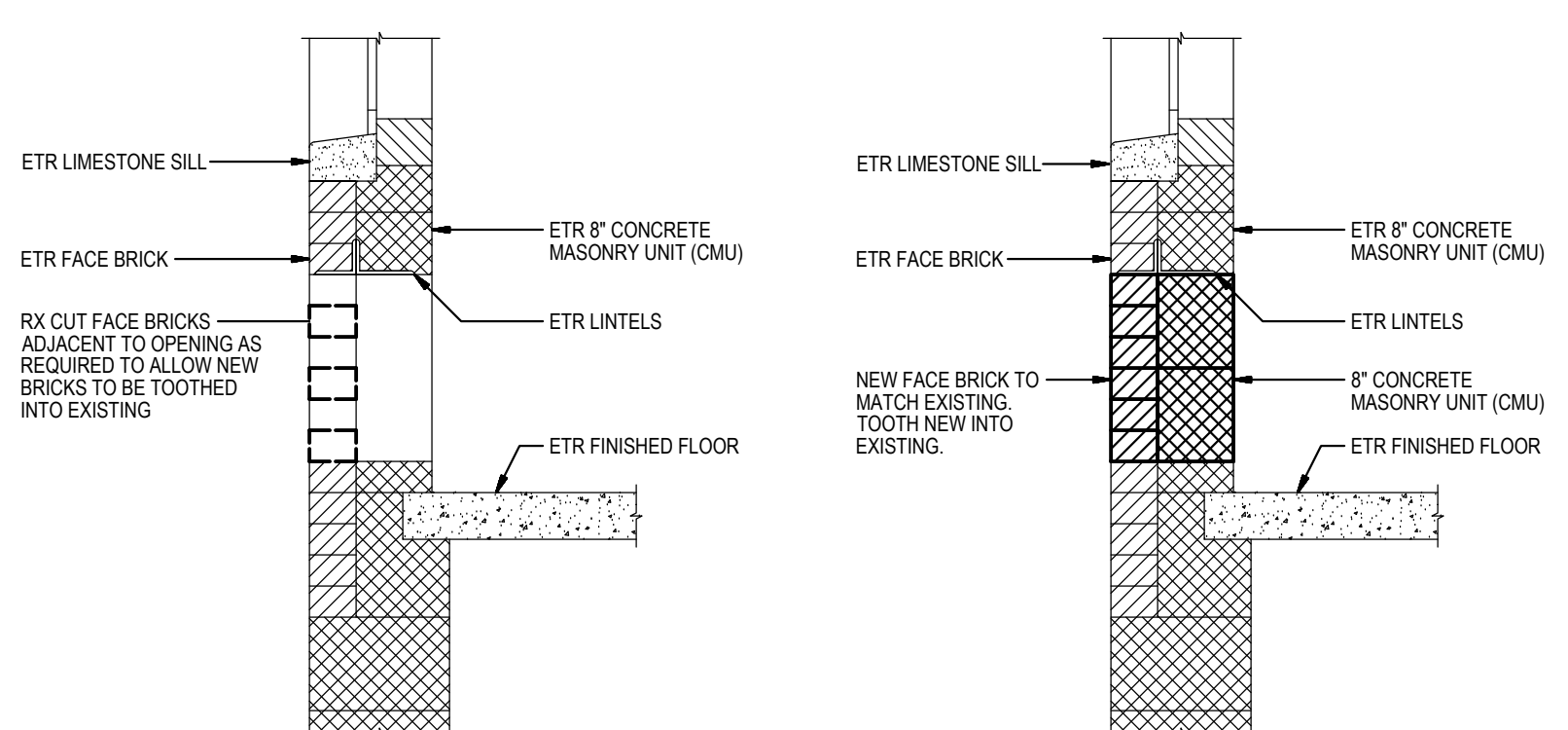
2
 E-0 **DETAIL**
TYPICAL UFR GROUND
 NOT TO SCALE



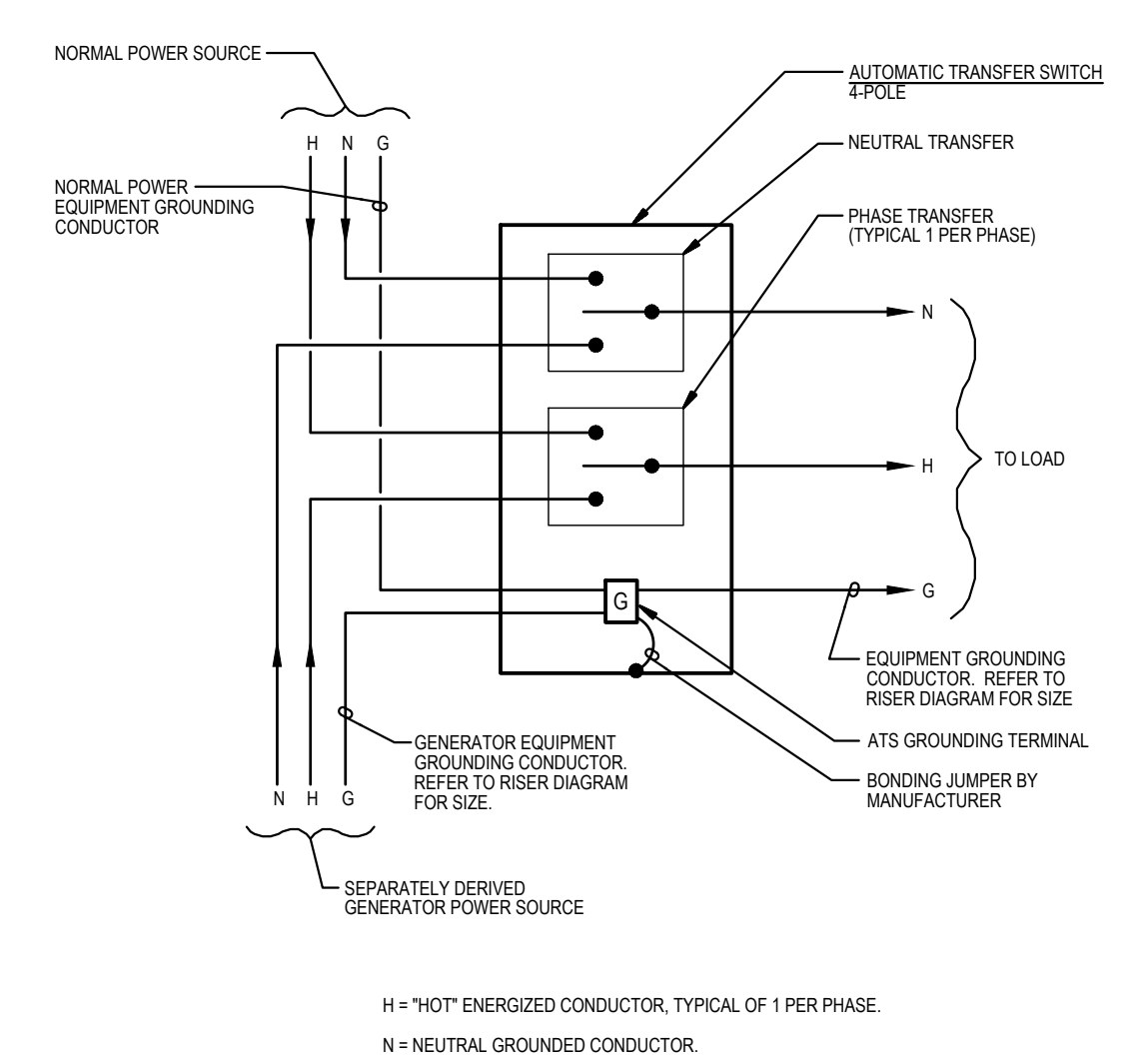
1
 E-0 **DETAIL**
GENERATOR CONCRETE PAD
 NOT TO SCALE

ABBREVIATIONS

A, AMP	AMPERE(S)	LTG	LIGHTING
AIC	AMPERES INTERRUPTING CAPACITY	MCPS	MONTGOMERY COUNTY PUBLIC SCHOOLS
ATS	AUTOMATIC TRANSFER SWITCH	MIN	MINIMUM
C	CONDUIT	MLO	MAIN LUGS ONLY
CB	CIRCUIT BREAKER	N	NEUTRAL
CT	CURRENT TRANSFORMERS	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
DIST	DISTRIBUTION	P	POLE(S)
EM	EMERGENCY	PA	PUBLIC ADDRESS
ETR	EXISTING TO REMAIN	PSI	POUNDS PER SQUARE INCH
EX	EXISTING	PVC	POLYVINYL CHLORIDE
FACP	FIRE ALARM CONTROL PANEL	REC	RECEPTACLE
FLR	FLOOR	RM	ROOM
G	GROUND	RX	REMOVE EXISTING
GEN	GENERATOR	V	VOLT(S)
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	W	WIRE(S)
H	HOT	Ø	PHASE
HP	HORSEPOWER		
KVA	KILOVOLT-AMPERES		
KW	KILOWATTS		

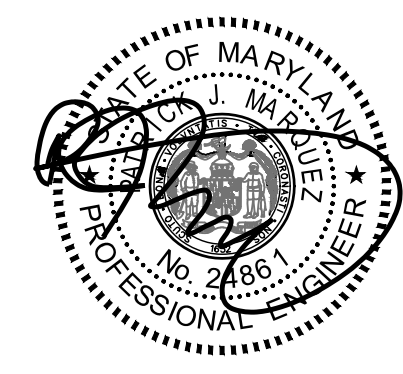


9
 E-0 **DETAIL**
TYPICAL INFILL AT EXISTING MASONRY WALL OPENING
 NOT TO SCALE



4
 E-0 **DIAGRAM**
AUTOMATIC TRANSFER SWITCH GROUND WIRING
 NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
 12260 MCDONALD CHAPEL DRIVE
 GAITHERSBURG, MD 20878
 MONTGOMERY COUNTY PUBLIC SCHOOLS



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. 24861, Expiration date 02-24-2024.

James Posey Associates
 Engineering Your Vision

Mechanical & Electrical Consulting Engineers
 11155 Red Run Boulevard, Suite 310
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 tel 410-265-6100
 jamesposey.com

Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
PART FIRST FLOOR PLAN - DEMOLITION

Sheet No:
E-1

SPECIFIC NOTES (ARCHITECTURAL):

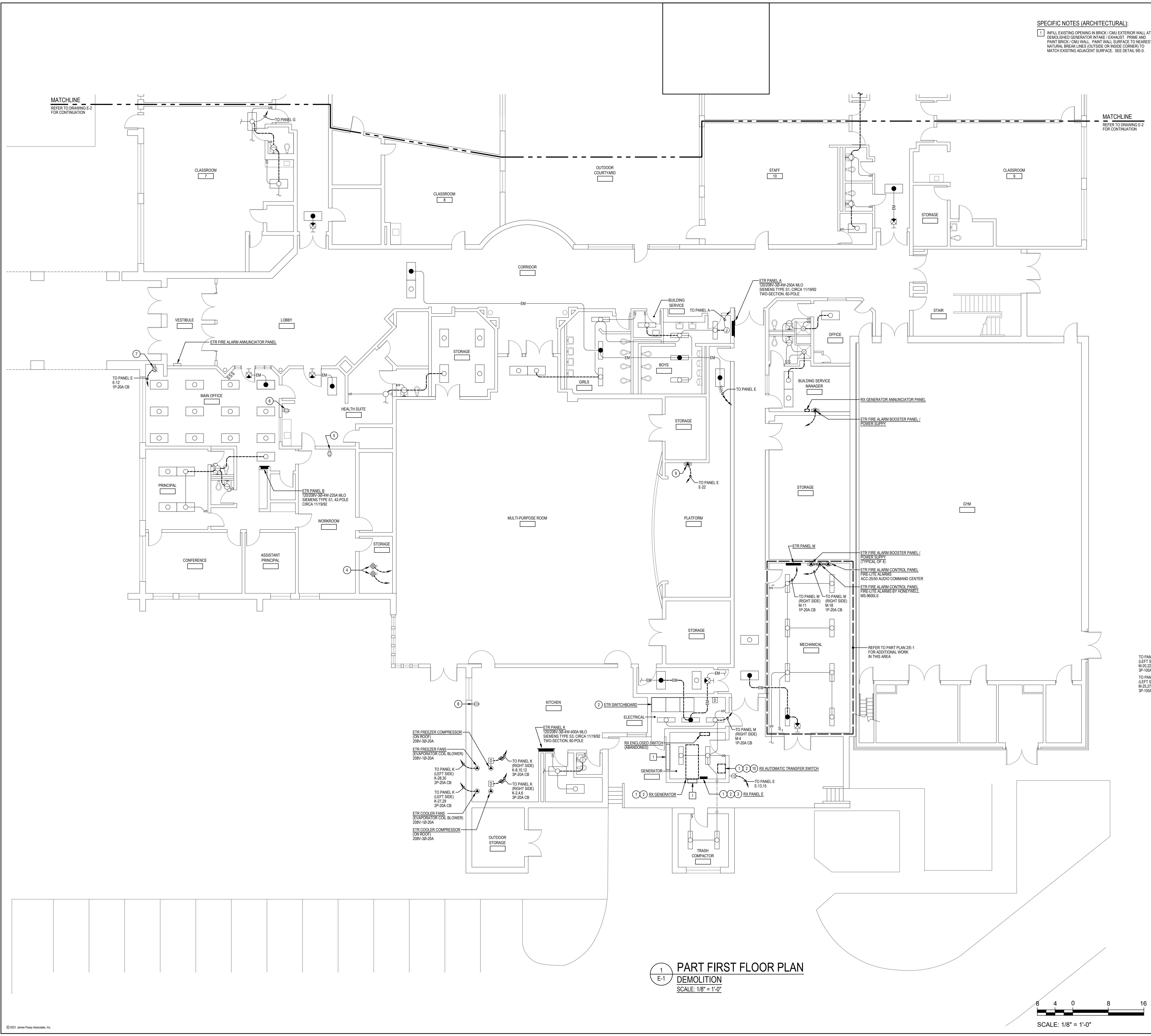
- 1. INFILL EXISTING OPENING IN BRICK / CMU EXTERIOR WALL AT DEMOLISHED GENERATOR INTAKE / EXHAUST. PRIME AND PAINT BRICK / CMU WALL. PAINT WALL SURFACE TO NEAREST MATCHLINE. MATCHLINE TO BE MAINTAINED TO MATCH EXISTING ADJACENT SURFACE. SEE DETAIL BE-6.

GENERAL NOTES:

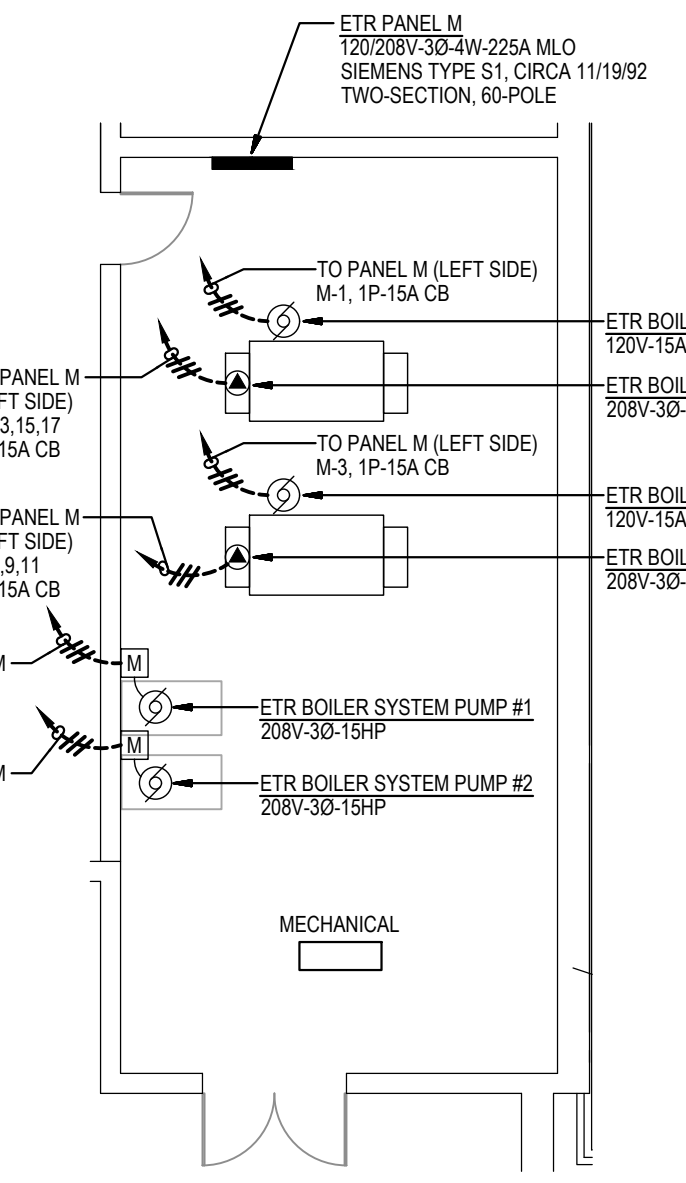
- A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN REAL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PRESENT DESCRIPTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
- B. THE EXISTING FACILITY SHALL REMAIN IN OPERATION DURING RENOVATION. INTERRUPTION TO THE EXISTING BUILDING ELECTRIC SERVICE SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION. INTERRUPTION OF UTILITIES SHALL NOT OCCUR DURING SCHOOL WORKING HOURS.
- C. REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
- D. CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.
- E. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (—) SHALL REMAIN.
- F. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
- G. WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
- H. REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
- I. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
- J. WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
- K. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

SPECIFIC NOTES:

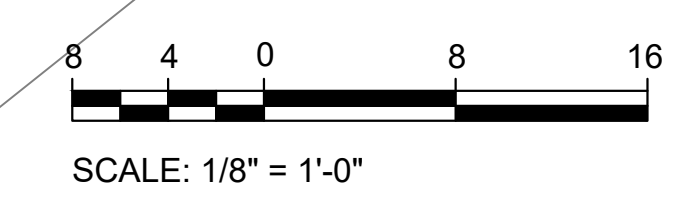
1. MAINTAIN OPERATION OF EXISTING GENERATOR AND ASSOCIATED GENERATOR EQUIPMENT UNTIL THE NEW GENERATOR, NEW GENERATOR EQUIPMENT, AND ASSOCIATED FEEDERS AND BRANCH CIRCUITS ARE INSTALLED AND EXISTING FEEDERS AND BRANCH CIRCUIT ARE READY TO BE RECONNECTED TO NEW GENERATOR EQUIPMENT.
2. REFER TO PART POWER RISER DIAGRAM ON DRAWING E-7 FOR ADDITIONAL INFORMATION.
3. DISCONNECT EXISTING BRANCH CIRCUITS FROM CIRCUIT BREAKERS. EXISTING EMERGENCY LIGHTING CIRCUITS SHALL REMAIN. NON-EMERGENCY LIGHTING CIRCUITS SHALL BE REMOVED. REMOVE INTERIOR COMPONENTS UNLESS CIRCUIT BREAKERS OF EXISTING PANEL E. ENCLOSURE OF EXISTING PANEL E SHALL REMAIN AND BECOME A PULLBOX.
4. QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
5. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN WORKROOM.
6. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN HEALTH SUITE.
7. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING INTERCOM / PUBLIC ADDRESS SYSTEM (ORANGE) RACK IN MAIN OFFICE AREA.
8. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REACH-IN REFRIGERATOR AND ICE CREAM DISPLAY CHEST / FREEZER IN KITCHEN.
9. EXISTING TO REMAIN SOUND SYSTEM AMPLIFIER FOR PLATFORM / MULTI-PURPOSE ROOM.
10. DISCONNECT EXISTING FIRE DETECTION AND ALARM SYSTEM MONITORING MODULES FOR "GENERATOR PLAN" AND "GENERATOR FAULT". EXISTING MONITORING MODULES SHALL REMAIN FOR RECONNECTION. REFER TO SPECIFIC NOTE 10 ON DRAWING E-4 FOR ADDITIONAL INFORMATION.



1 PART FIRST FLOOR PLAN
 DEMOLITION
 SCALE: 1/8" = 1'-0"



2 PART PLAN
 MECHANICAL ROOM
 DEMOLITION
 SCALE: 1/8" = 1'-0"

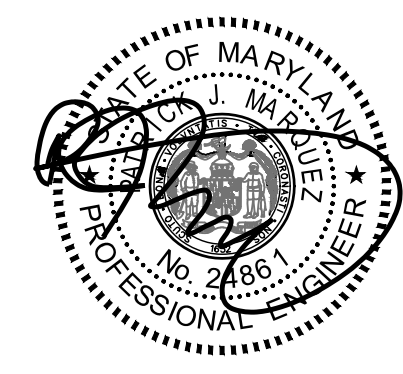


GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

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Drawing Title
PART FIRST FLOOR PLAN - DEMOLITION

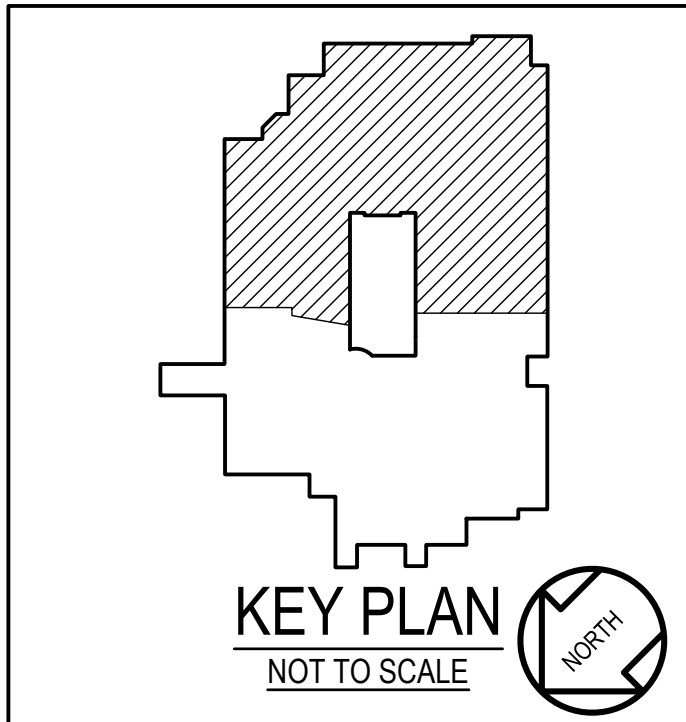
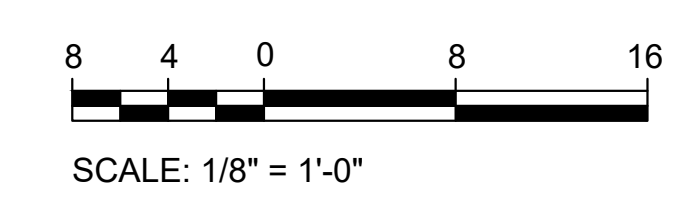
Sheet No:
E-2

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 - IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.
 - DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
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 - CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.

- SPECIFIC NOTES:**
- EXISTING DUPLEX RECEPTACLES AS NOTED ARE CURRENTLY SERVING DATA RACKS IN ROOM.
 - QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
 - EXISTING TO REMAIN DISCONNECT FOR ELEVATOR.
 - EXISTING TO REMAIN DISCONNECT FOR ELEVATOR CAB LIGHTING.

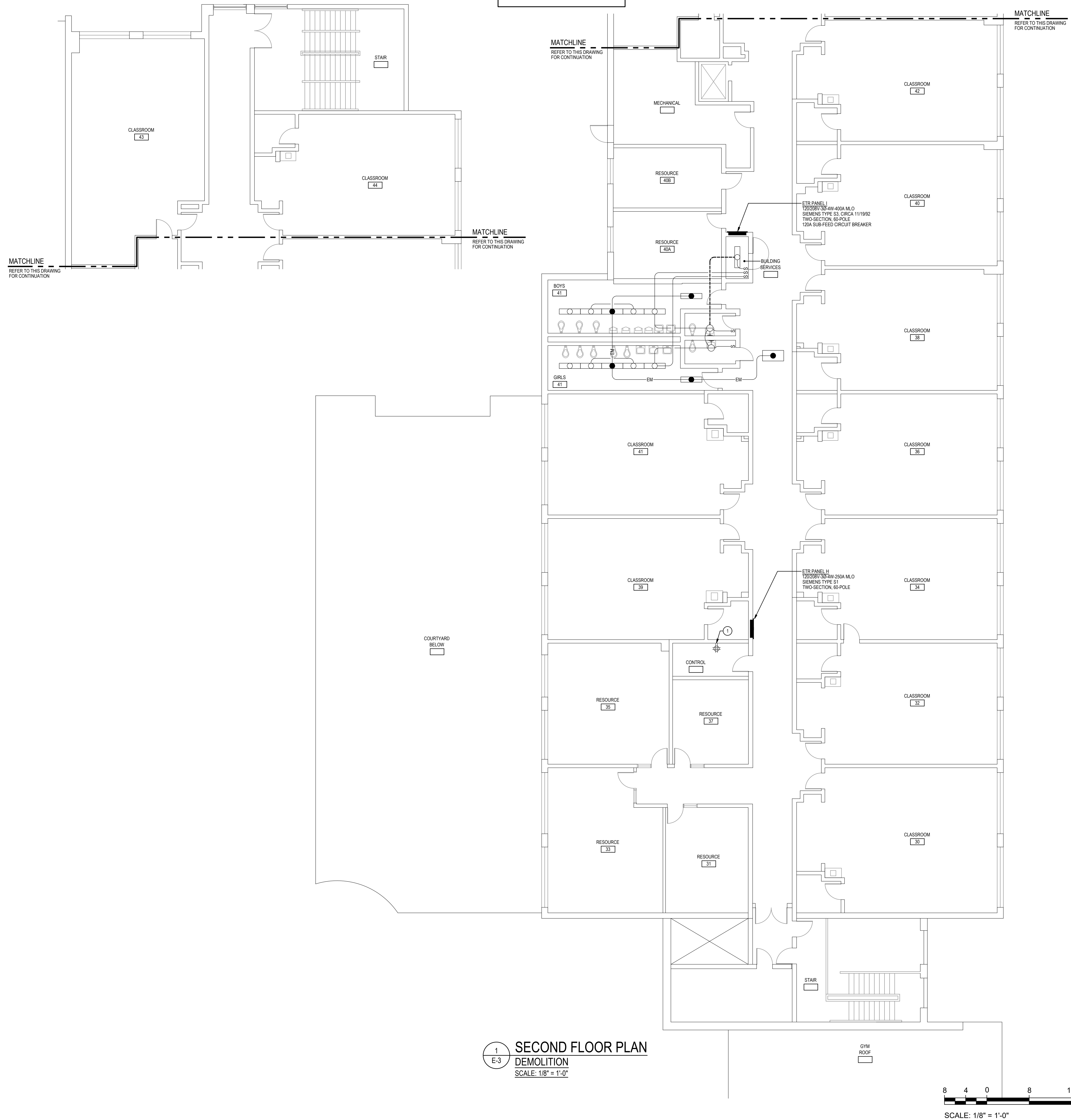


1 PART FIRST FLOOR PLAN
E-2 DEMOLITION
SCALE: 1/8" = 1'-0"

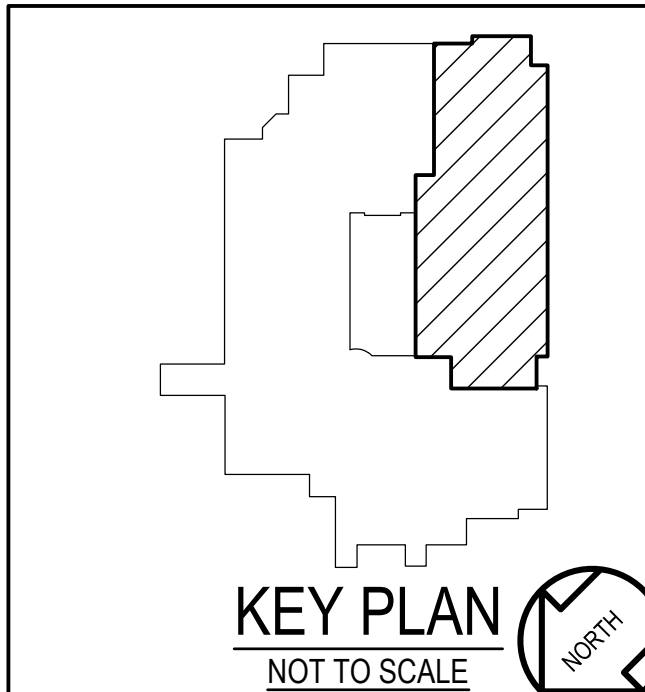
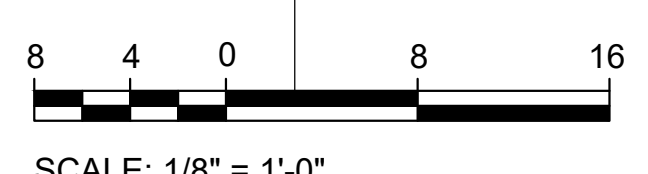


MATCHLINE
REFER TO DRAWING E-1
FOR CONTINUATION

MATCHLINE
REFER TO DRAWING E-1
FOR CONTINUATION



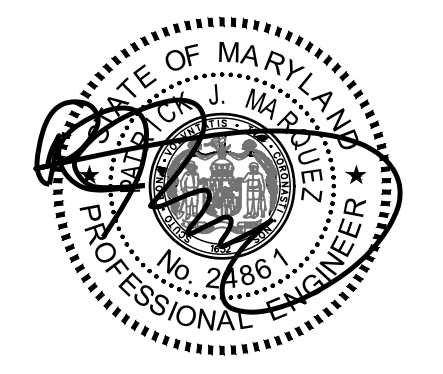
1 SECOND FLOOR PLAN
 DEMOLITION
 SCALE: 1/8" = 1'-0"



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 - CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.

- SPECIFIC NOTES:**
- EXISTING QUAD RECEPTACLE AS NOTED IS CURRENTLY SERVING THE SCHOOL SERVER RACK IN ROOM.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
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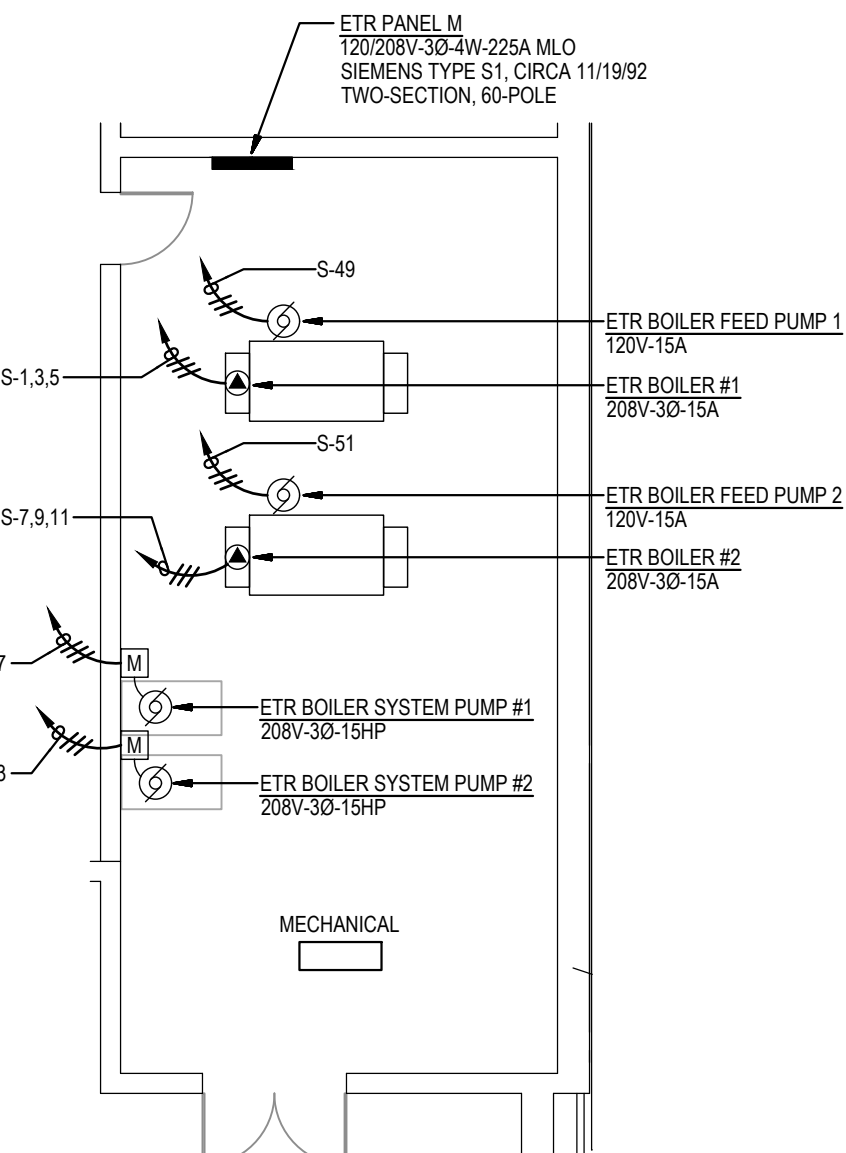
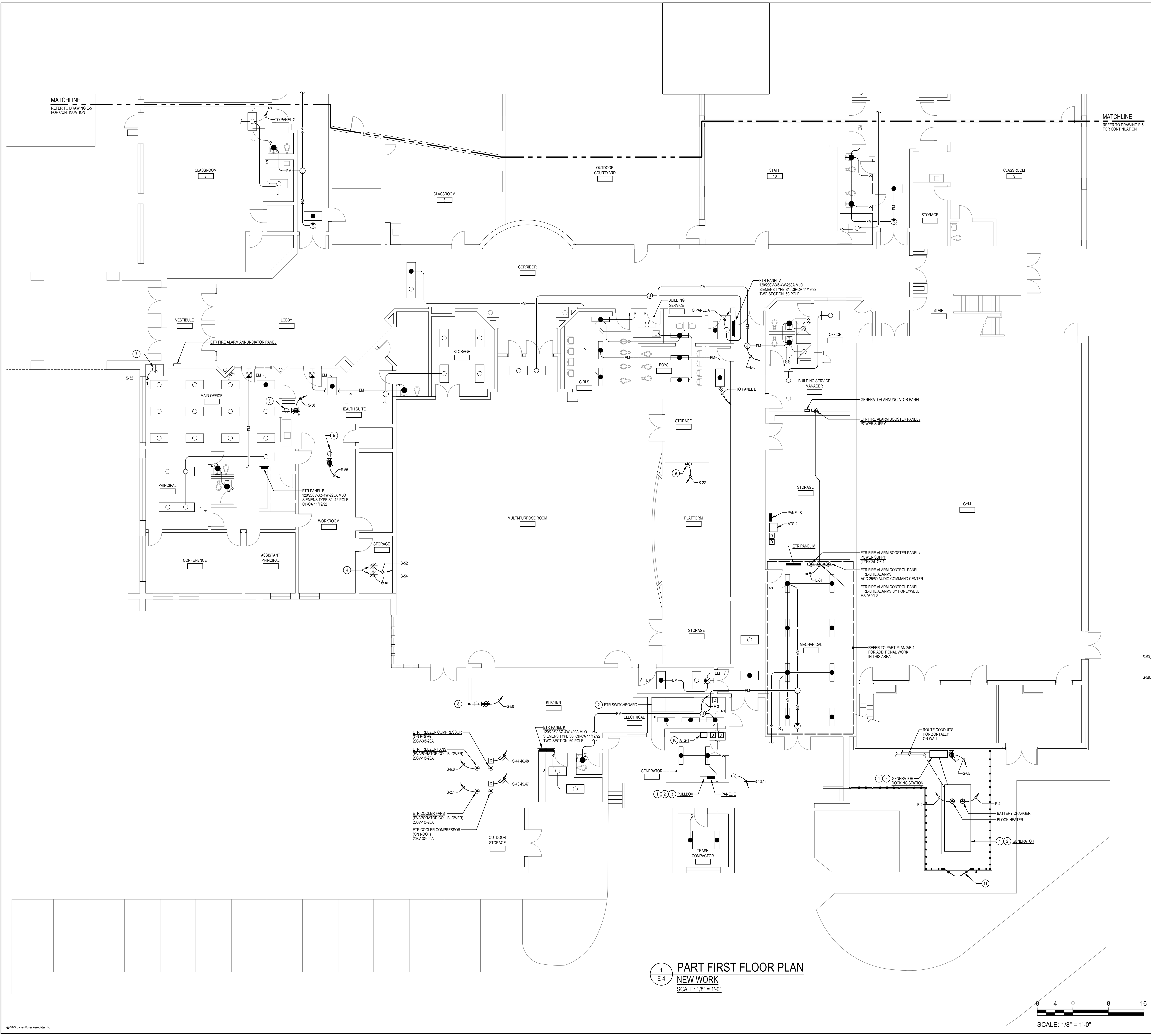
Drawing Title
SECOND FLOOR PLAN - DEMOLITION

Sheet No:
E-3

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
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 GAITHERSBURG, MD 20878
 MONTGOMERY COUNTY PUBLIC SCHOOLS

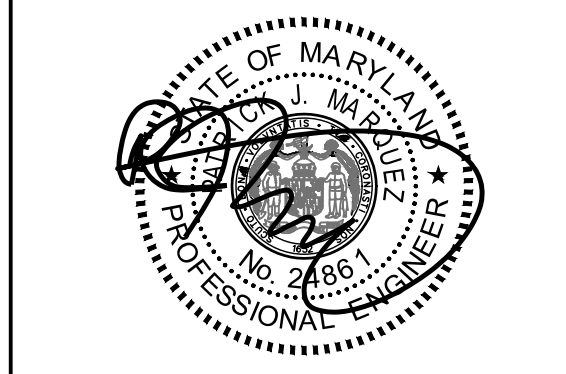
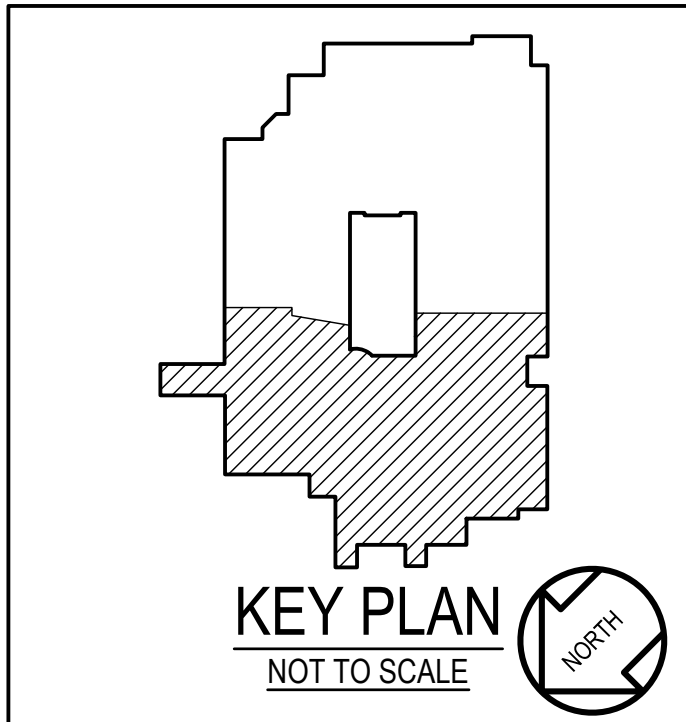
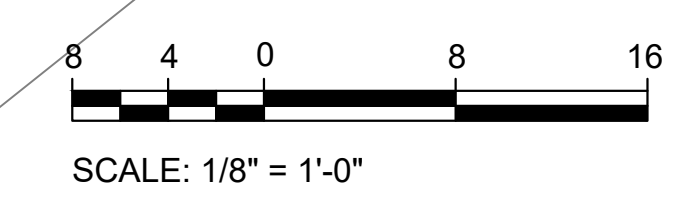
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 - 2 REFER TO PART POWER RISER DIAGRAM ON DRAWING E-7 FOR ADDITIONAL INFORMATION.
 - 3 UTILIZE PANELBOARD ENCLOSURE AS A PULLBOX TO INTERCEPT AND SPLICE EXISTING EMERGENCY LIGHTING CIRCUITS. REFER TO SPECIFIC NOTE 3 ON DRAWING E-1 FOR ADDITIONAL INFORMATION.
 - 4 QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
 - 5 DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN WORKROOM.
 - 6 DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN HEALTH SUITE.
 - 7 DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING INTERROOM / PUBLIC ADDRESS SYSTEM CONSOLE / RACK IN MAIN OFFICE AREA.
 - 8 DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REACH-IN REFRIGERATOR AND ICE CREAM DISPLAY CHEST / FREEZER IN KITCHEN.
 - 9 EXISTING TO REMAIN SOUND SYSTEM AMPLIFIER FOR PLATFORM / MULTI-PURPOSE ROOM.
 - 10 RECONNECT EXISTING FIRE DETECTION AND ALARM SYSTEM MONITORING MODULES FOR "GENERATOR RUM" AND "GENERATOR FAULT" TO GENERATOR AT ATS-1. EXTEND EXISTING FIRE ALARM WIRING IN CONDUIT AND MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. RE-PROGRAM FIRE ALARM CONTROL PANEL AS REQUIRED.
 - 11 PROVIDE CHAIN LINK FENCE WITH 6'-0" WIDE GATE AS INDICATED. MAINTAIN MINIMUM 3' CLEARANCE AROUND GENERATOR AND IN FRONT OF ELECTRICAL EQUIPMENT.



1 PART FIRST FLOOR PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"

2 PART PLAN
 MECHANICAL ROOM
 DEMOLITION
 SCALE: 1/8" = 1'-0"



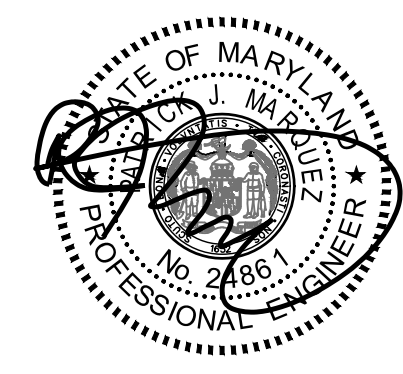
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Drawing Title	PART FIRST FLOOR PLAN - NEW WORK	
Sheet No	E-4	

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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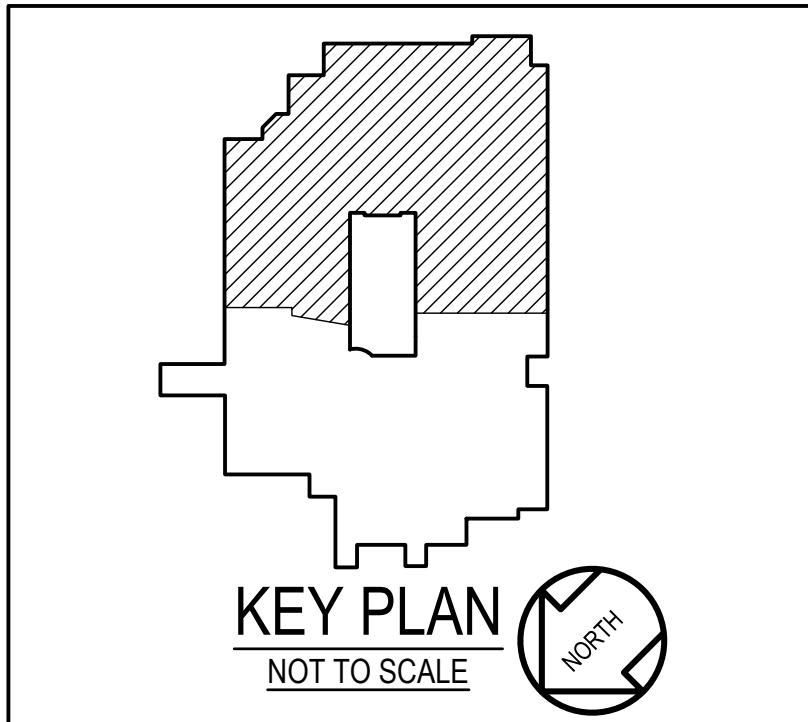
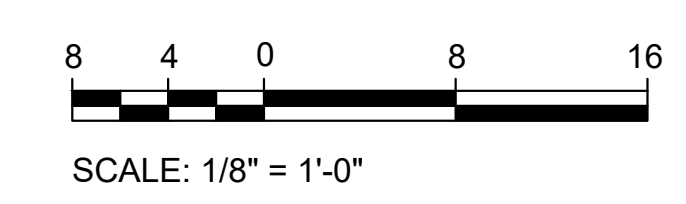
Drawing Title
PART FIRST FLOOR PLAN - NEW WORK

Sheet No:
E-5

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 - EXISTING TO REMAIN DISCONNECT FOR ELEVATOR.
 - EXISTING TO REMAIN DISCONNECT FOR ELEVATOR CAB LIGHTING.

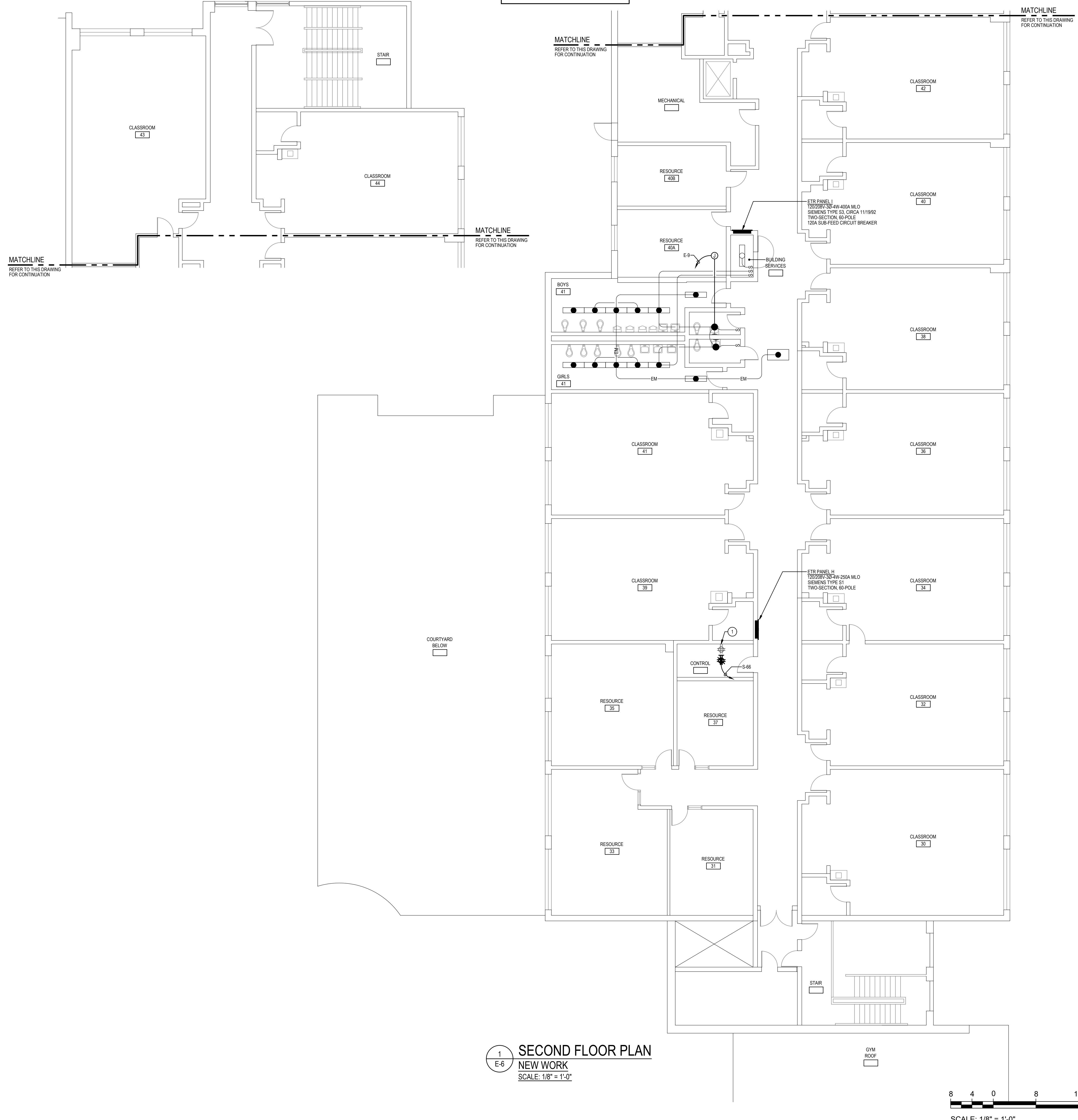


1 PART FIRST FLOOR PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"

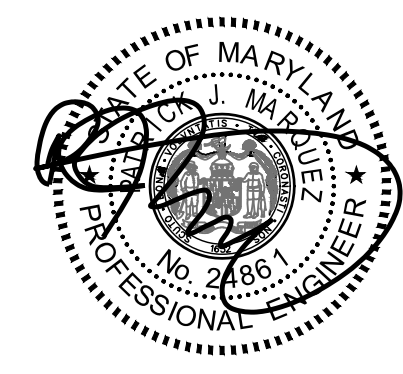


MATCHLINE
 REFER TO DRAWING E-4
 FOR CONTINUATION

MATCHLINE
 REFER TO DRAWING E-4
 FOR CONTINUATION



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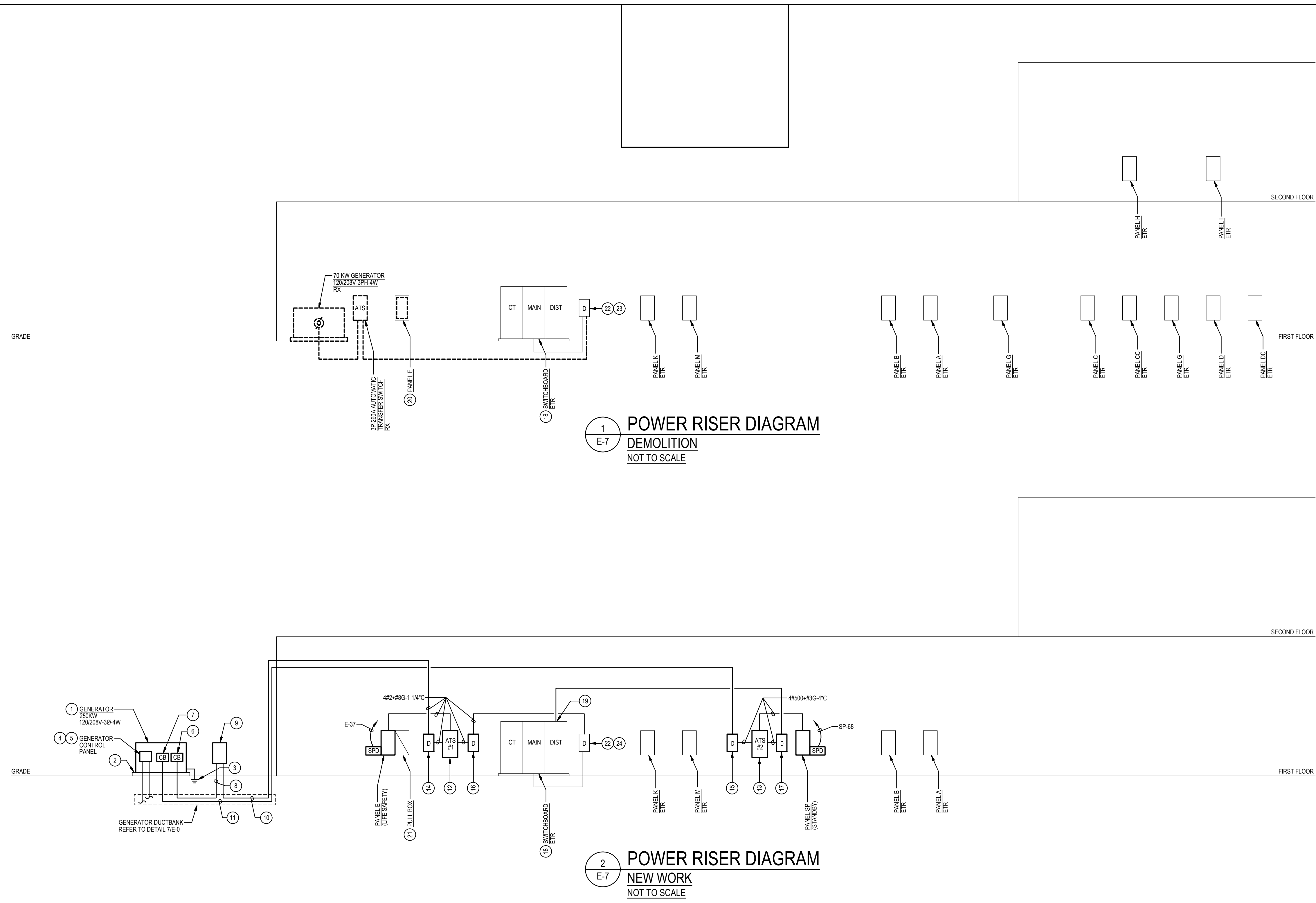
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Drawing Title
SECOND FLOOR PLAN - NEW WORK

Sheet No:
E-6



1 POWER RISER DIAGRAM
E-7 DEMOLITION
 NOT TO SCALE

2 POWER RISER DIAGRAM
E-7 NEW WORK
 NOT TO SCALE

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 - F. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - G. WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
 - H. REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
 - I. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
- SPECIFIC NOTES:**
- 1 PROVIDE TYPE 10 GENERATOR PER NFPA 110. THE GENERATOR SHALL BE ABLE TO PROVIDE GENERATOR POWER TO THE SCHOOL WITHIN 10 SECONDS AFTER A UTILITY POWER OUTAGE.
 - 2 PROVIDE GENERATOR CONCRETE PAD. REFER TO DETAIL 1E-0 FOR ADDITIONAL INFORMATION.
 - 3 REFER TO DIAGRAM 3E-0 FOR GENERATOR GROUNDING.
 - 4 PROVIDE GENERATOR CONTROL WIRING IN CONDUIT BETWEEN GENERATOR CONTROL PANEL AND ASSOCIATED AUTOMATIC TRANSFER SWITCHES. MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. GENERATOR CONTROL WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
 - 5 PROVIDE WIRING IN CONDUIT FROM GENERATOR CONTROL PANEL TO GENERATOR REMOTE ALARM ANNUNCIATOR PANEL. WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
 - 6 PROVIDE 3P-700A ELECTRONIC TRIP CIRCUIT BREAKER TO SERVE GENERATOR EMERGENCY LIFE SAFETY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
 - 7 PROVIDE 3P-400A CIRCUIT BREAKER TO SERVE GENERATOR STANDBY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
 - 8 PROVIDE TWO SETS (4 #60 - #10 GROUND IN 3" CONDUIT) BETWEEN 3P-700A ELECTRONIC TRIP CIRCUIT BREAKER AT GENERATOR SERVING EMERGENCY LIFE SAFETY LOADS AND GENERATOR DOCKING STATION, SIZED FOR LOAD BANK CONNECTION.
 - 9 PROVIDE 700A GENERATOR DOCKING STATION IN NEMA TYPE 3R ENCLOSURE, EQUAL TO THYRISTAR DBS-5 WITH TWO 3P-100A CIRCUIT BREAKERS. KIRK KEY INTERLOCKED FOR CONNECTIONS TO ATS-1 AND PORTABLE MOBILE GENERATOR FEEDER FOR LOAD BANK CONNECTION SHALL BE SIZED FOR 700A. PROVIDE SIGN ON FRONT OF GENERATOR DOCKING STATION TO READ AS FOLLOWS: "SERVING EMERGENCY TRANSFER SWITCH (ATS-1) IN ELECTRICAL ROOM 12020B, 3-PHASE, 4-WIRE."
 - 10 PROVIDE 4 #2 - #6 GROUND IN 1 1/4" CONDUIT. REFER TO DETAIL 7E-0 FOR GENERATOR DUCTBANK.
 - 11 PROVIDE 4 #500 - #2 GROUND IN 4" CONDUIT. REFER TO DETAIL 7E-0 FOR GENERATOR DUCTBANK.
 - 12 PROVIDE 4P-100A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE EMERGENCY LIFE SAFETY LOADS. ATS SHALL HAVE A MINIMUM LL 1008 WITHSTAND AND CLOSING RATING OF 66K AC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "EMERGENCY ATS".
 - 13 PROVIDE 4P-400A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE STANDBY LOADS. ATS SHALL HAVE A MINIMUM LL 1008 WITHSTAND AND CLOSING RATING OF 66K AC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "STANDBY ATS".
 - 14 PROVIDE 3P-100A-250V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR EMERGENCY LIFE SAFETY LOADS.
 - 15 PROVIDE 3P-400A-250V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR STANDBY LOADS.
 - 16 PROVIDE 3P-100A-250V FUSED ENCLOSED SWITCH WITH NEUTRAL IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 100A CURRENT-LIMITING FUSES.
 - 17 PROVIDE 3P-100A-250V FUSED ENCLOSED SWITCH WITH NEUTRAL IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 100A CURRENT-LIMITING FUSES.
 - 18 EXISTING SWITCHBOARD IS BY SIEMENS, TYPE FC-4, CIRCA DECEMBER 1992, RATED AT 12000V, 3-PHASE, 4-WIRE, 65,000 AC, 2500A MAINS WITH 2500A MAIN FUSED SWITCH.
 - 19 PROVIDE 3P-400A CIRCUIT BREAKER IN SPACE OF DISTRIBUTION SECTION OF EXISTING SWITCHBOARD. CIRCUIT BREAKER TYPE AND AC RATING SHALL MATCH EXISTING.
 - 20 REFER TO SPECIFIC NOTE 3E-1 FOR ADDITIONAL INFORMATION.
 - 21 REFER TO SPECIFIC NOTE 3E-4 FOR ADDITIONAL INFORMATION.
 - 22 REMOVE 400A FUSED ENCLOSED SWITCH.
 - 23 REMOVE 400A FUSED ENCLOSED SWITCH.
 - 24 PROVIDE 100A FUSES IN ETR ENCLOSED SWITCH. TYPE TO MATCH EXISTING.

WIRING SCHEDULE: PANEL E

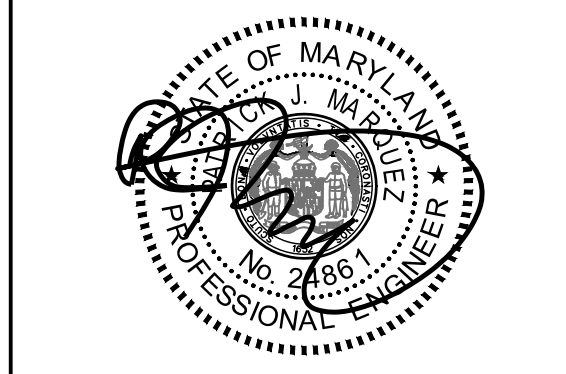
CIR. CUT	POLE	DESCRIPTION	3 PHASE 4 WIRE				100 AMP BUS				CIR. CUT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE/AMP
			WIRE/ CONDUIT	POLE/AMP	A#	B#	C#	D#	WIRE/ CONDUIT	POLE/AMP					
1	1	SPARE									2	2	GENERATOR BLOCK HEATER	#10-3/4"	1 20
3	3	EM LTG ELEC. GEN TRASH	#10-3/4"	1 20	1.5					4	4	4	GEN BATTERY CHARGER	#10-3/4"	1 20
5	5	EM LTG BOYS & GIRLS AREA A	#10-3/4"	1 20			0.4				6	6	SPACE		1 -
7	7	EM LTG BOYS & GIRLS AREA D	#8-3/4"	1 20	0.8						8	8	SPACE		1 -
9	9	EM LTG BOYS & GIRLS 2ND FLR	#8-3/4"	1 20		0.5					10	10	SPACE		1 -
11	11	SPARE									12	12	SPACE		1 -
13	13	SPARE									14	14	SPACE		1 -
15	15	SPARE									16	16	SPACE		1 -
17	17	SPARE						0.5			18	18	SPACE		1 -
19	19	SPARE									20	20	SPACE		1 -
21	21	EX EM LTG LIBRARY SECTION	NOTE (2)	1 20		1.2					22	22	SPACE		1 -
23	23	EX EM LTG 2ND FLOOR	NOTE (2)	1 20			1.2				24	24	SPACE		1 20
25	25	EX EM LTG BOYS & GIRLS	NOTE (2)	1 20	1.2						26	26	SPACE		1 20
27	27	SPARE									28	28	SPACE		1 20
29	29	SPARE							1.2		30	30	EX EM LTG CORRIDOR 1	NOTE (2)	1 20
31	31	FIRE ALARM CONTROL PANEL	#10-3/4"	1 20	0.5	1.2					32	32	EX EM LTG CORRIDOR 5	NOTE (2)	1 20
33	33	EX EM LTG MAIN LOBBY	NOTE (2)	1 20		1.2	1.2				34	34	EX EM LTG CORR 2 & KITCHEN	NOTE (2)	1 20
35	35	EX EM LTG GYM	NOTE (2)	1 20				1.2	1.2		36	36	EX EM LTG MULT-PURPOSE	NOTE (2)	1 20
37	37	EXTERNAL SURGE	#8G-1"	3 30		1.2					38	38	EX EM LTG CORRIDOR 3	NOTE (2)	1 20
39	39	PROTECTIVE DEVICE									40	40	SPACE		1 -
41	41										42	42	SPACE		1 -
CONNECTED LOAD =			17.3	KVA	2.5	3.9	3.9	1.3	3.3	2.4					
DEMAND LOAD =			16.8	KVA	0.4	5.2	5.2	1.3	3.7						
MIN A/C RATING =			65,000	AMPS SYMMETRICAL	LOCATION GENERATOR RM										

NOTES:
 (1) PROVIDE FUSIBLE BRANCH CIRCUIT PANELBOARD.
 (2) INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT AT PANELBOARD ENCLOSURE, PREVIOUSLY PANEL E, TO BE USED AS A PULL BOX. MATCH EXISTING WRING.

WIRING SCHEDULE: PANEL S

CIR. CUT	POLE	DESCRIPTION	3 PHASE 4 WIRE				400 AMP BUS				CIR. CUT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE/AMP	
			WIRE/ CONDUIT	POLE/AMP	A#	B#	C#	D#	WIRE/ CONDUIT	POLE/AMP						
1	1	ETR BOILER #1	#12G-3/4"	3 15	1.0	1.3					2	2	ETR COOLER FANS	2#10*#10G-3/4"	2 20	
3	3						1.0	1.3			4	4			1 -	
5	5								1.0	1.3	6	6	ETR FREEZER FANS	2#10*#10G-3/4"	2 20	
7	7	ETR BOILER #2	#12G-3/4"	3 15	1.0	1.3					8	8			1 -	
9	9								1.0		10	10	ELEVATOR SHUNT TRIP	#10-3/4"	1 20	
11	11									1.0	0.5	12	12	ETR REC INTERCOMPA	#10-3/4"	1 20
13	13	ETR REC MSL TRALER	2#8*#8G-3/4"	2 50	3.9	1.2					14	14	ETR LOAD (3)	2#10*#10G-3/4"	2 20	
15	15							3.3	1.2		16	16			1 -	
17	17	ETR LTG ELEVATOR CAB	#10-3/4"	1 20						0.4		18	18	SPARE		1 20
19	19	ETR REC TV HEAD-IRM (3)	#8-3/4"	1 20	0.2						20	20	SPARE		1 20	
21	21	SPARE							0.5		22	22	ETR PLATFORM SOUND	#10-3/4"	1 20	
23	23	SPARE								0.4	24	24	ETR REC OFFICE (3)	#10-3/4"	1 20	
25	25	SPARE						0.4			26	26	ETR REC TELEPHONE (3)	#10-3/4"	1 20	
27	27	ETR REC 2ND FLOOR (3)	#8-3/4"	1 20			0.2	0.4			28	28	ETR REC OFFICE (3)	#10-3/4"	1 20	
29	29	ETR REC (3)	#10-3/4"	1 20					0.2		30	30	SPARE		1 20	
31	31	SPARE									32	32	SPARE		1 20	
33	33	SPARE									34	34	SPARE		1 20	
35	35	SPARE									36	36	SPARE		1 20	
37	37	SPARE									38	38	SPARE		1 20	
39	39	ETR LOAD (3)	2#10*#10G-3/4"	2 20			1.2	1.2			40	40	ETR LOAD (3)	2#10*#10G-3/4"	2 20	
41	41								1.2	1.2	42	42			1 -	
43	43	ETR COOLER COMPRESSOR	#12G-3/4"	3 20	1.5	1.5					44	44	ETR FREEZER COMPRESSOR	#12G-3/4"	3 20	
45	45							1.5	1.5		46	46			1 -	
47	47									1.5	1.5	48	48			1 -
49	49	ETR BOILER FEED PUMP 1	#12-3/4"	1 15	0.7	0.5					50	50	REC REFRIG. KITCHEN (1)	#10-3/4"	1 20	
51	51	ETR BOILER FEED PUMP 2	#12-3/4"	1 15			0.7	1.0			52	52	ETR REC DATA RACK AREA B	#10-3/4"	1 20	
53	53	ETR BOILER SYSTEM PUMP #1	#8G-1 1/4"	3 100				5.5	1.0		54	54	ETR REC DATA RACK AREA B	#10-3/4"	1 20	
55	55								5.5	0.5	56	56	REC REFRIG. WORKRM (1)	#10-3/4"	1 20	
57	57									5.5	0.5	58	58	REC REFRIG. HEALTH (1)	#10-3/4"	1 20
59	59	ETR BOILER SYSTEM PUMP #2	#8G-1 1/4"	3 100				5.5	1.0		60	60	ETR REC DATA RACK AREA CC	#8-3/4"	1 20	
61	61								5.5	1.0	62	62	ETR REC DATA RACK AREA CC	#8-3/4"	1 20	
63	63								5.5	1.0	64	64	REC DATA RACK AREA CC	#8-3/4"	1 20	
65	65	REC GENERATOR	#10-3/4"	1 20					0.2	1.0	66	66	REC SERVER 2ND FLR	#8-3/4"	1 20	
67	67	ELEVATOR (2)	#10-3/4"	3 125	9.0						68	68	EXTERNAL SURGE	#8G-3 30		
69	69							9.0			70	70	PROTECTIVE DEVICE	#8G-1"		
71	71								9.0		72	72				
CONNECTED LOAD =			106.3	KVA	27.7	7.7	28.9	8.6	25.3	7.9						
DEMAND LOAD =			92.5	KVA	35.4	3.7	37.5	11.3	32.4							
MIN A/C RATING =			65,000	AMPS SYMMETRICAL	LOCATION STORAGE											

NOTES:
 (1) PROVIDE GFCI-TYPE CIRCUIT BREAKER.
 (2) PROVIDE SUB-FEED SHUNT TRIP TYPE CIRCUIT BREAKER.
 (3) TRACE EXISTING BRANCH CIRCUIT FROM REMOVED PANEL E AND INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT IN CEILING SPACE.



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. 24861, Expiration date 02-24-2024.

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Tag	Description	Date
	BID SET	02/06/23

PSC No
 Scale AS NOTED
 Project No 7738-22
 Date FEBRUARY 6, 2023

Drawing Title
POWER RISER DIAGRAMS AND SCHEDULES

Sheet No
E-7