

Generator and Electrical Equipment Replacement

LAKE SENECA ELEMENTARY SCHOOL

13600 WANEGARDEN DRIVE, GERMANTOWN, MD 20874

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

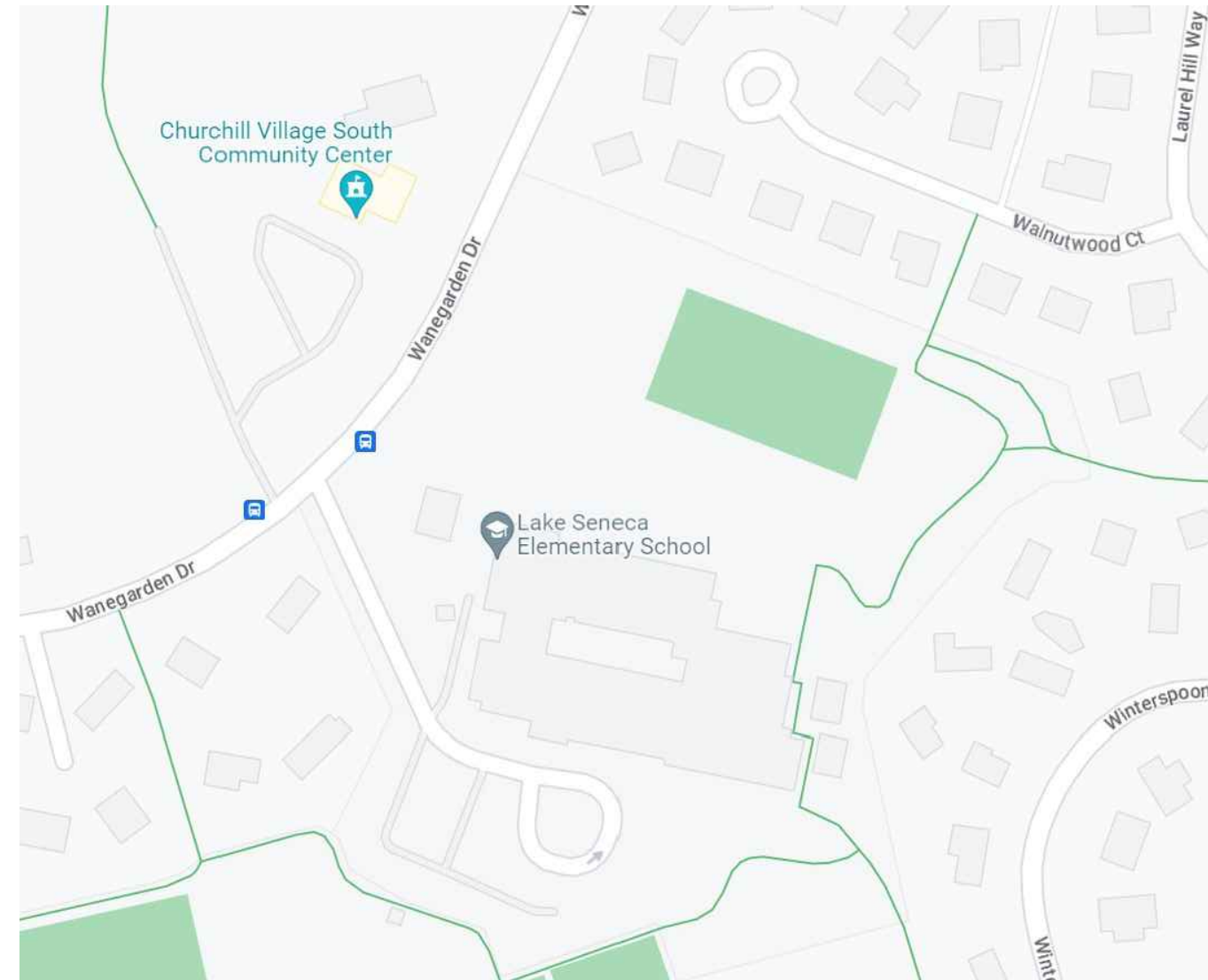
GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

LAKE SENECA ELEMENTARY SCHOOL

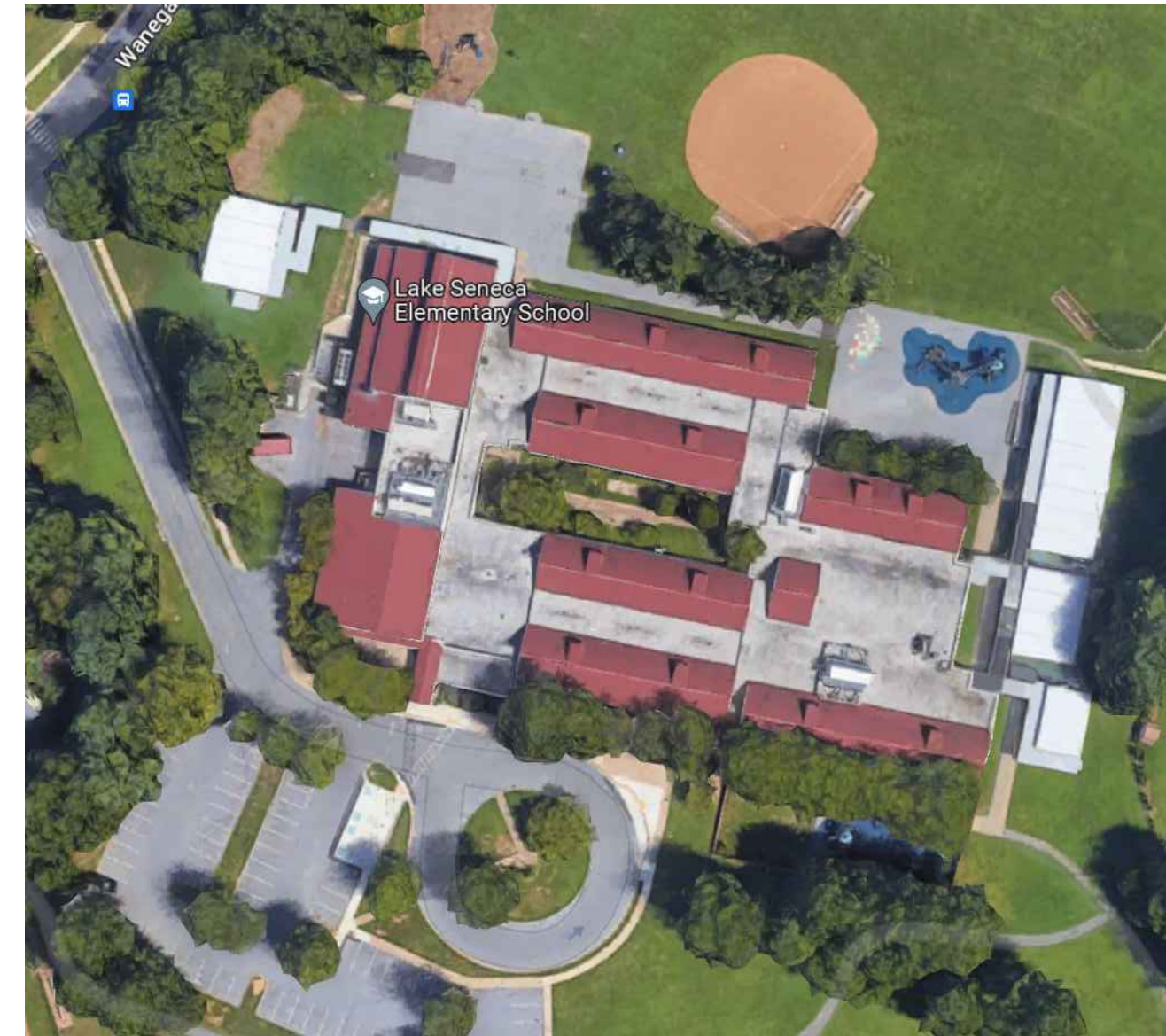
13600 WANEGARDEN DRIVE
GERMANTOWN, MD 20874

MONTGOMERY COUNTY PUBLIC SCHOOLS

VICINITY PLAN



AERIAL SITE PLAN



DRAWING INDEX

T-1 TITLE SHEET

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ELECTRICAL

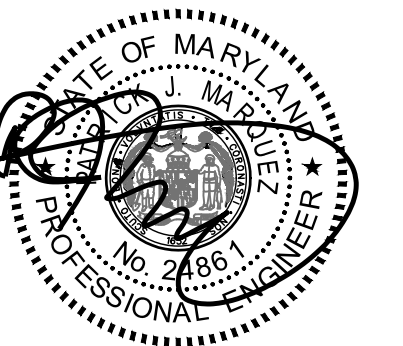
- E-0 SYMBOLS LIST, ABBREVIATIONS, AND DETAILS
- ED-1 PART FLOOR PLAN DEMOLITION
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- E-1 PART SITE PLAN
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PROFESSIONAL CERTIFICATION

These contract documents for Lake Seneca 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.



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Baltimore, Maryland 21117
tel 410-265-6100
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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 INFORMATION 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.

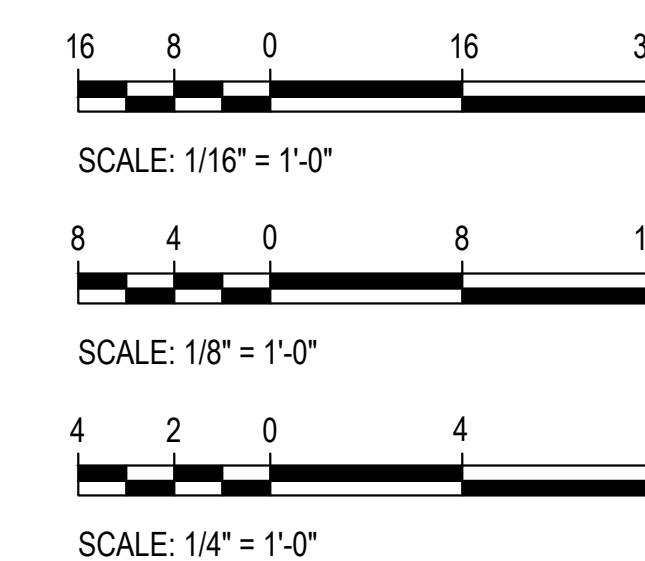
BOARD OF EDUCATION

DR. MONIFA B. MCKNIGHT	SUPERINTENDENT
GARY MOSEMAN	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

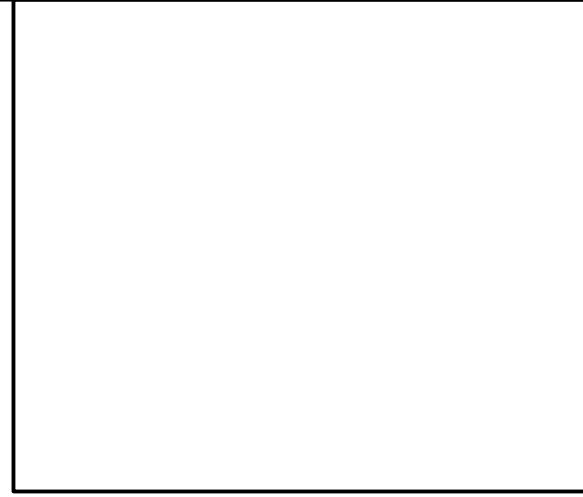
CODE ANALYSIS (FROM INTERNATIONAL BUILDING CODE/2018)		
	EXISTING BLDG	PROPOSED ALTERATION
IBC OCCUPANCY CLASSIFICATION	E	THE SCOPE OF THIS WORK IS TO REPLACE EXISTING GENERATOR AND REVISE NORMAL LIGHTING CIRCUITS IN TOILET ROOMS, BOILER ROOM AND ELEC ROOM TO EMERGENCY LIGHTING.
TYPE OF CONSTRUCTION	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	58,770 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	7752-22	
Date	FEBRUARY 6, 2023	
Drawing Title	TITLE SHEET	
Sheet No:	T-1	



MECHANICAL SYMBOLS AND ABBREVIATIONS			
— G —	LOW PRESSURE GAS PIPE	∅	INDICATES DIAMETER
— G (2 PSI) —	MEDIUM PRESSURE GAS PIPE	A/D	ACCESS DOOR
E —	PIPE CAP OR PLUG	AAV	AUTOMATIC AIR VENT
— —	UNION	ABV	ABOVE
— —	SHUT-OFF VALVE	AFF	ABOVE FINISHED FLOOR
— —	SOLENOID VALVE	BLDG	BUILDING
— —	SOLENOID VALVE	BLW	BELOW
— —	PRESSURE REDUCING / REGULATING VALVE	BTUH	BRITISH THERMAL UNITS PER HOUR
— —	METER	CFH	CUBIC FEET PER HOUR
— —	GAUGE COCK / TEST PORT	CFM	CUBIC FEET PER MINUTE
— —	CONCENTRIC REDUCER	CLG	CEILING
— —	ECCENTRIC REDUCER	CONC	CONCRETE
— —	FLOW DIRECTION ARROW	CW	DOMESTIC COLD WATER PIPE
— —	STRAINER	DIA	DIAMETER
●	POINT OF CONNECTION, NEW TO EXISTING	EA	EXHAUST AIR
●	DEMOLITION WORK TERMINATION POINT	ETR	EXISTING TO REMAIN
①	SYMBOL FOR SPECIFIC NOTE, NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.	EX	EXISTING
③	DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING M1	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

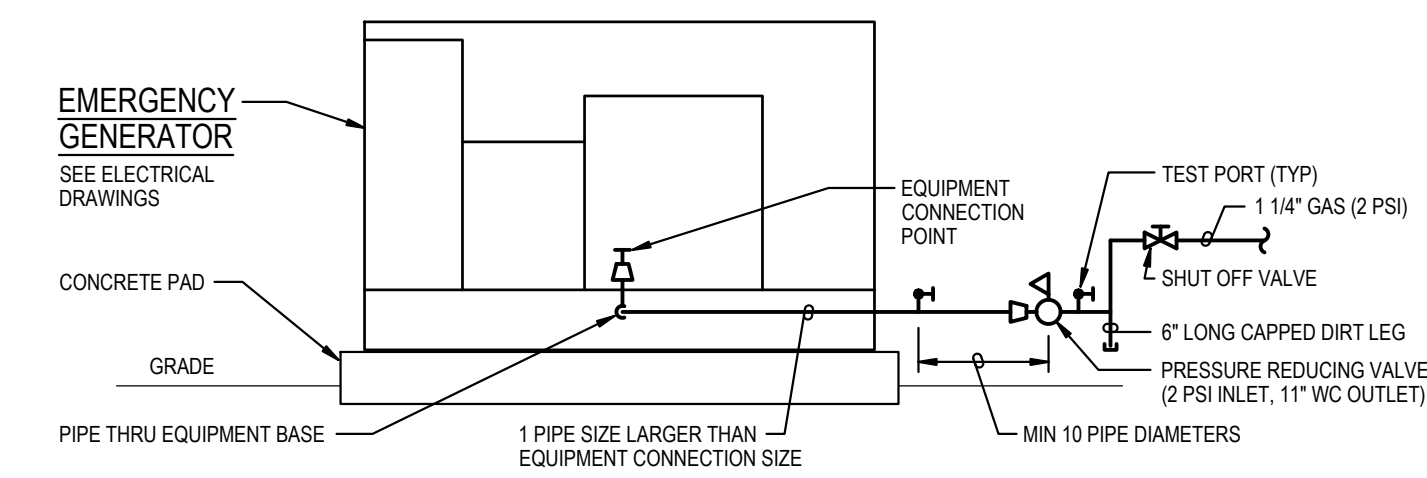
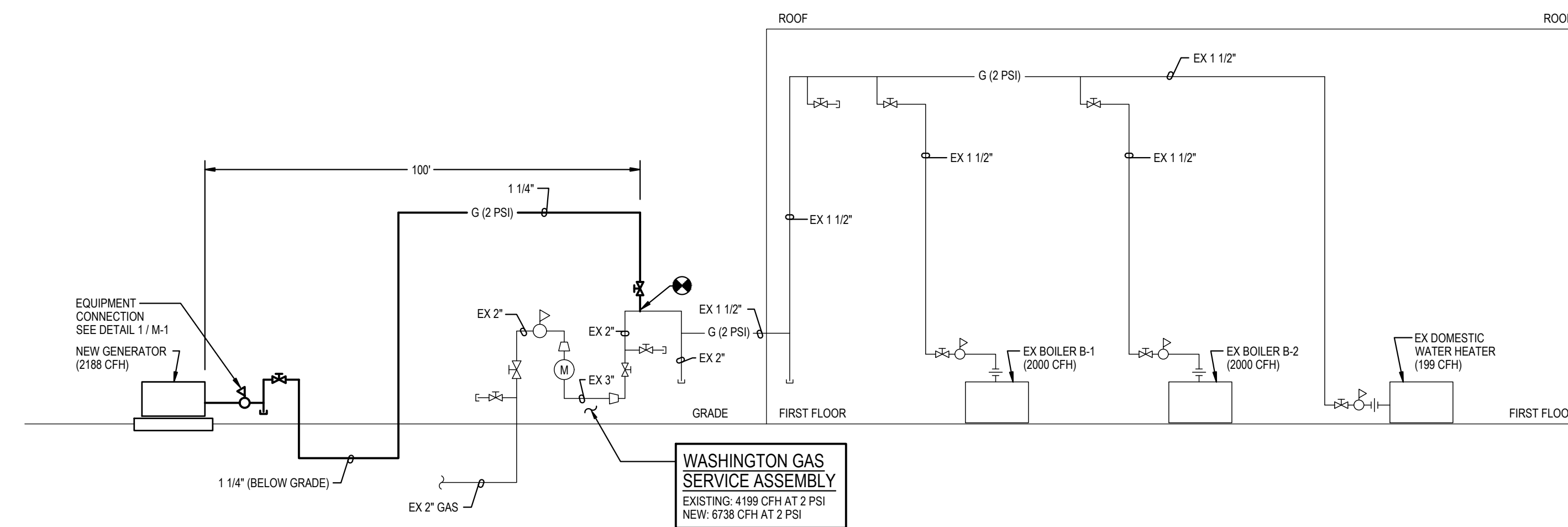


DIAGRAM 1
M-1
EQUIPMENT CONNECTION
NOT TO SCALE



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

DIAGRAM 2
M-1
GAS RISER
NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
LAKE SENECA ELEMENTARY SCHOOL
 13600 WANEGARDEN DRIVE
 GERMANTOWN, MD 20874
 MONTGOMERY COUNTY PUBLIC SCHOOLS



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Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7752-22
Date	FEBRUARY 6, 2023

Drawing Title
DIAGRAMS, SYMBOLS AND ABBREVIATIONS

Sheet No:
M-1

- GENERAL NOTES:**
- 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 ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
 - 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.
 - UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY DASHED ——— SHALL BE REMOVED AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (——) SHALL REMAIN.
 - 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
LAKE SENECA ELEMENTARY SCHOOL
 13600 WANEGARDEN DRIVE
 GERMANTOWN, MD 20874
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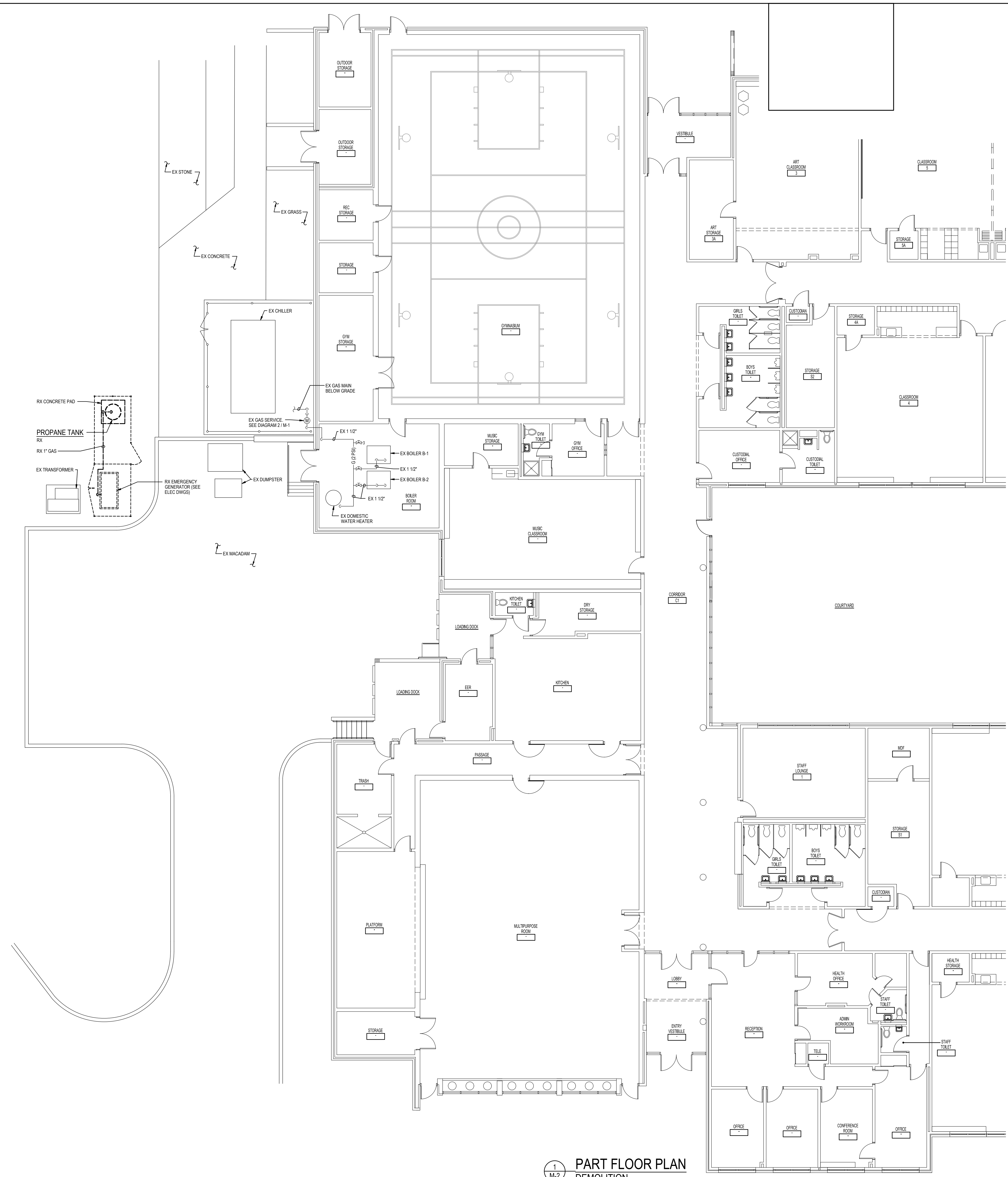
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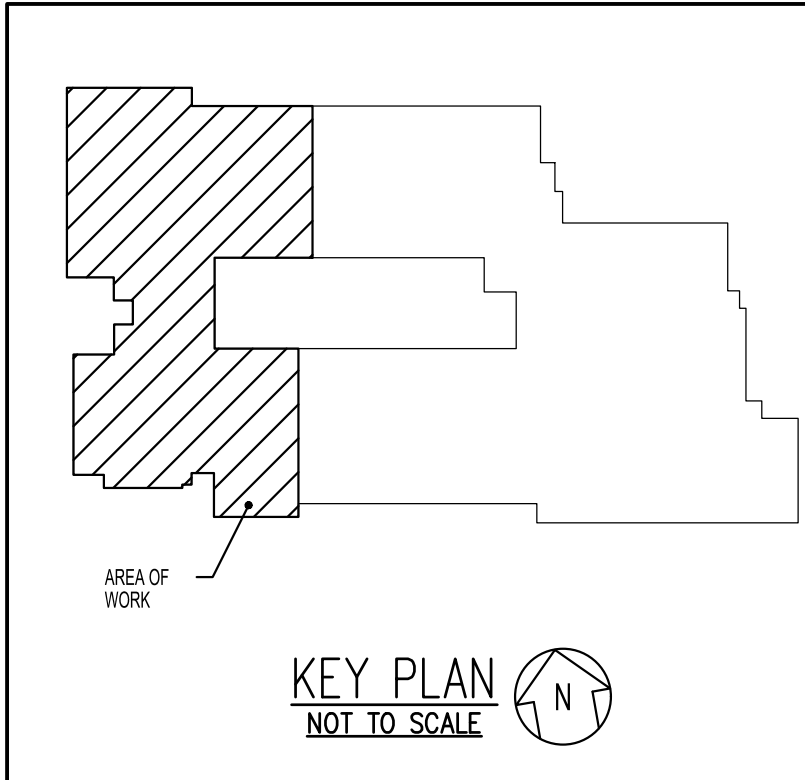
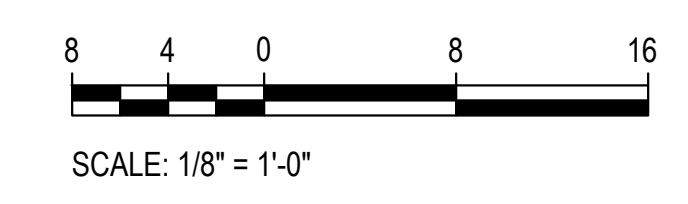
Tag	Description	Date
	BID SET	02/06/23

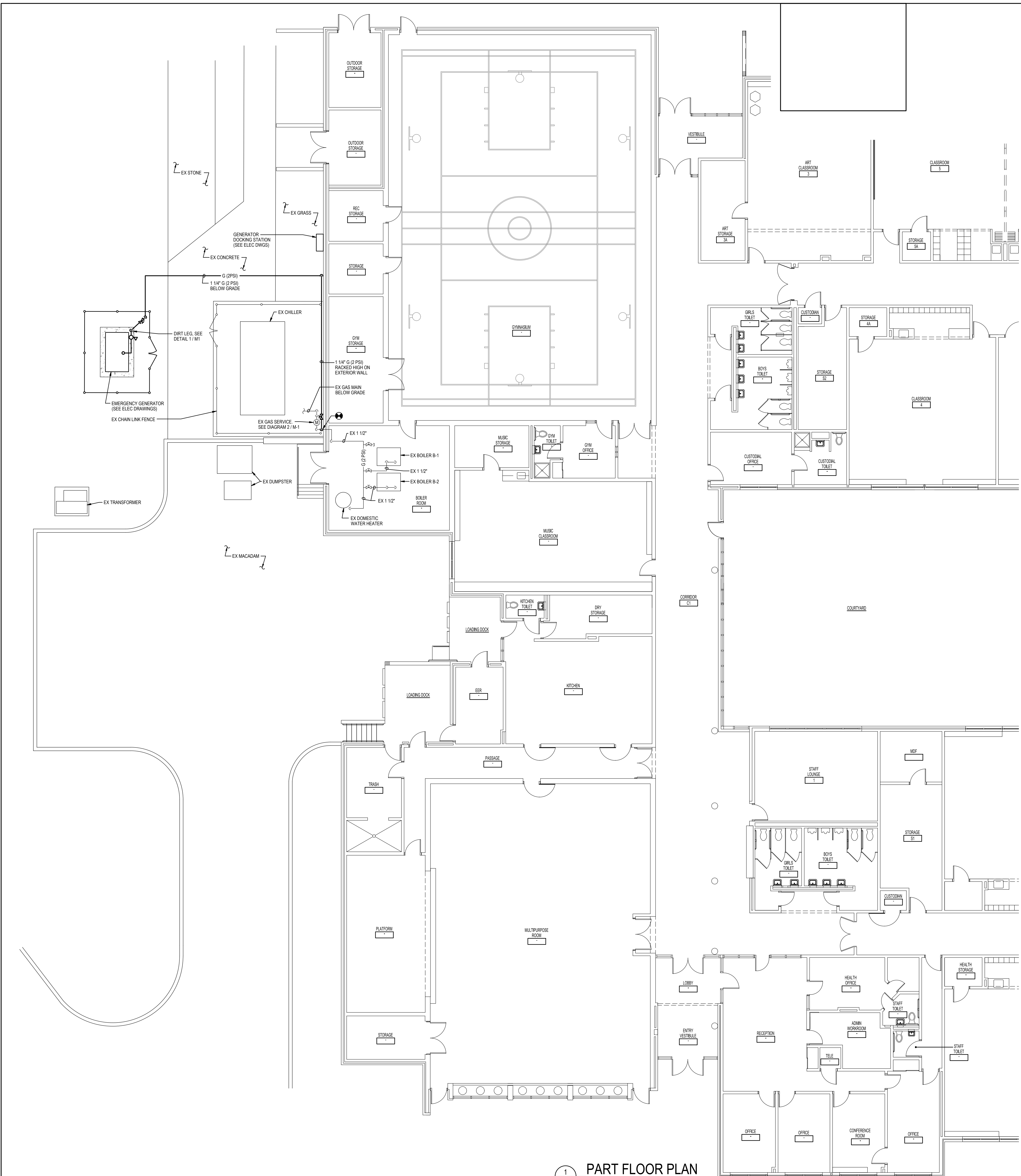
PSC No	
Scale	AS NOTED
Project No	7752-22
Date	FEBRUARY 6, 2023
Drawing Title	PART FLOOR PLAN - DEMOLITION

Sheet No: **M-2**



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





- 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 ARCHITECT IN WRITING AND AVOID 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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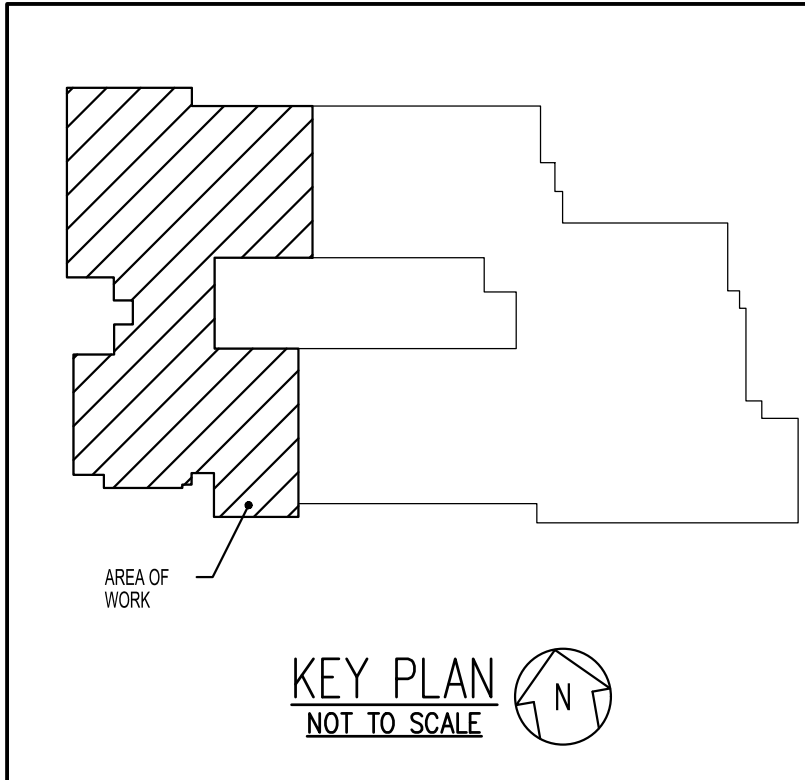
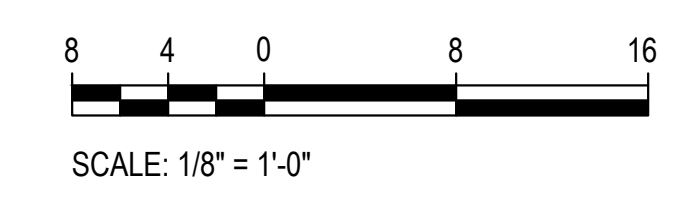
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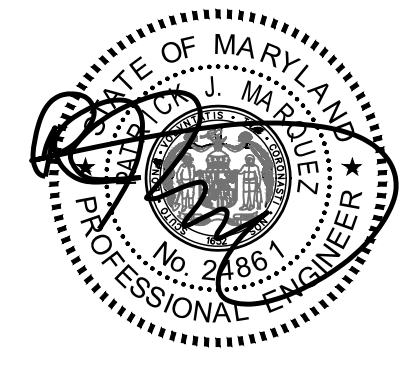
PSC No	
Scale	AS NOTED
Project No	7752-22
Date	FEBRUARY 6, 2023

Drawing Title
PART FLOOR PLAN - NEW WORK

Sheet No:
M-3

1 M-3 PART 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.	7752-22	
Date	FEBRUARY 6, 2023	

Drawing Title
SYMBOLS LIST, ABBREVIATIONS AND DETAILS
 Sheet No:
E-0

ELECTRICAL SYMBOLS AND ABBREVIATIONS

GENERAL

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

- DISCONNECT AND REMOVE EXISTING WIRING IN CONDUIT.
- DISCONNECT AND REMOVE EXISTING HOMERUN WIRING IN CONDUIT BACK TO SOURCE.
- DISCONNECT AND REMOVE PANELBOARD OR CABINET AS INDICATED.
- DISCONNECT AND REMOVE TRANSFORMER.
- DISCONNECT AND REMOVE ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH).
- DISCONNECT AND REMOVE RECEPTACLE.

EXISTING

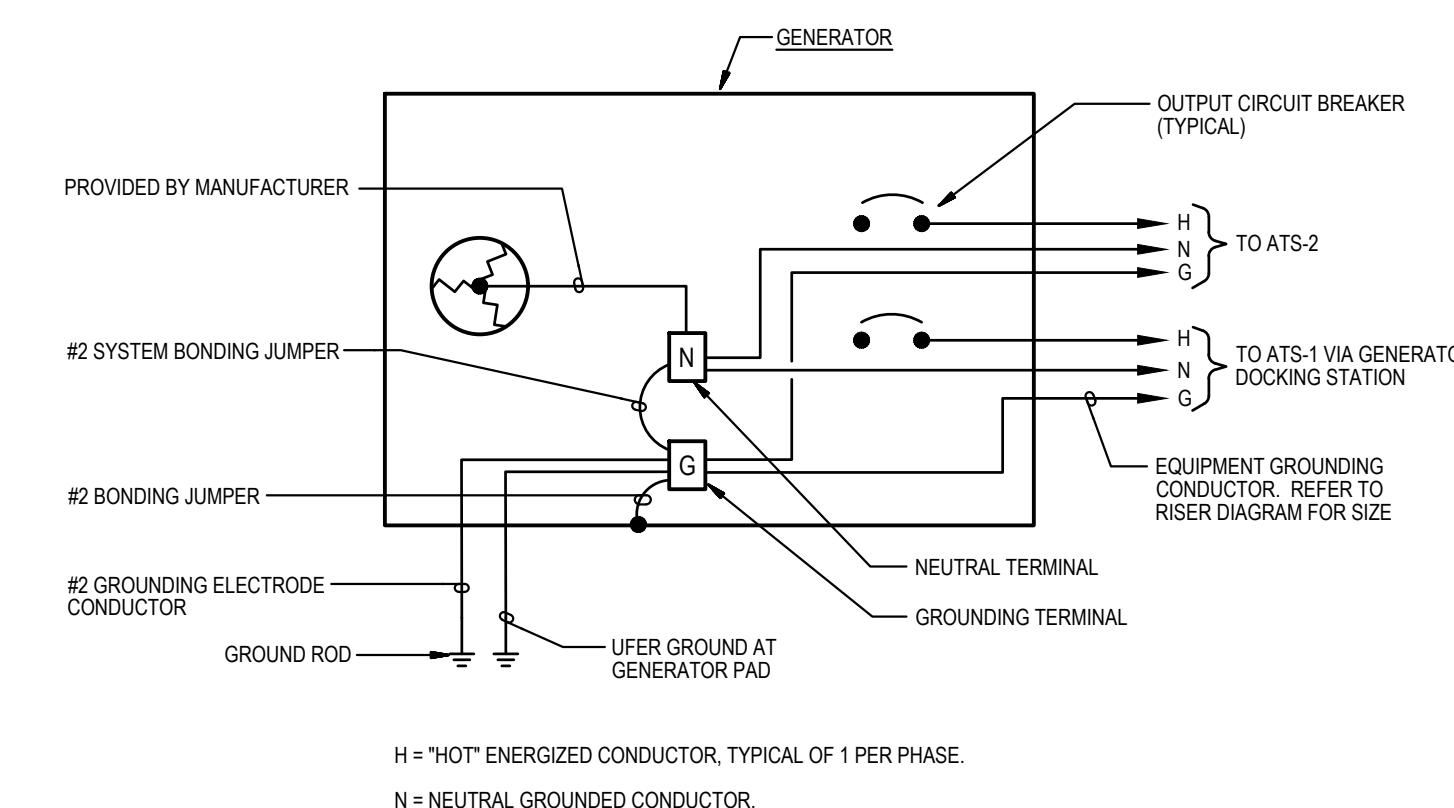
- EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE.
- EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE ON GENERATOR POWER CIRCUIT, OR PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.
- EXISTING TO REMAIN WALL MOUNTED LIGHTING FIXTURE ON GENERATOR POWER CIRCUIT, OR PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.
- EXISTING WALL PACK ON EMERGENCY CIRCUIT.
- EXISTING TO REMAIN WALL MOUNTED EXIT SIGN.
- EXISTING TO REMAIN CEILING MOUNTED EXIT SIGN.
- S_E EXISTING TO REMAIN TOGGLE SWITCH.
- S_E EXISTING TO REMAIN KEY SWITCH.
- 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 ON EMERGENCY POWER.
- EXISTING TO REMAIN WIRING IN CONDUIT CONTINUED.
- EXISTING TO REMAIN HOMERUN WIRING IN CONDUIT BACK TO SOURCE.
- EXISTING TO REMAIN CEILING MOUNTED JUNCTION BOX.
- EXISTING MOTOR CONNECTION.
- EXISTING EQUIPMENT CONNECTION.
- EXISTING TO REMAIN ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH).
- S_w EXISTING TO REMAIN MOTOR STARTER.
- EXISTING TO REMAIN VARIABLE FREQUENCY DRIVE.
- EXISTING TO REMAIN SURFACE MOUNTED RECEPTACLE.
- EXISTING TO REMAIN RECESSED MOUNTED RECEPTACLE.
- EXISTING TO REMAIN RECEPTACLE ON GENERATOR CIRCUIT.

POWER

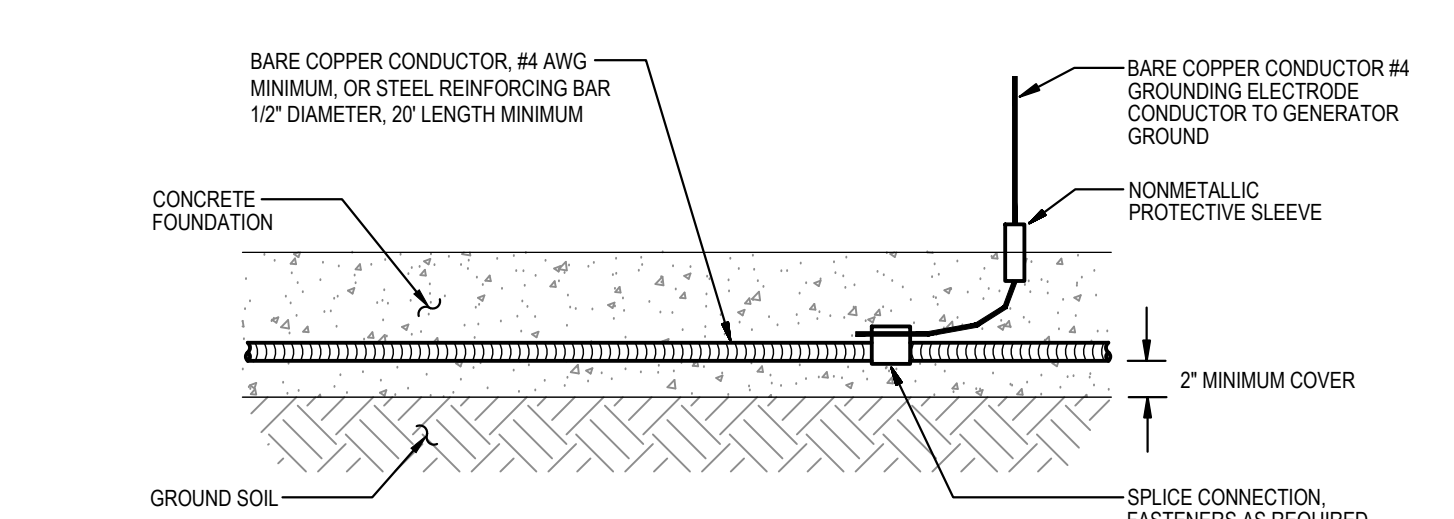
- HOMERUN TO PANELBOARD. NUMBER OF ARROW HEADS INDICATES NUMBER OF CIRCUITS. NUMBER OF HASH MARKS INDICATES NUMBER OF CONDUCTORS. WHERE NO HASH MARKS APPEAR, PROVIDE TWO (2) CONDUCTORS PLUS GROUND. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.
- WIRING IN CONDUIT RUN 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 SURFACE METAL RACEWAY.
- WIRING IN CONDUIT CONTINUED.
- WIRING IN CONDUIT TURNING DOWN.
- JUNCTION BOX WITH COVER PLATE, CEILING OR WALL MOUNTED.
- PULLBOX, SIZED AS REQUIRED.
- ELECTRIC PANELBOARD, SURFACE MOUNTED.
- BOX OR CABINET AS INDICATED, SURFACE MOUNTED.
- 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.
- HARD-WIRED ELECTRICAL CONNECTION. CONNECT TO EQUIPMENT AS NOTED.
- SURGE PROTECTIVE DEVICE.
- DUPLEX RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT, SURFACE WALL-MOUNTED 48" ABOVE FLOOR TO TOP OF BOX, UNLESS OTHERWISE NOTED.
- DOUBLE-DUPLEX (QUADRUPLIX) RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT, SURFACE WALL-MOUNTED 16" ABOVE FLOOR TO BOTTOM OF BOX.
- WP □ DUPLEX RECEPTACLE (NEMA 5-20R), WEATHER-RESISTANT AND GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE WITH WEATHERPROOF WHILE-IN-USE COVER, ON GENERATOR STANDBY POWER CIRCUIT, SURFACE MOUNTED 24" ABOVE FLOOR TO BOTTOM OF BOX.

FIRE DETECTION AND ALARM

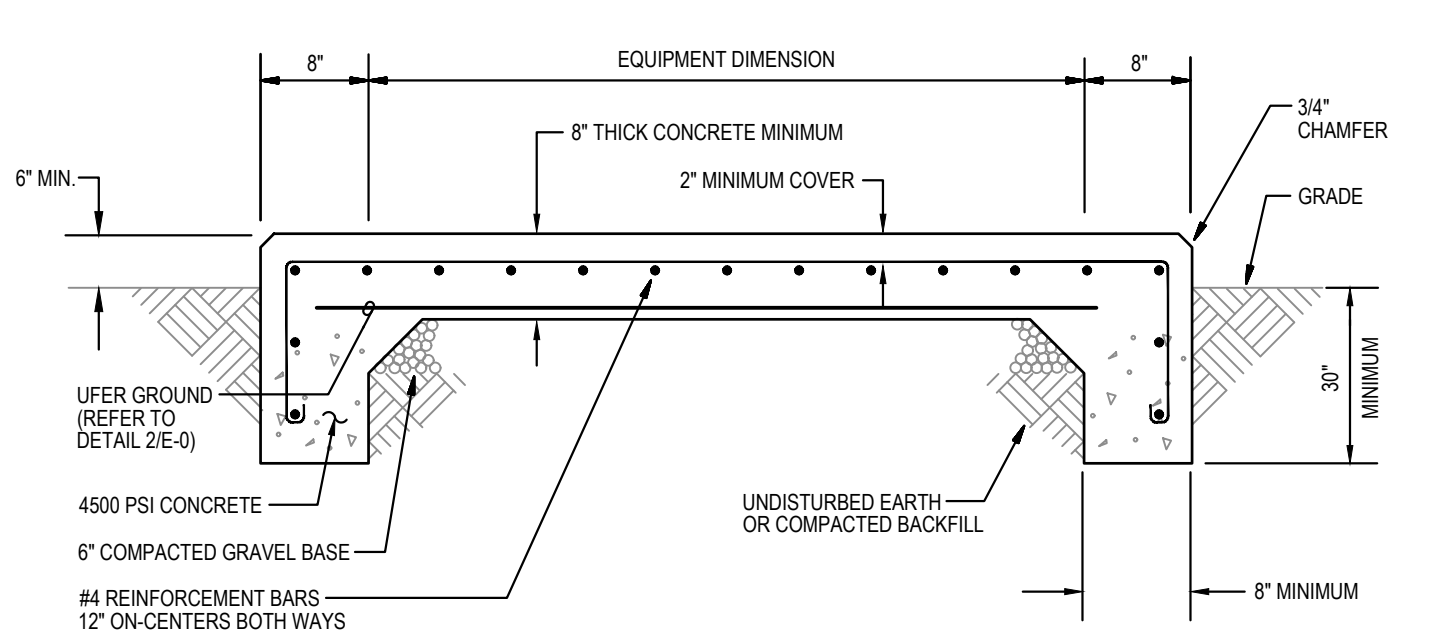
- MONITORING MODULE.



3
E-0
DIAGRAM
GENERATOR GROUNDING WIRING
NOT TO SCALE



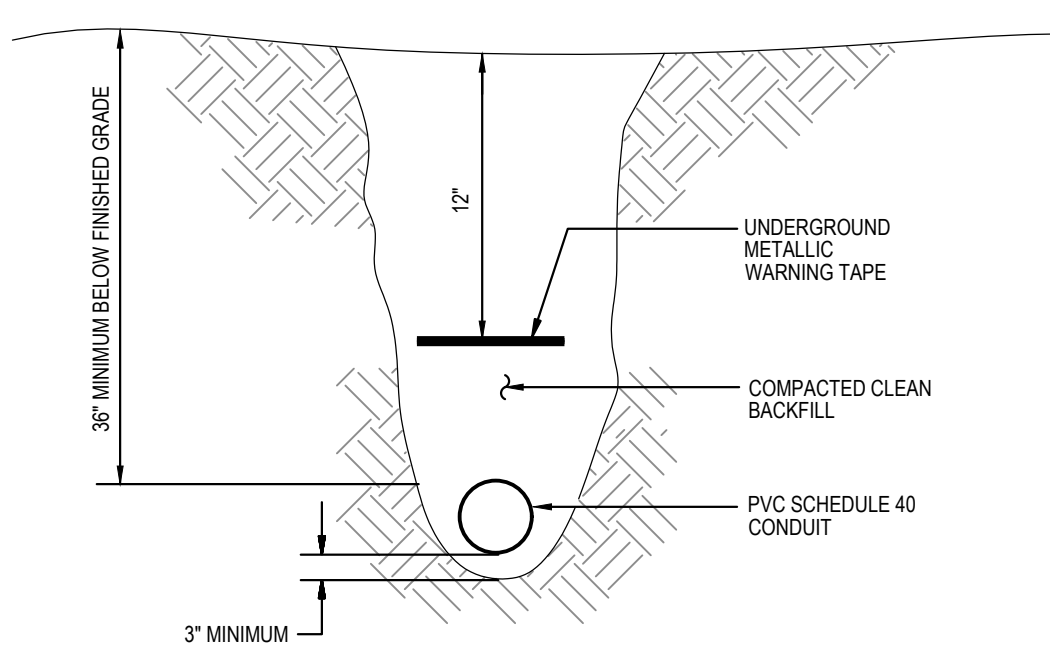
2
E-0
DETAIL
TYPICAL UFER GROUND
NOT TO SCALE



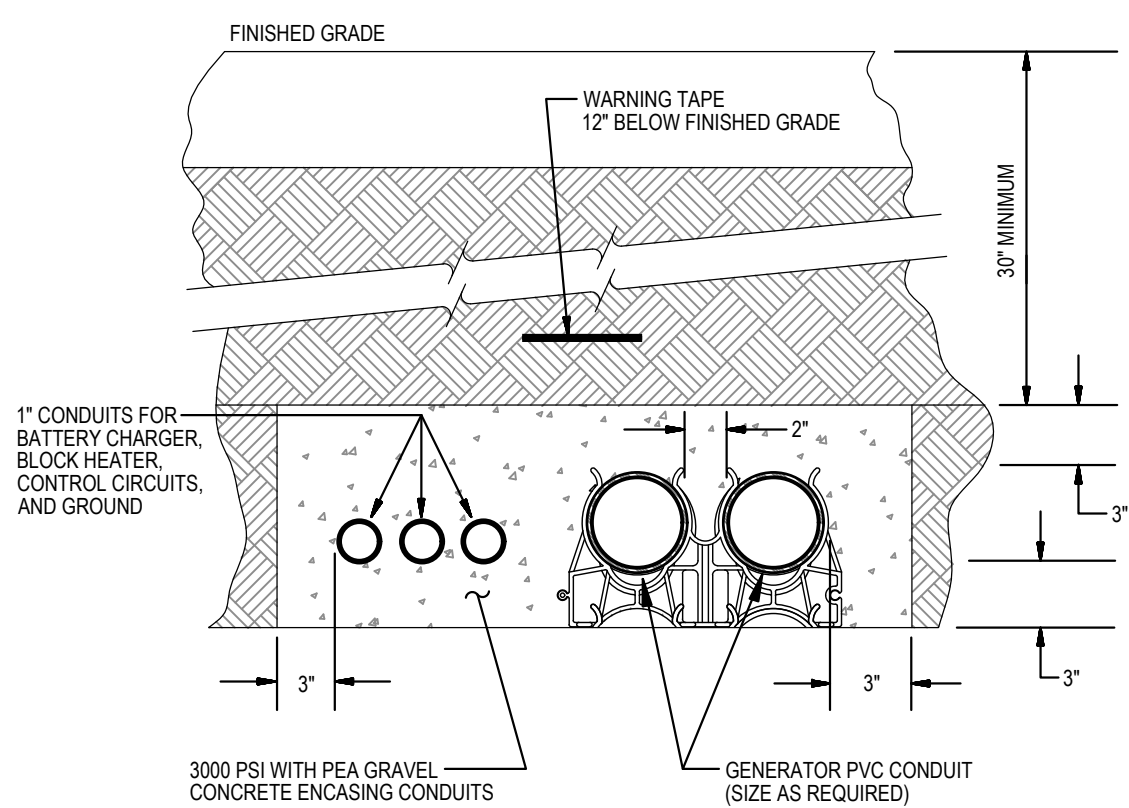
1
E-0
DETAIL
GENERATOR CONCRETE PAD
NOT TO SCALE

ABBREVIATIONS

A, AMP	AMPERE(S)	MCPS	MONTGOMERY COUNTY PUBLIC SCHOOLS
AIC	AMPERES INTERRUPTING CAPACITY	MDF	MAIN DISTRIBUTION FRAME
ATS	AUTOMATIC TRANSFER SWITCH	MIN	MINIMUM
C	CONDUIT	N	NEUTRAL
CATV	CABLE TELEVISION	OFF	OFFICE
CB	CIRCUIT BREAKER	P	POLE(S) OR PUMP
CONF	CONFERENCE	PA	PUBLIC ADDRESS
CT	CURRENT TRANSFORMERS	PVC	POLYVINYL CHLORIDE
DIST	DISTRIBUTION	REC	RECEPTACLE
EM	EMERGENCY	REFRIG	REFRIGERATOR
EMS	ENERGY MANAGEMENT SYSTEM	RM	ROOM
ETR	EXISTING TO REMAIN	RX	REMOVE EXISTING
EX	EXISTING	SPD	SURGE PROTECTIVE DEVICE
FACP	FIRE ALARM CONTROL PANEL	V	VOLT(S)
G	GROUND	VFD	VARIABLE FREQUENCY DRIVE
GEN	GENERATOR	W	WIRE(S)
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	WCCH	WATER-COOLED CHILLER
H	HOT	WP	WEATHERPROOF & WEATHER-RESISTANT
HP	HORSEPOWER	XFMR	TRANSFORMER
KVA	KILOVOLT-AMPERES	Ø	PHASE
KW	KILOWATTS	&	AND
LTG	LIGHTING		
MCA	MINIMUM CIRCUIT AMPACITY		



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



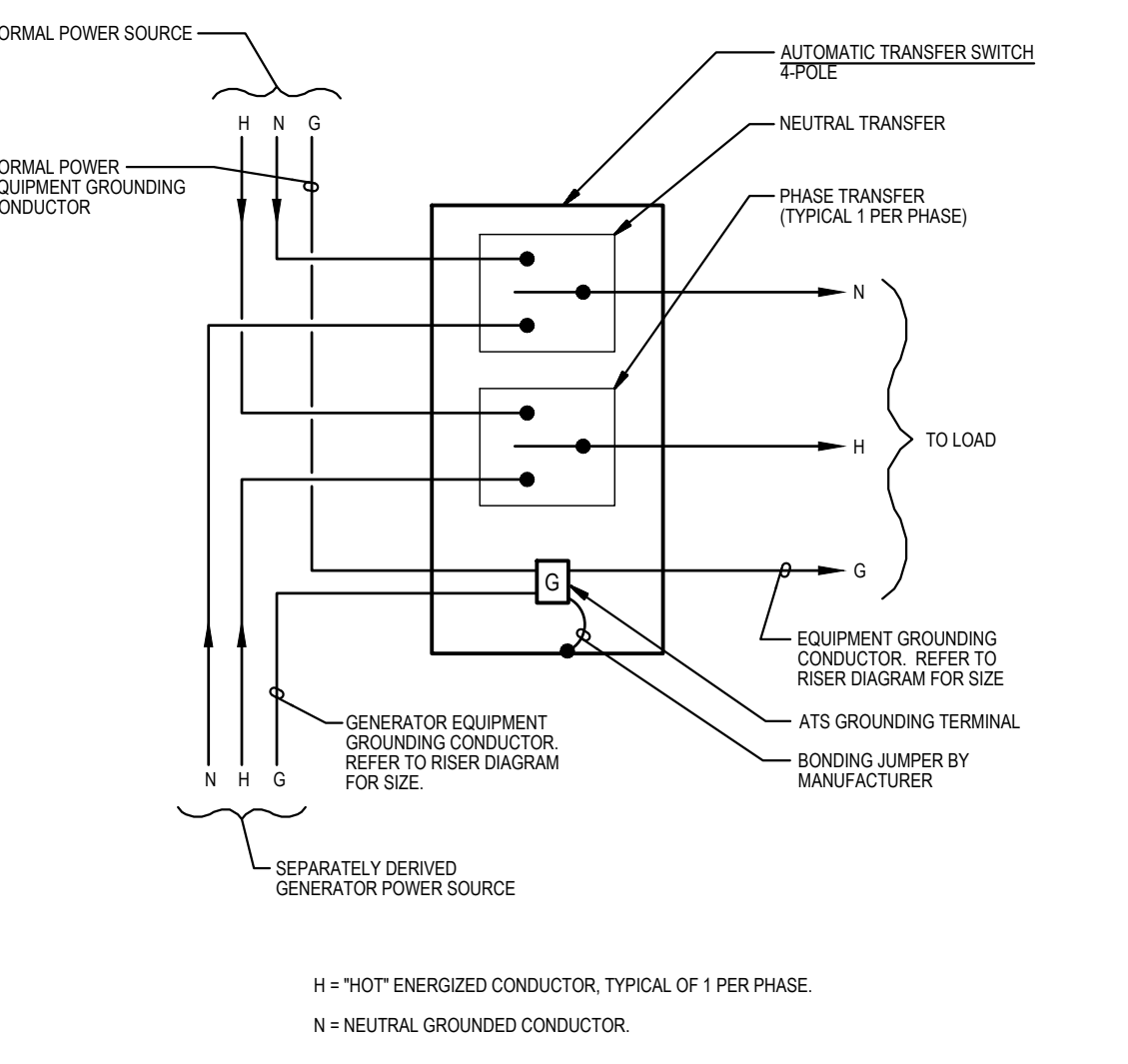
7
E-0
DETAIL
GENERATOR DUCTBANK
NOT TO SCALE

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.

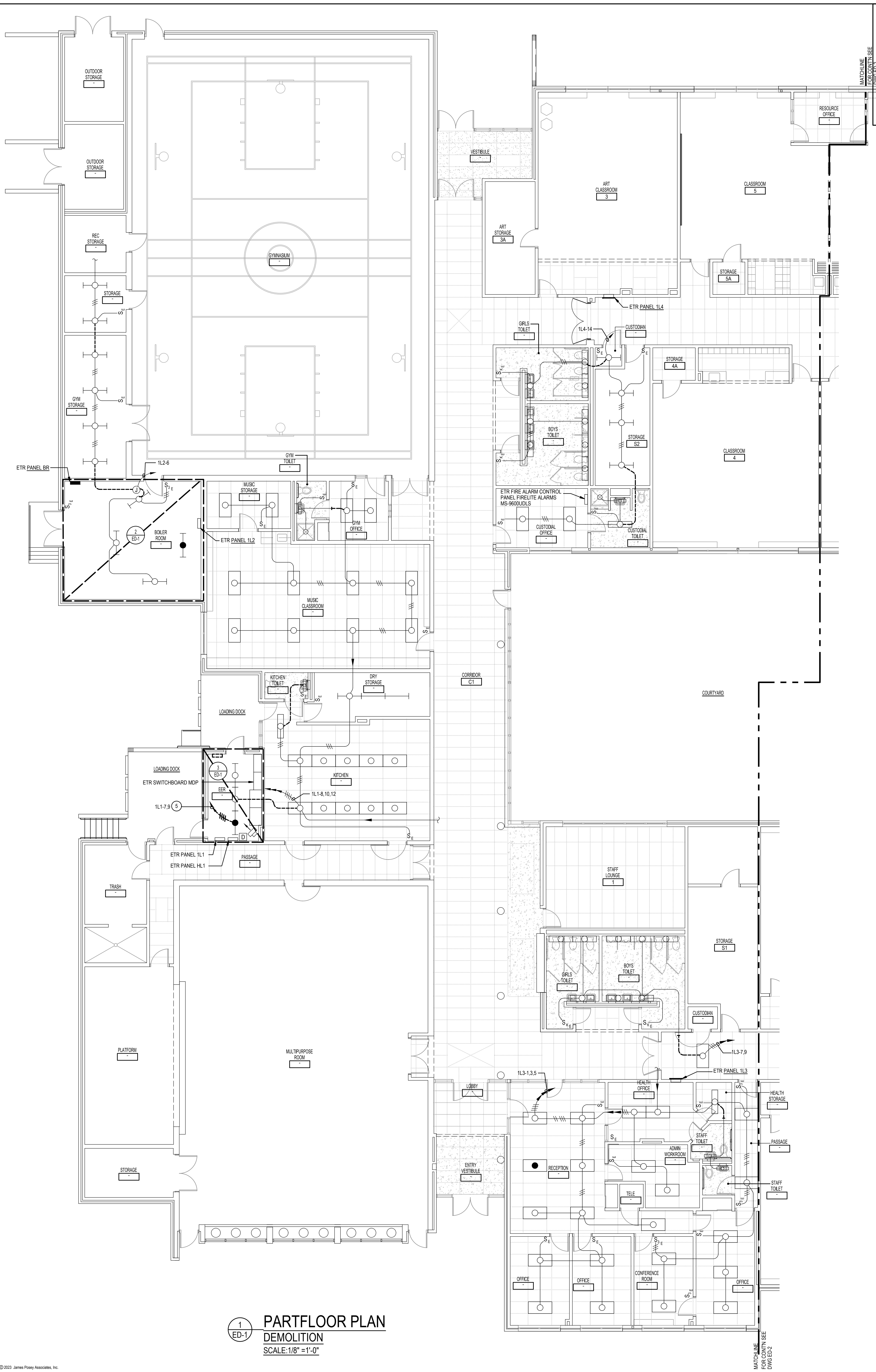
6
E-0
DETAIL
PLACARD AT GENERATOR DOCKING STATION
NOT TO SCALE

EMERGENCY AND STANDBY POWER
 180KW, 120/208 VOLTS, 3-PHASE, 4-WIRE NATURAL GAS GENERATOR LOCATED OUTDOORS NEXT TO LOADING DOCK AND MECHANICAL ROOM

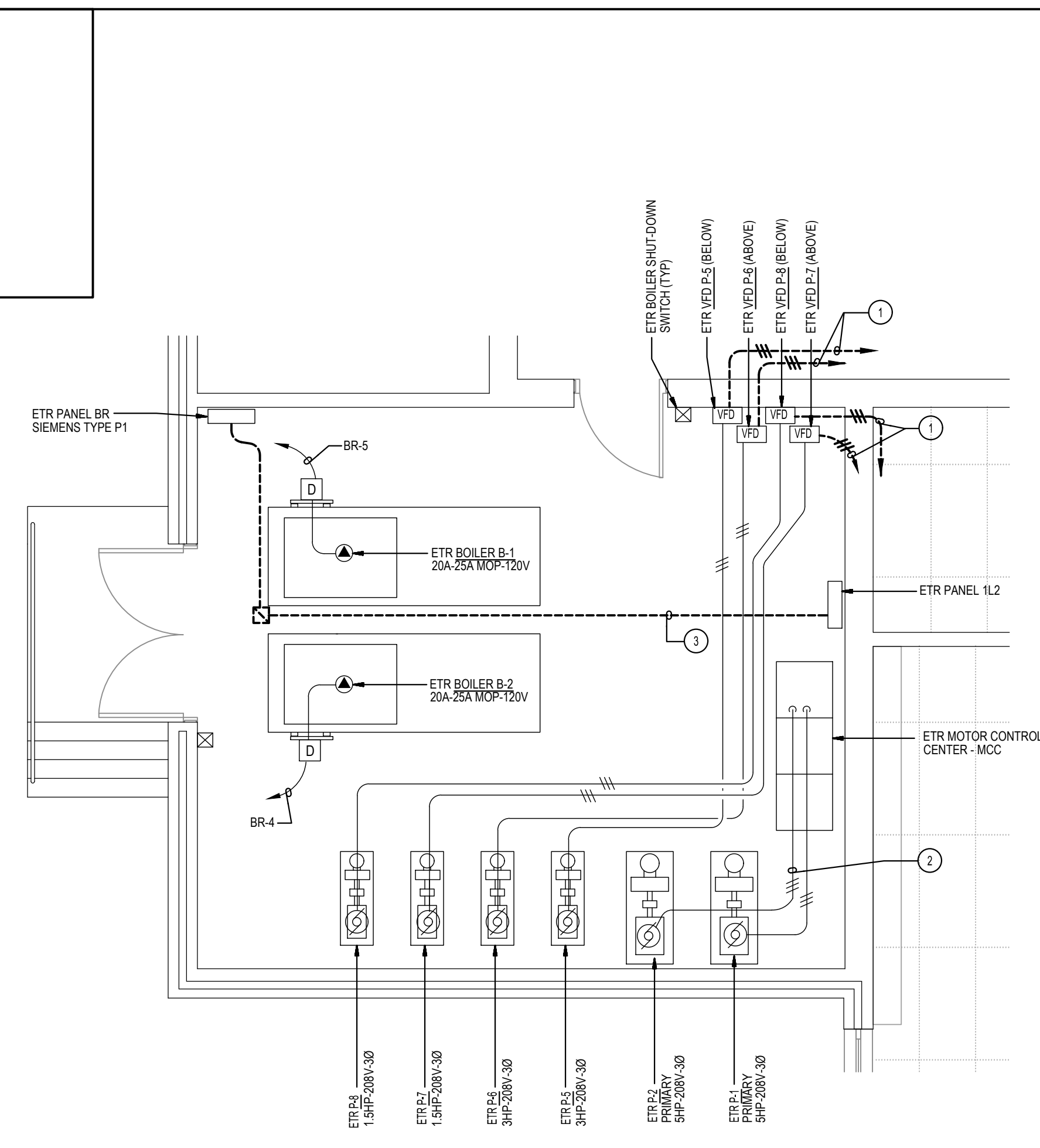
5
E-0
DETAIL
PLACARD AT MAIN SERVICE
NOT TO SCALE



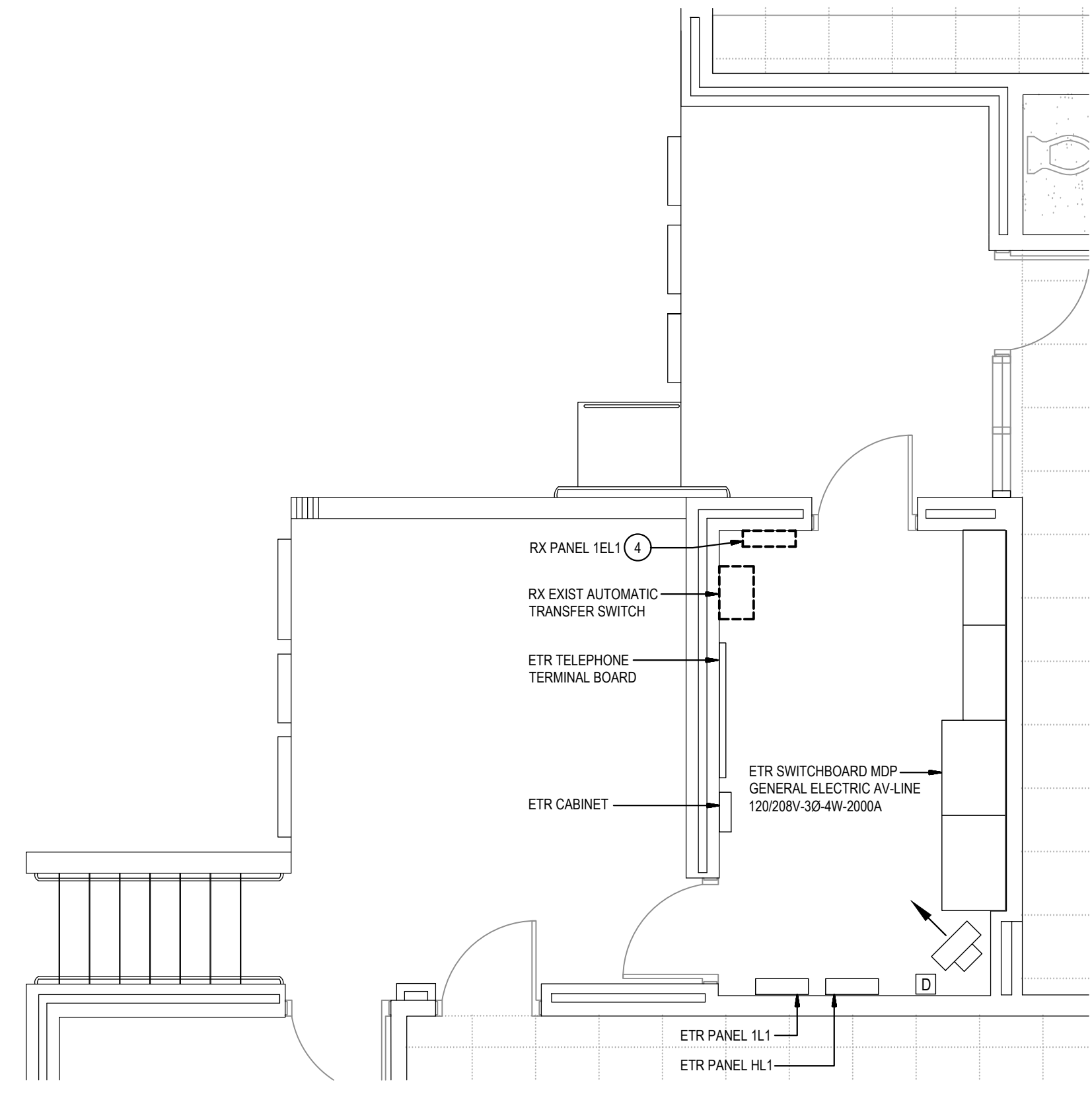
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E-0
DIAGRAM
AUTOMATIC TRANSFER SWITCH GROUND WIRING
NOT TO SCALE



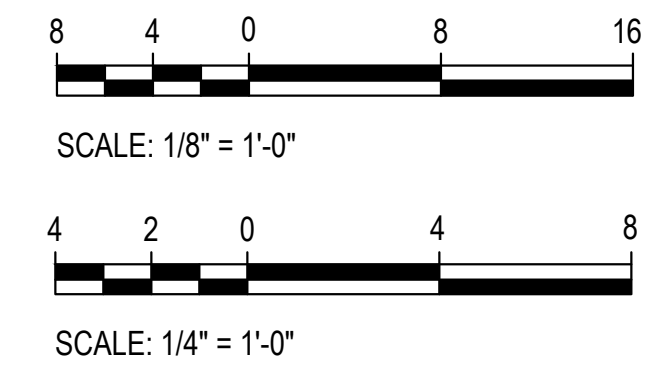
1
ED-1
PARTFLOOR PLAN
DEMOLITION
SCALE: 1/8" = 1'-0"



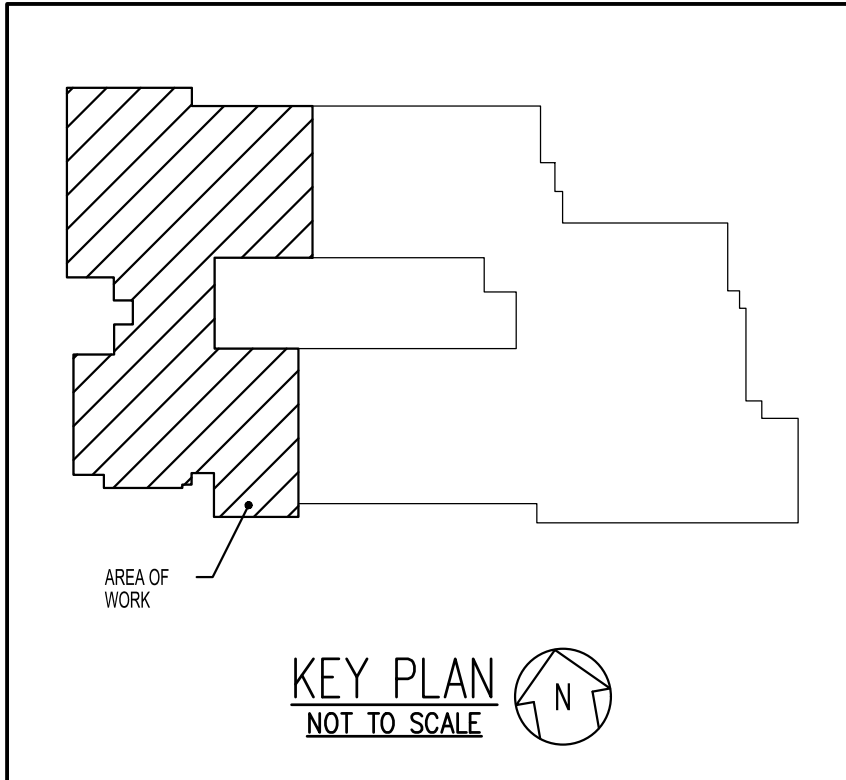
2
ED-1
PARTFLOOR PLAN
BOILER ROOM - DEMOLITION
SCALE: 1/4" = 1'-0"



3
ED-1
PARTFLOOR PLAN
ELECTRIC ROOM - DEMOLITION
SCALE: 1/4" = 1'-0"



- GENERAL NOTES:**
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 - 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.
 - REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
 - 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.
 - UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (---) SHALL REMAIN.
 - DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
 - REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
 - EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MARKED CONTINUOUS.
 - WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
 - IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.
- SPECIFIC NOTES:**
- REMOVE CONDUIT AND WIRING BACK TO BREAKER IN MOTOR CONTROL CENTER AND LABEL BREAKER SPARE.
 - DISCONNECT BREAKER IN MOTOR CONTROL CENTER FROM THE BUSS AND RECONNECT BREAKER TO NEW CIRCUIT FED FROM PANEL SP1 AS INDICATED ON NEW WORK PLAN.
 - REMOVE 4 #8-#10 GROUND IN 1 1/4" CONDUIT BACK TO PANEL HL2 AND LABEL CIRCUIT BREAKER SPARE.
 - REMOVE EXISTING PANEL INTERIOR AND REUSE EXISTING BOX FOR SPICE BOX.
 - REMOVE HOMERUN BACK TO PANEL TEL1 AFTER NEW PANEL EL AND GENERATOR ARE INSTALLED AND ENERGIZED.



GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

LAKE SENECA ELEMENTARY SCHOOL
13600 WANEGARDEN DRIVE
GERMANTOWN, MD 20874

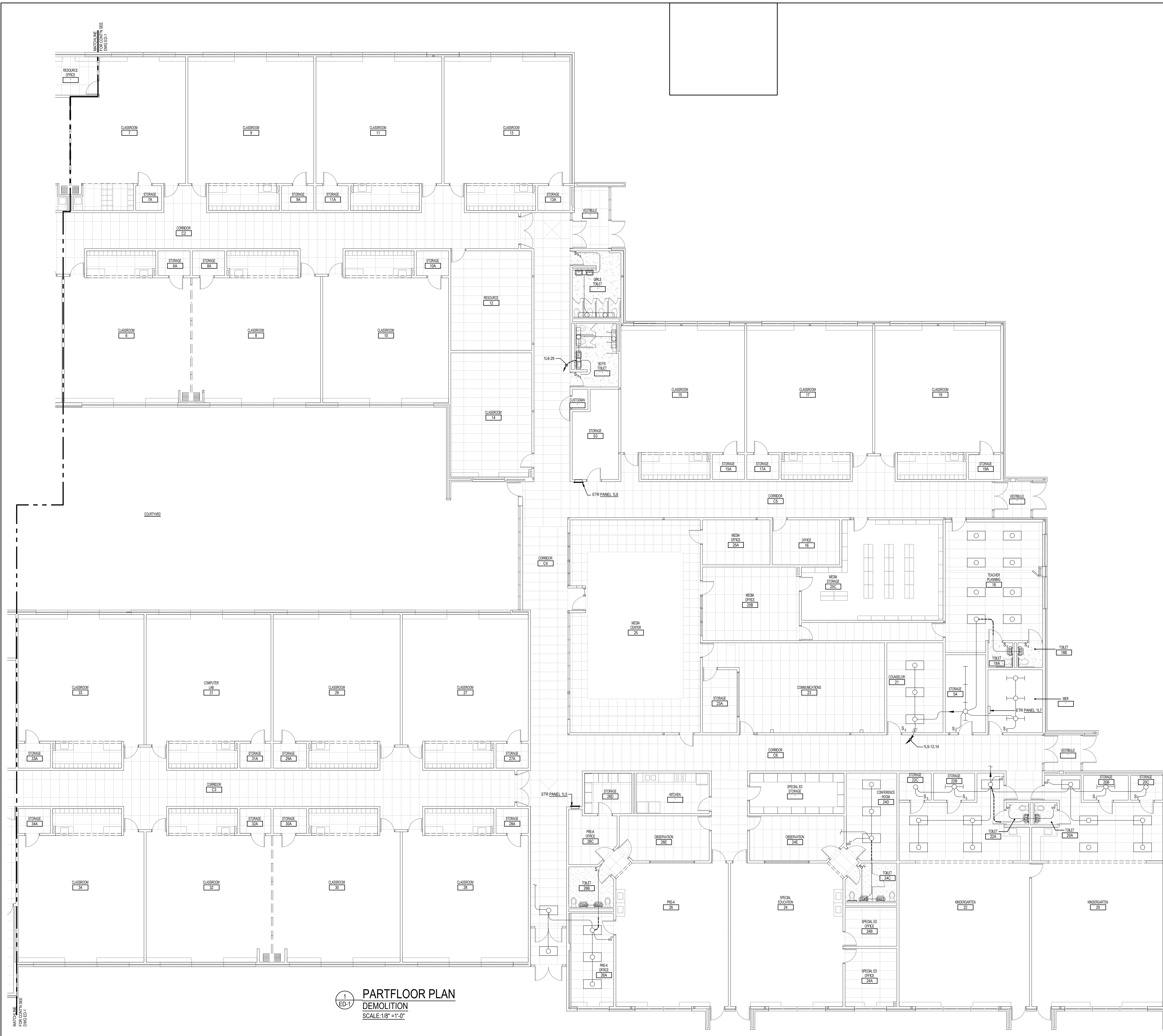
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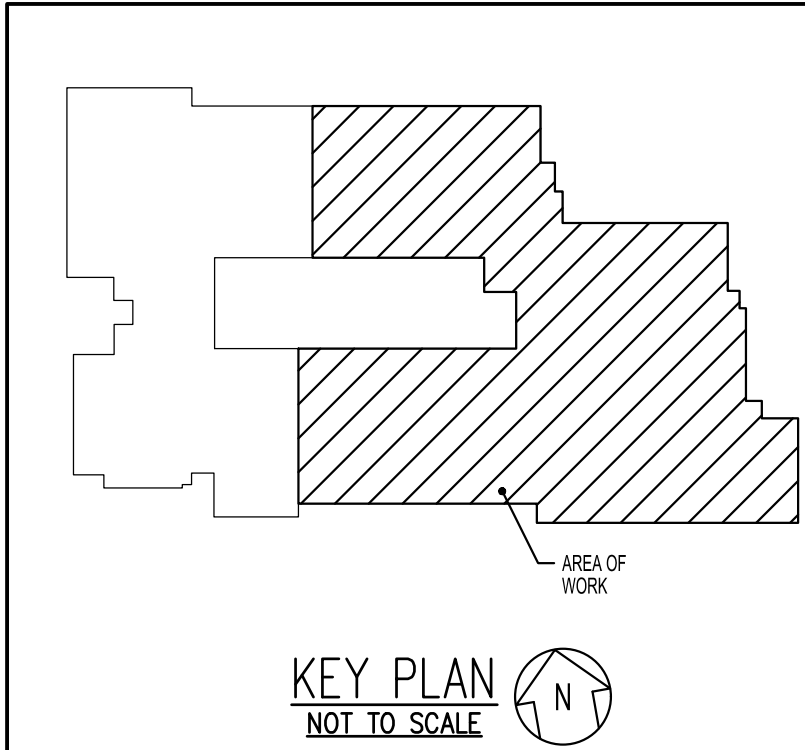
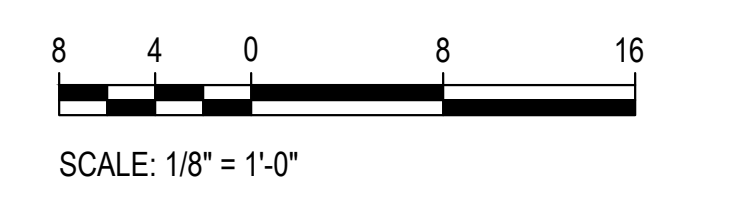
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jamesposey.com

Tag	Description	Date
	BID SET	02/06/23
PSC No		
Scale	AS NOTED	
Project No	7752-22	
Date	FEBRUARY 6, 2023	
Drawing Title	PART FLOOR PLAN - DEMOLITION	
Sheet No:	ED-1	

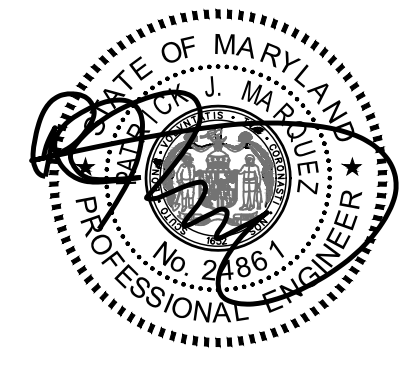


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 - EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
 - WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
 - IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

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



GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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13600 WANEGARDEN DRIVE
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Tag	Description	Date
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PSC No.	
Scale	AS NOTED
Project No.	7752-22
Date	FEBRUARY 6, 2023
Drawing Title	PART FLOOR PLAN - DEMOLITION

Sheet No: **ED-2**

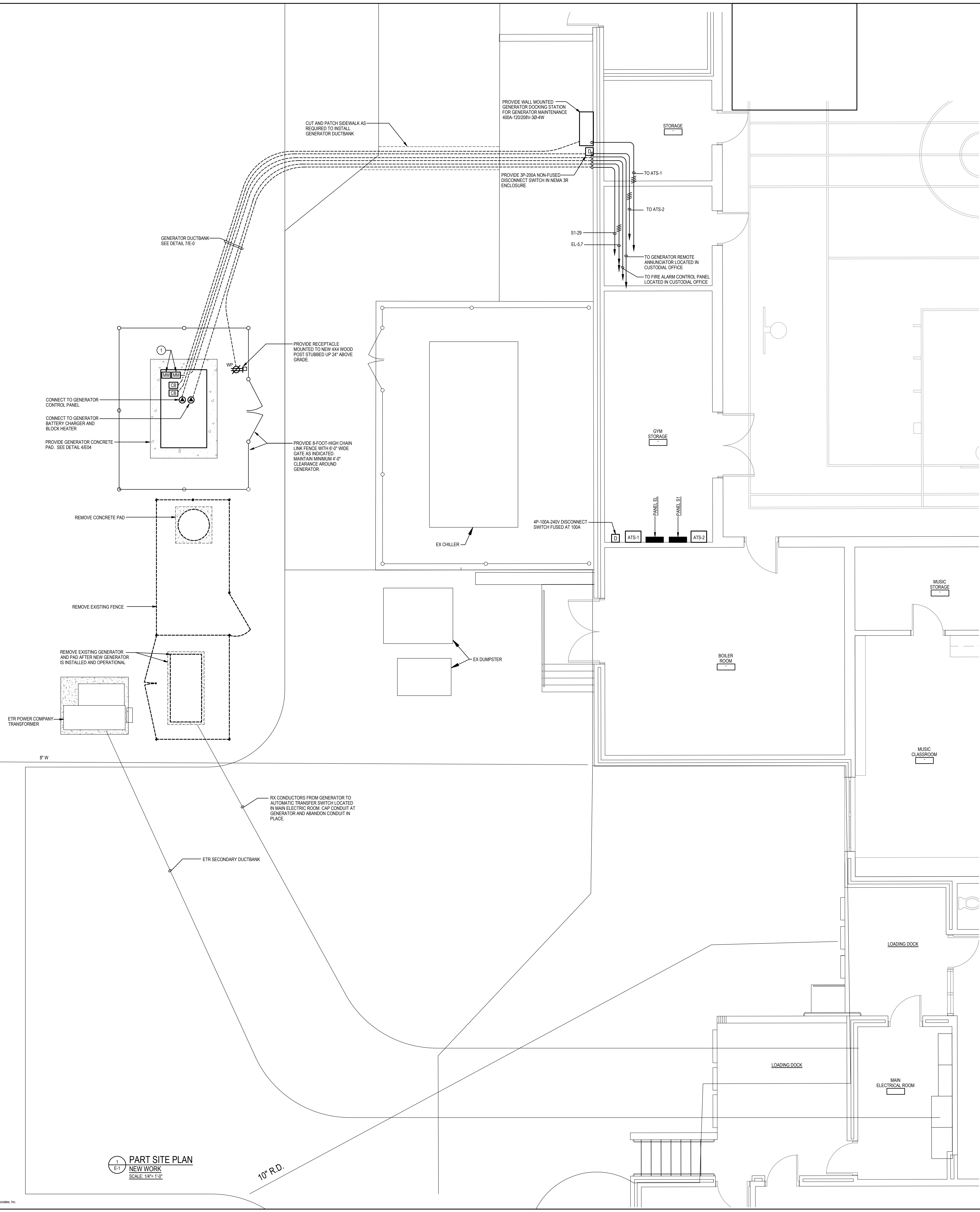
GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
LAKE SENECA ELEMENTARY SCHOOL
 13600 WANEGARDEN DRIVE
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GENERAL NOTES:

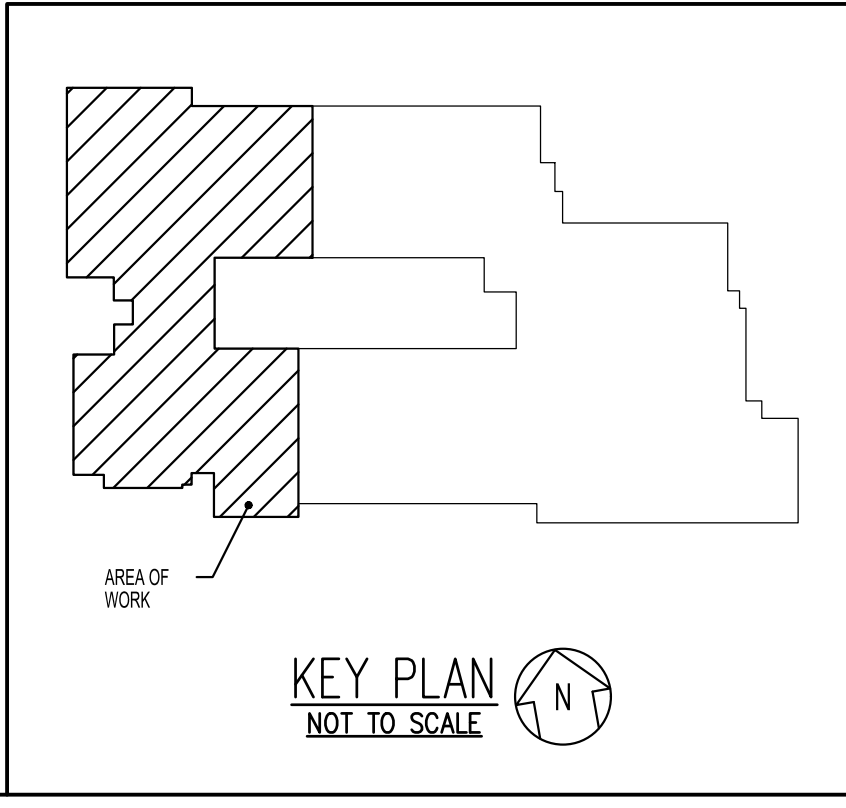
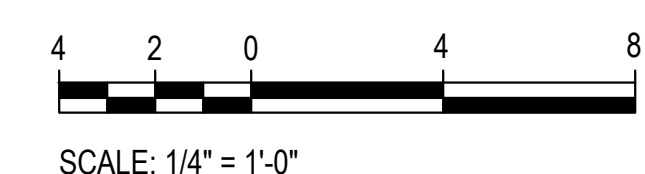
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- C. REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
- D. CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.
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- 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. THE GENERAL LOCATION OF UNDERGROUND UTILITIES INDICATED ON THIS PLAN ARE NOT TO BE ASSUMED TO BE ACCURATE OR COMPLETE. PRIOR TO ANY EXCAVATING, FIELD CHECK AREAS WITH THE MOST ACCURATE INSTRUMENTS AVAILABLE, SUCH AS "FISHER LABS" PIPE AND CABLE LOCATORS.
- K. NOTIFY "MISS UTILITY" (1-800-257-7777) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
- L. NOTIFY ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- M. SHOULD DISCREPANCIES BE DISCOVERED BETWEEN THE PLANS AND FIELD CONDITIONS, NOTIFY ENGINEER IMMEDIATELY TO RESOLVE THE SITUATION. IF FIELD CORRECTIONS OR ADJUSTMENTS ARE MADE WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THOSE CHANGES.

SPECIFIC NOTES:

1. PROVIDE FIRE ALARM WIRING IN CONDUIT AND CONNECT MONITORING MODULES TO EXISTING FIRE DETECTION AND ALARM SYSTEM FOR "GENERATOR RUN" AND "GENERATOR FAULT". MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. RE-PHASE FIRE ALARM CONTROL PANEL AS REQUIRED.



PART SITE PLAN
 NEW WORK
 SCALE: 1/4" = 1'-0"

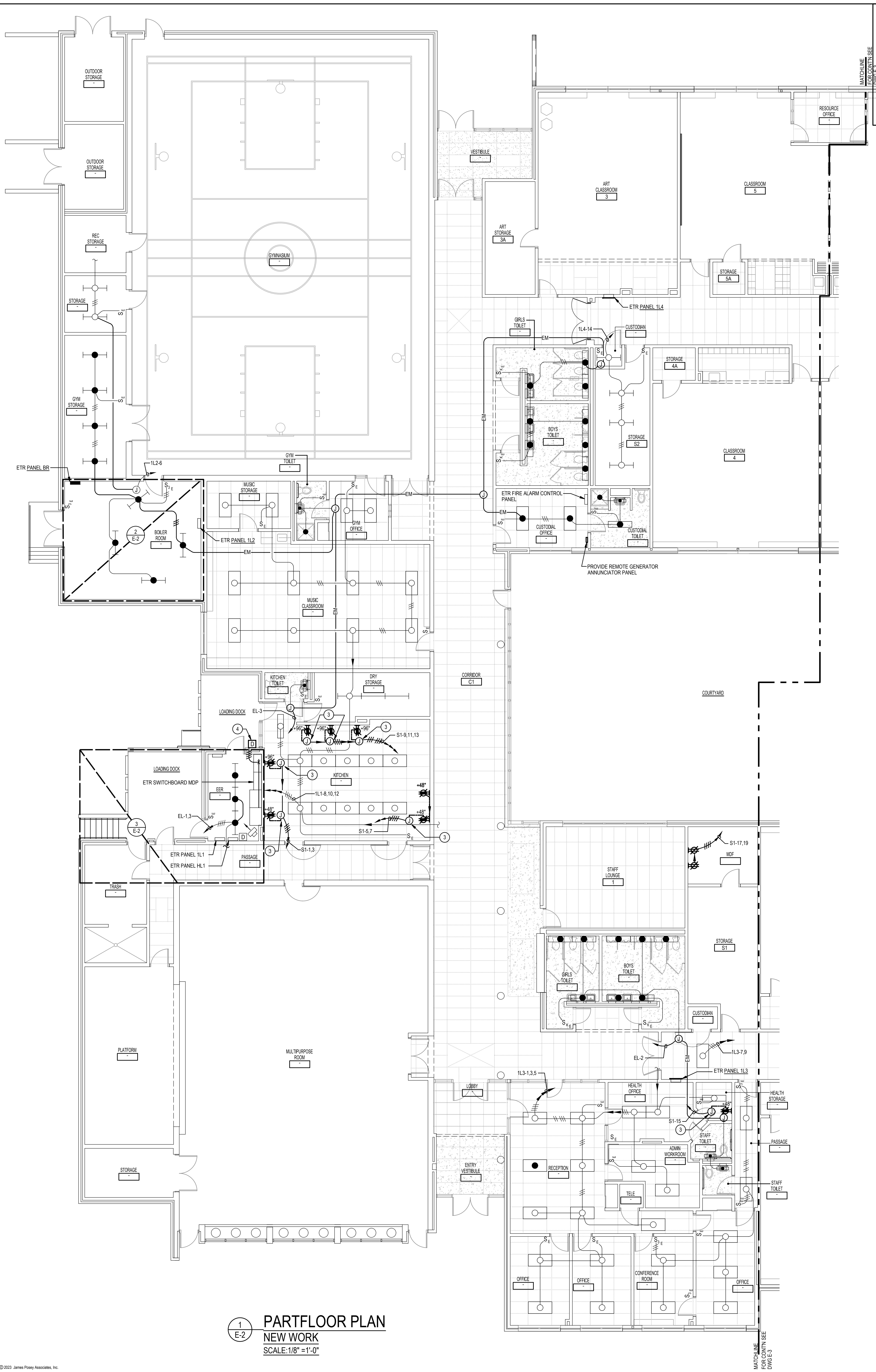


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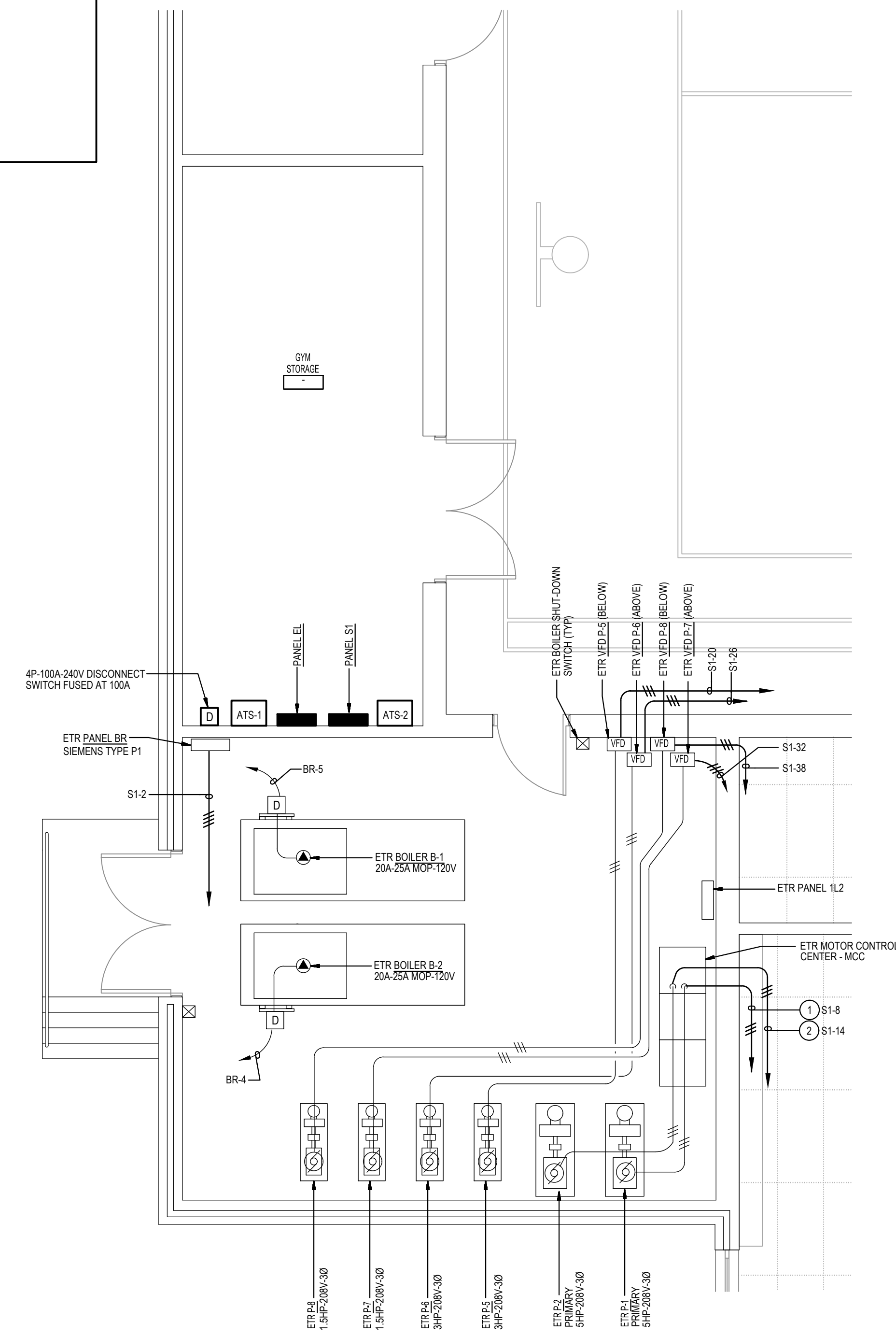
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Scale	AS NOTED
Project No	7752-22
Date	FEBRUARY 6, 2023
Drawing Title	PART SITE PLAN
Sheet No:	E-1

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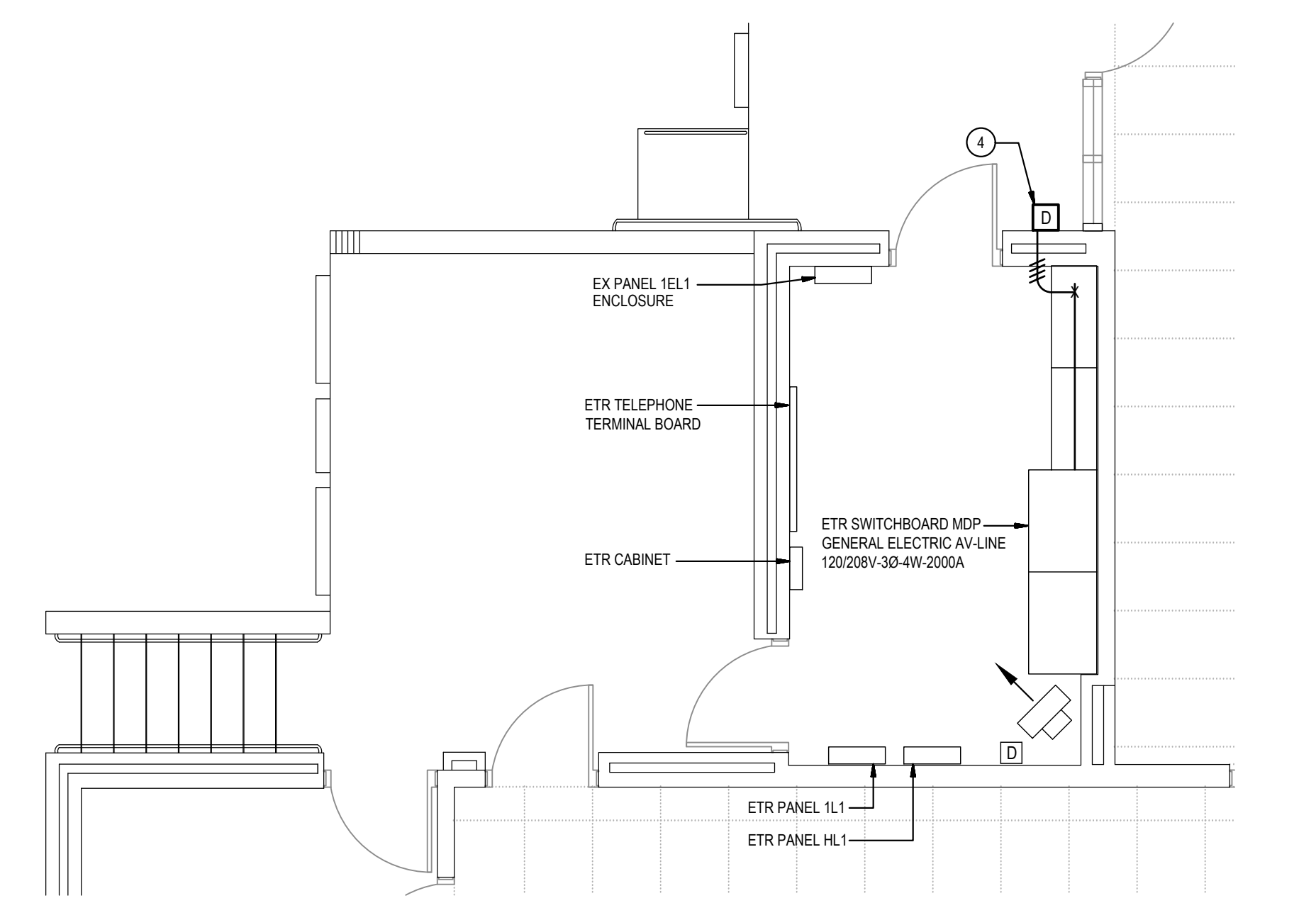
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1 PART FLOOR PLAN
NEW WORK
SCALE: 1/8" = 1'-0"



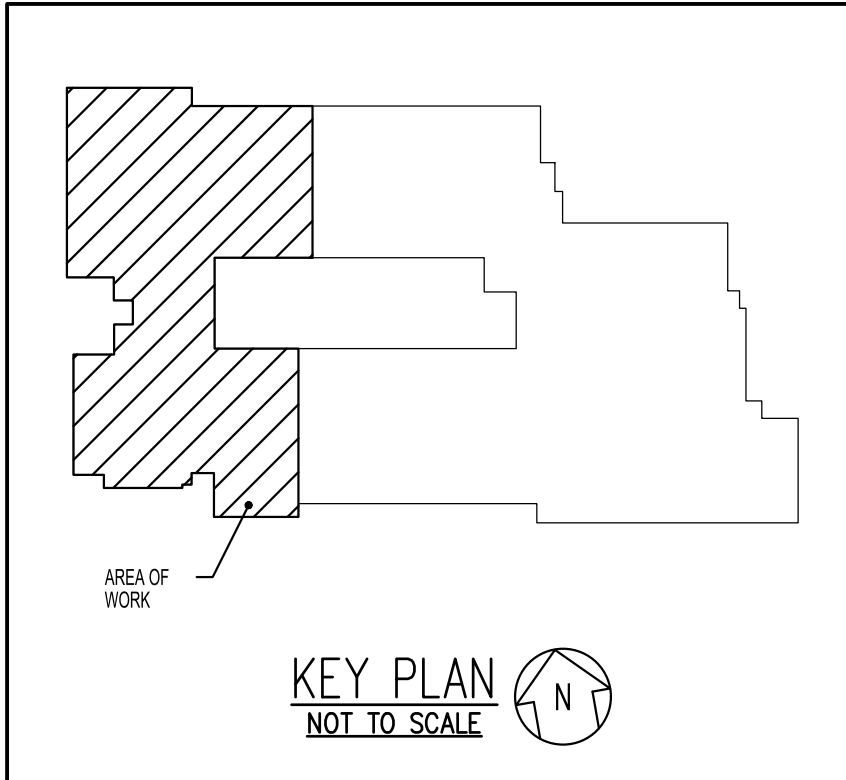
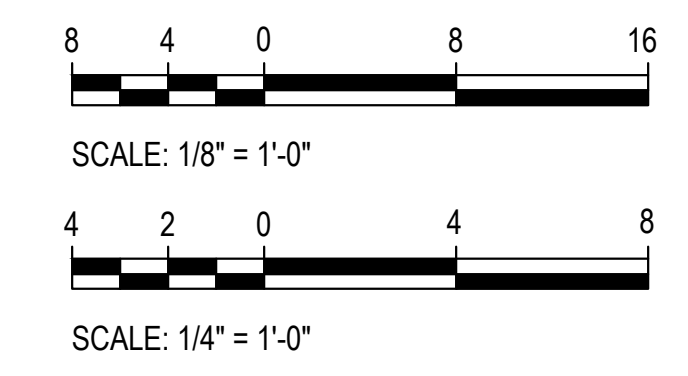
2 PART FLOOR PLAN
BOILER ROOM - NEW WORK
SCALE: 1/4" = 1'-0"



3 PART FLOOR PLAN
ELECTRIC ROOM - NEW WORK
SCALE: 1/4" = 1'-0"

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- SPECIFIC NOTES:**
- CONNECT TO CIRCUIT BREAKER IN MOTOR CONTROL CENTER SERVING PUMP P-1.
 - CONNECT TO CIRCUIT BREAKER IN MOTOR CONTROL CENTER SERVING PUMP P-2.
 - PROVIDE JUNCTION BOX ABOVE CEILING AND RUN WIRING IN SURFACE MEAL RACEWAY TO SURFACE MOUNTED RECEPTACLE.
 - PROVIDE 4P-200A-240V ENCLOSED (DISCONNECT) SWITCH FUSED AT 200A IN NEMA TYPE 3R ENCLOSURE.



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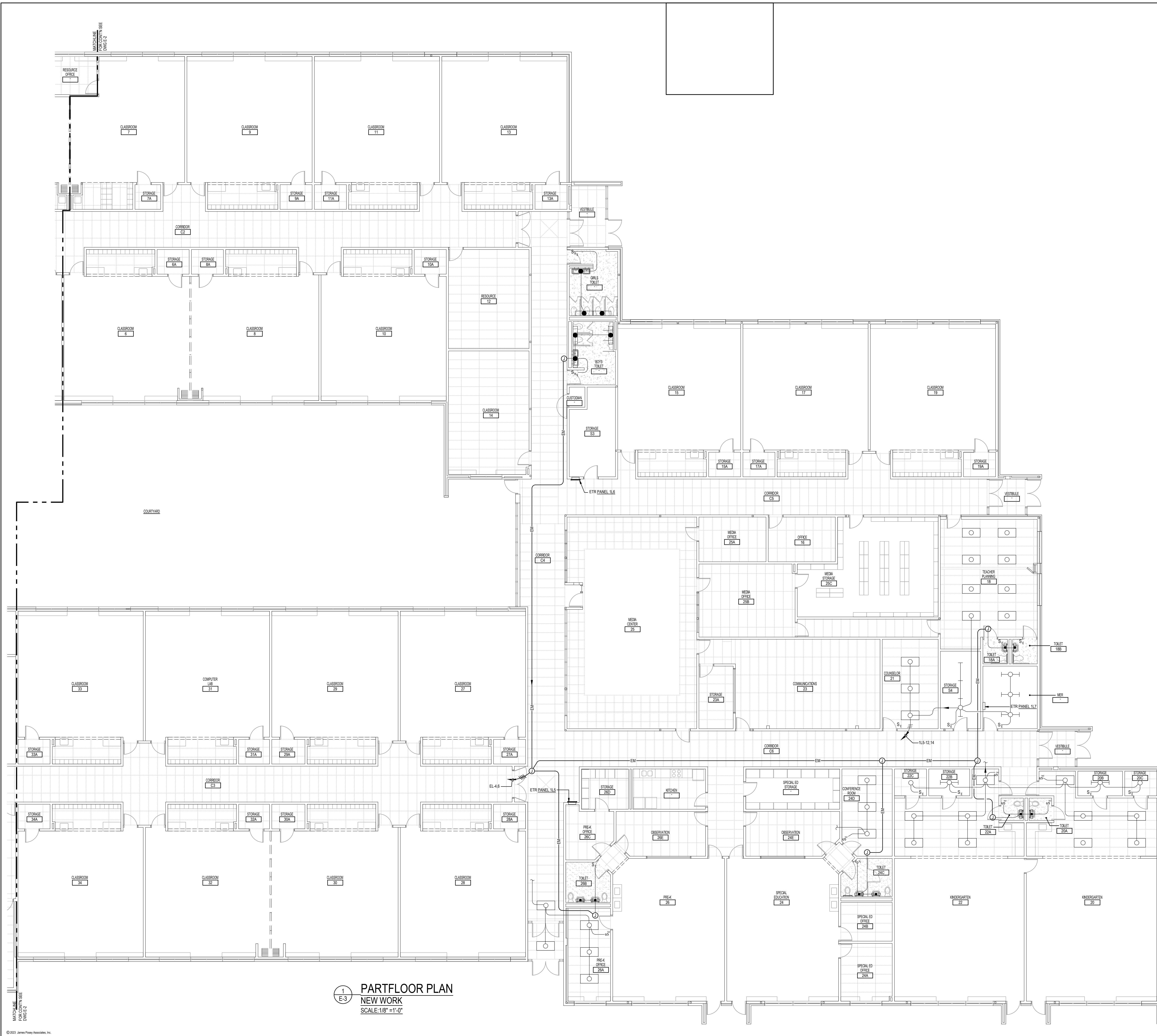


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Drawing Title	PART FLOOR PLAN - NEW WORK
Sheet No	E-2



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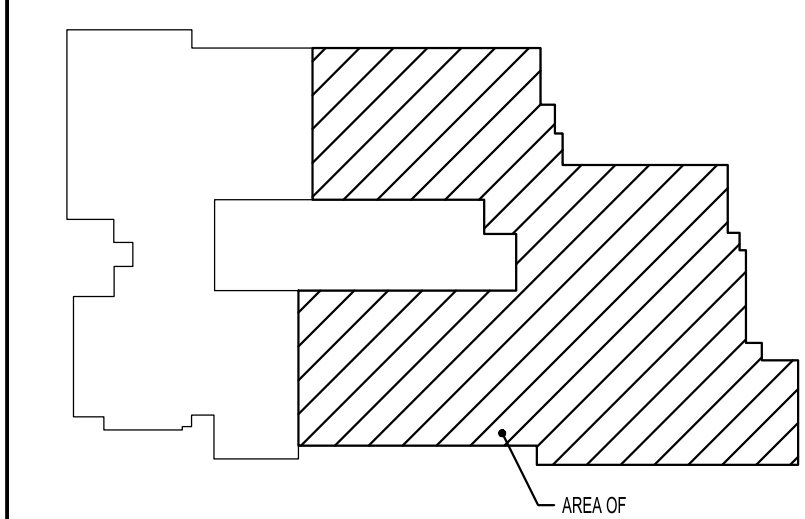
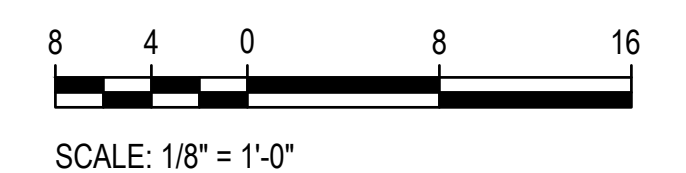
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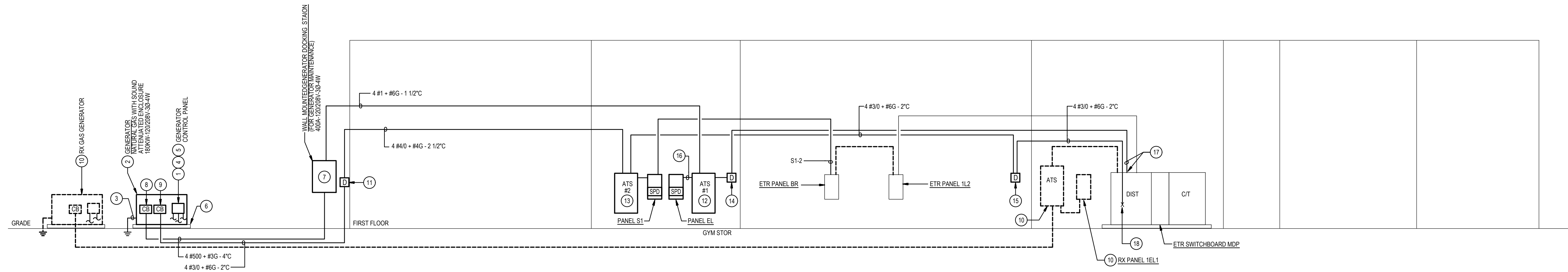
Drawing Title
PART FLOOR PLAN - NEW WORK

Sheet No:
E-3



KEY PLAN
 NOT TO SCALE

1
 E-3
PART FLOOR PLAN
NEW WORK
 SCALE: 1/8" = 1'-0"



1
 E-4
DIAGRAM
POWER RISER DIAGRAM
 NOT TO SCALE

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 - 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 WIRING IN CONDUIT FROM GENERATOR CONTROL PANEL TO FIRE ALARM CONTROL PANEL. WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
 2. PROVIDE TYPE 10 GENERATOR, PER NFPA 110. THE GENERATOR SHALL BE ABLE TO PROVIDE GENERATOR POWER TO THE SCHOOL WITHIN 15 SECONDS AFTER A UTILITY POWER OUTAGE.
 3. REFER TO DIAGRAM 3/E-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. LOCATE GENERATOR REMOTE ALARM ANNUNCIATOR PANEL IN BUILDING SERVICES OFFICE.
 6. GENERATOR CONCRETE PAD. REFER TO DETAIL 1/E-0 FOR ADDITIONAL INFORMATION.
 7. PROVIDE 400A GENERATOR DOCKING STATION IN NEMA TYPE 3R ENCLOSURE, EQUAL TO 1257R (UBS-5) WITH 3P-100A CIRCUIT BREAKER, NON-KEY INTERLOCKED FOR CONNECTIONS TO ATS, 1 AND PORTABLE MOBILE GENERATOR. FEEDER FOR LOAD BANK CONNECTION SHALL BE SIZED FOR 400A. PROVIDE SIGN ON FRONT OF GENERATOR DOCKING STATION TO READ AS FOLLOWS: "SERVING EMERGENCY TRANSFER SWITCH (ATS-1) IN ELECTRICAL ROOM, 120/208V, 3-PHASE, 4-WIRE".
 8. PROVIDE 3P-400A 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.
 9. PROVIDE 3P-200A CIRCUIT BREAKER TO SERVE GENERATOR STANDBY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE ALL CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
 10. REMOVE EXISTING EQUIPMENT AFTER NEW GENERATOR IS INSTALLED AND OPERATIONAL.
 11. PROVIDE 3P-200A-600V NON-FUSED DISCONNECT SWITCH IN NEMA TYPE 3R ENCLOSURE TO SERVE GENERATOR STANDBY LOADS.
 12. PROVIDE 4P-100A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE EMERGENCY (LIFE-SAFETY) LOADS. ATS SHALL HAVE A MINIMUM ILL 1008 WITHSTAND AND CLOSING RATING OF 66KAC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "EMERGENCY ATS-1".
 13. PROVIDE 4P-200A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE STANDBY LOADS. ATS SHALL HAVE A MINIMUM ILL 1008 WITHSTAND AND CLOSING RATING OF 66KAC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "STANDBY ATS-2".
 14. PROVIDE 3P-100A-600V FUSED ENCLOSED SWITCH, FUSED AT 100A TO SERVE GENERATOR EMERGENCY (LIFE-SAFETY) LOADS.
 15. PROVIDE 3P-200A-600V FUSED ENCLOSED SWITCH IN NEMA TYPE 3R ENCLOSURE, FUSED AT 200A TO SERVE GENERATOR STANDBY LOADS.
 16. PROVIDE 4 #2 - #8 GROUND IN 1 1/4" CONDUIT.
 17. CONNECT TO EXISTING 3P-100A BREAKER IN SWITCHBOARD MDP AND PROVIDE 4 #2 - #8 GROUND IN 1 1/4" CONDUIT.
 18. TAP BUS OF EXISTING SWITCHBOARD. PROVIDE UL CERTIFICATION (OR CERTIFICATION BY A NATIONALLY RECOGNIZED TESTING LABORATORY) FOR THE BUS TAP. COORDINATE WITH MOPS AND POWER COMPANY FOR ANY POWER REQUIRED POWER OUTAGES(S).

WIRING SCHEDULE: PANEL EL

CR- POLE CUT	DESCRIPTION	3 PHASE 4 WIRE				100 AMP BUS				SURFACE MOUNTED						
		WIRE/ CONDUIT	FUSE POLE AMP	KVA / Ø		CR- POLE CUT	DESCRIPTION	WIRE/ CONDUIT	FUSE POLE AMP							
1	EX LTG-WEST SIDE	#10-3/4"C	1	20	0.6	0.7			2	2	LTG - BOYS/GIRLS TOILET RM	#10-3/4"C	1	20		
3	3 LTG - TOILET ROOMS	#10-3/4"C	1	20			0.8	0.3	4	4	LTG - TOILET RM EAST	#8-3/4"C	1	20		
5	5 GEN BATTERY CHARGER	#8-1 1/4"C	1	20					6	6	LTG - BOYS/GIRLS TOILET EAST	#8-3/4"C	1	20		
7	7 GEN BLOCK HEATER	#8-1 1/4"C	1	20	1.8			1.0	0.4	8	8	SPARE		1	20	
9	9 SPARE		1	20						10	10	SPARE		1	20	
11	11 SPARE		1	20						12	12	SPARE		1	20	
13	13 SPARE		1	20						14	14	SPARE		1	20	
15	15 SPARE		1	20						16	16	SPARE		1	20	
-	17 SPACE AND PROVISIONS		1	-						18	18	SPACE AND PROVISIONS		1	-	
-	19 SPACE AND PROVISIONS		1	-						20	20	SPACE AND PROVISIONS		1	-	
-	21 SPACE AND PROVISIONS		1	-						22	22	SPACE AND PROVISIONS		1	-	
-	23 SPACE AND PROVISIONS		1	-						24	24	SPACE AND PROVISIONS		1	-	
-	25 SPACE AND PROVISIONS		1	-						26	26	SPACE AND PROVISIONS		1	-	
-	27 SPACE AND PROVISIONS		1	-						28	28	SPACE AND PROVISIONS		1	-	
-	29 SPACE AND PROVISIONS		1	-						30	30	SPACE AND PROVISIONS		1	-	
CONNECTED LOAD =				5.6	KVA	2.4	0.7	0.8	0.3	1.0	0.4					
DEMAND LOAD =				5.6	KVA	3.1	1.1	1.1	1.4							
MN AC RATING =				65,000	AMPS SYMMETRICAL							MAIN FUSE		100	AMPS	
										LOCATION						GYM STORAGE

PANELBOARD NOTES:

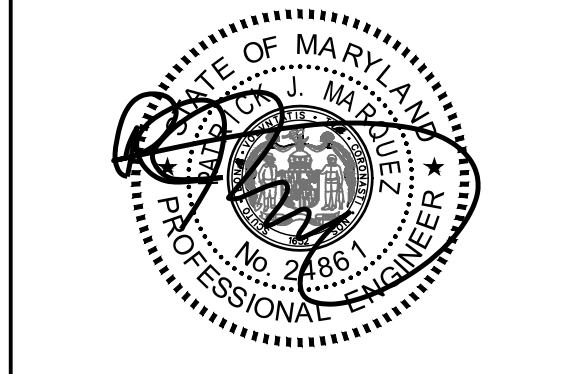
1. PROVIDE FUSIBLE TYPE PANELBOARD.
2. PROVIDE INTEGRAL SURGE PROTECTIVE DEVICE.

WIRING SCHEDULE: PANEL S1 (SINGLE-SECTION)

CR- POLE CUT	DESCRIPTION	3 PHASE 4 WIRE				225 AMP BUS				SURFACE MOUNTED						
		WIRE/ CONDUIT	BREAKER POLE AMP	KVA / Ø		CR- POLE CUT	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE AMP							
1	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20	1.5	1.8			2	2	PANEL BR	4 #8-#10G	3	50		
3	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20			1.5	3.7		4		-1"C				
5	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20					5	5						
7	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20	0.5	2.0			8	8	P-1	3#10-#10G	3	35		
9	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20			1.5	2.0		10		-3/4"C				
11	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20					12	12						
13	REC - KITCHEN REFRIG (2)	#10-3/4"C	1	20	1.5	2.0			14	14	P-2	3#10-#10G	3	35		
15	REC - HEALTH REFRIG (2)	#10-3/4"C	1	20			0.8	2.0		16		-3/4"C				
17	REC MDF	#8-3/4"C	1	20					18	18						
19	REC MDF	#8-3/4"C	1	20	0.8	1.3			20	20	P-5	3#12-#12G	3	15		
21	EX FFR ALARM	NOTE 3	1	20			0.8	1.3		22		-3/4"C				
23	EX REC - TELE EQUIP	NOTE 3	1	20					24	24						
25	EX KITCHEN EXH FAN	NOTE 3	1	20	0.4	1.3			26	26	P-6	3#12-#12G	3	15		
27	EX REC - MULTIPURP AMP	NOTE 3	1	20			0.4	1.3		28		-3/4"C				
29	REC - GENERATOR	#8-3/4"C	1	20					30	30						
31	EX REC - PA SOUND MAN OFF	NOTE 3	1	20	0.8	0.8			32	32	P-7	3#12-#12G	3	15		
33	SPARE		1	20					34	34						
35	SPARE		1	20				0.8		36		-3/4"C				
37	SPARE		1	20					38	38	P-8	3#12-#12G	3	15		
39	SPARE		1	20				0.8		40		-3/4"C				
41	SPARE		1	20					42	42						
43	SPARE		1	20					44	44	SPACE AND PROVISIONS		1	-		
45	SPARE		1	20					46	46	SPACE AND PROVISIONS		1	-		
47	SPARE		1	20					48	48	SPACE AND PROVISIONS		1	-		
49	SPARE		1	20					50	50	SPACE AND PROVISIONS		1	-		
51	SPARE		1	20					52	52	SPACE AND PROVISIONS		1	-		
53	SPARE		1	20					54	54	SPACE AND PROVISIONS		1	-		
CONNECTED LOAD =				47.7	KVA	5.5	10.0	5.0	11.9	3.4	11.9					
DEMAND LOAD =				34.6	KVA	16.5	16.8	15.3								
MN AC RATING =				65,000	AMPS SYMMETRICAL							MAIN BREAKER		200	AMPS	
										LOCATION						CAN WASH

PANELBOARD NOTES:

- (1) PROVIDE INTEGRAL SURGE PROTECTIVE DEVICE.
- (2) PROVIDE GFCI CIRCUIT BREAKER.
- (3) PROVIDE 2 #10 - #10 GROUND IN 3/4" CONDUIT TO EXISTING BRANCH CIRCUIT WIRING IN EXISTING PANEL 1EL1 ENCLOSURE.



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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 Engineering Your Vision

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Tag	Description	Date
	BID SET	02/06/23

PSC No
 Scale AS NOTED
 Project No 7752-22
 Date FEBRUARY 6, 2023

Drawing Title
POWER RISER DIAGRAM AND SCHEDULES

Sheet No:
E-4