

**PROJECT DESCRIPTION AND SCOPE OF WORK (SOW) SUMMARY**

THE FOLLOWING IS A SUMMARY OF THE NATURE AND INTENT OF THE WORK, IT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- 1) INSTALLATION OF NEW 120/208V 1600A ELECTRICAL SERVICE.
- 2) INSTALLATION OF NEW 1600A MAIN DISTRIBUTION PANEL (MDP)
- 3) SELECTIVE DEMOLITION OF EXISTING 240V SINGLE PHASE SERVICE AND BACK FEED EXISTING LOADS FROM NEW MDP.
- 4) CONTRACTORS SHALL MAINTAIN EXISTING SERVICE AND SHALL INSTALL AND ENERGIZE NEW SERVICE.
- 5) CONTRACTOR SHALL MOVE LOADS FROM EXISTING SERVICE TO NEW AND THEN DE-ENERGIZE AND DEMO EXISTING SERVICE.
- 6) THE OWNER WILL CONSTRUCT THE NEW ELECTRICAL CLOSET, CONTRACTOR SHALL COORDINATE WITH OWNER.
- 7) MISC. WORK AS INDICATED ON THE PLANS TO PROVIDE A COMPLETE INSTALLATION READY FOR CONTINUOUS USE.

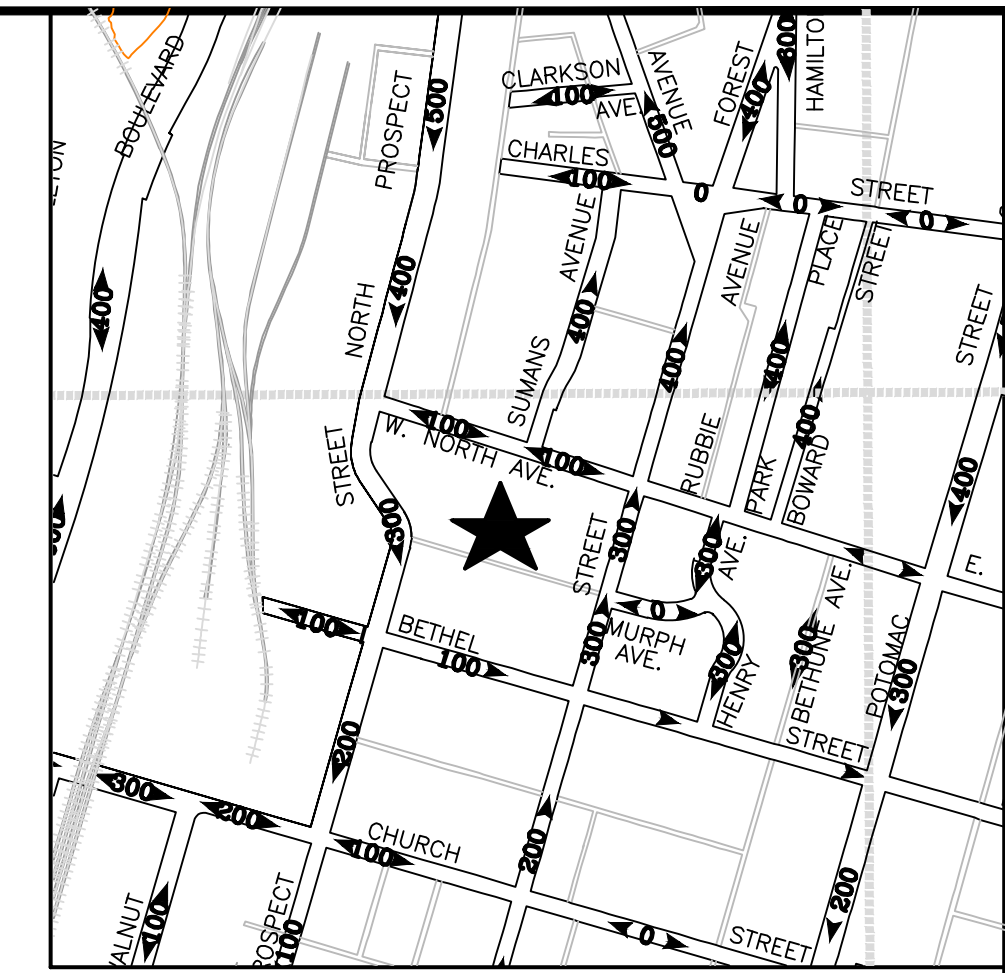
# WASHINGTON COUNTY MARYLAND

## BOARD OF COUNTY COMMISSIONERS

### MARTIN LUTHER KING JR. COMMUNITY CENTER

### ELECTRICAL SERVICE UPGRADE

### PROJECT #28-293



**VICINITY MAP**  
NOT TO SCALE

**DRAWING LIST**

- C-0.0 PROJECT COVER SHEET
- A-1.1 FLOOR PLAN, WALL SECTION AND DETAILS (SEE #6 ABOVE)
- E-0.0 ELECTRICAL COVER SHEET
- E-0.1 ELECTRICAL STANDARD DETAIL
- E-1.1 ELECTRICAL POWER PART PLAN
- E-1.2 ELECTRICAL LIGHTING PART PLAN
- E-1.3 ELECTRICAL SITE PLAN
- E-2.0 ELECTRICAL POWER RISER AND SCHEDULES
- E-3.0 SWITCHGEAR SPECIFICATIONS



**BOARD OF COUNTY COMMISSIONERS:**

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JEFFREY A. CLINE, VICE PRESIDENT  
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RANDALL E. WAGNER  
DEREK J. HARVEY.

JOHN M. MARTIRANO, COUNTY ADMINISTRATOR  
ANDREW ESHLEMAN, DIRECTOR OF PUBLIC WORKS  
DANIEL HIXON, ASSISTANT DIRECTOR OF PUBLIC WORKS BG+F

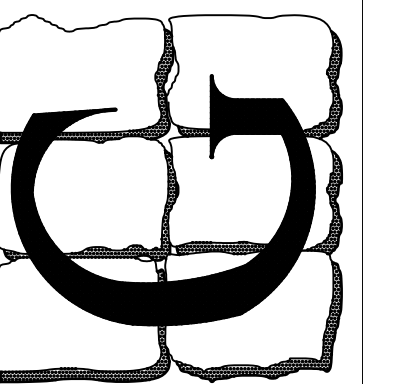
**L.S. GRIM CONSULTING ENGINEERS**  
PRIME CONSULTANT AND DESIGNER OF RECORD

**BFM ARCHITECTS**  
ARCHITECTURAL CONSULTANT

**MATONAK AND ASSOCIATES**  
STRUCTURAL CONSULTANT

21-022

**L.S. GRIM, INC.**  
Consulting Engineers



MARTIN LUTHER KING JR.  
COMMUNITY CENTER  
181 WEST NORTH AVENUE  
HAGERSTOWN, MD 21740

PROJECT COVER SHEET

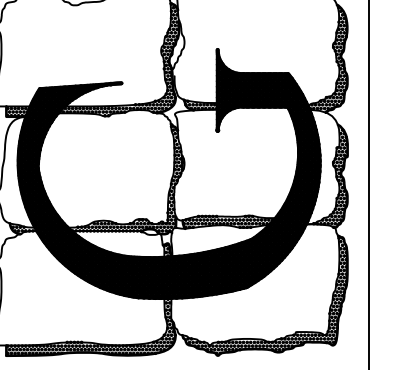
**Professional Certification**  
I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland.  
License Number: 14401  
Expiration Date: 4/21/2025

**LESLIE SCOTT GRIM, P.E.**  
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VA. PROF. ENG. NO. 022240  
WV. PROF. ENG. NO. 10764

REV.	DATE	COMMENT
	4-10-2023	REVISED BID SET

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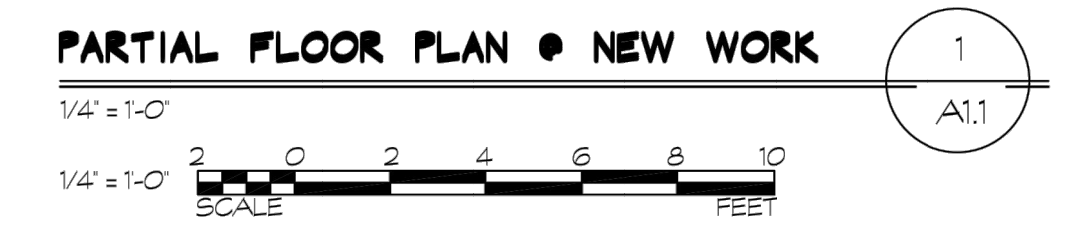
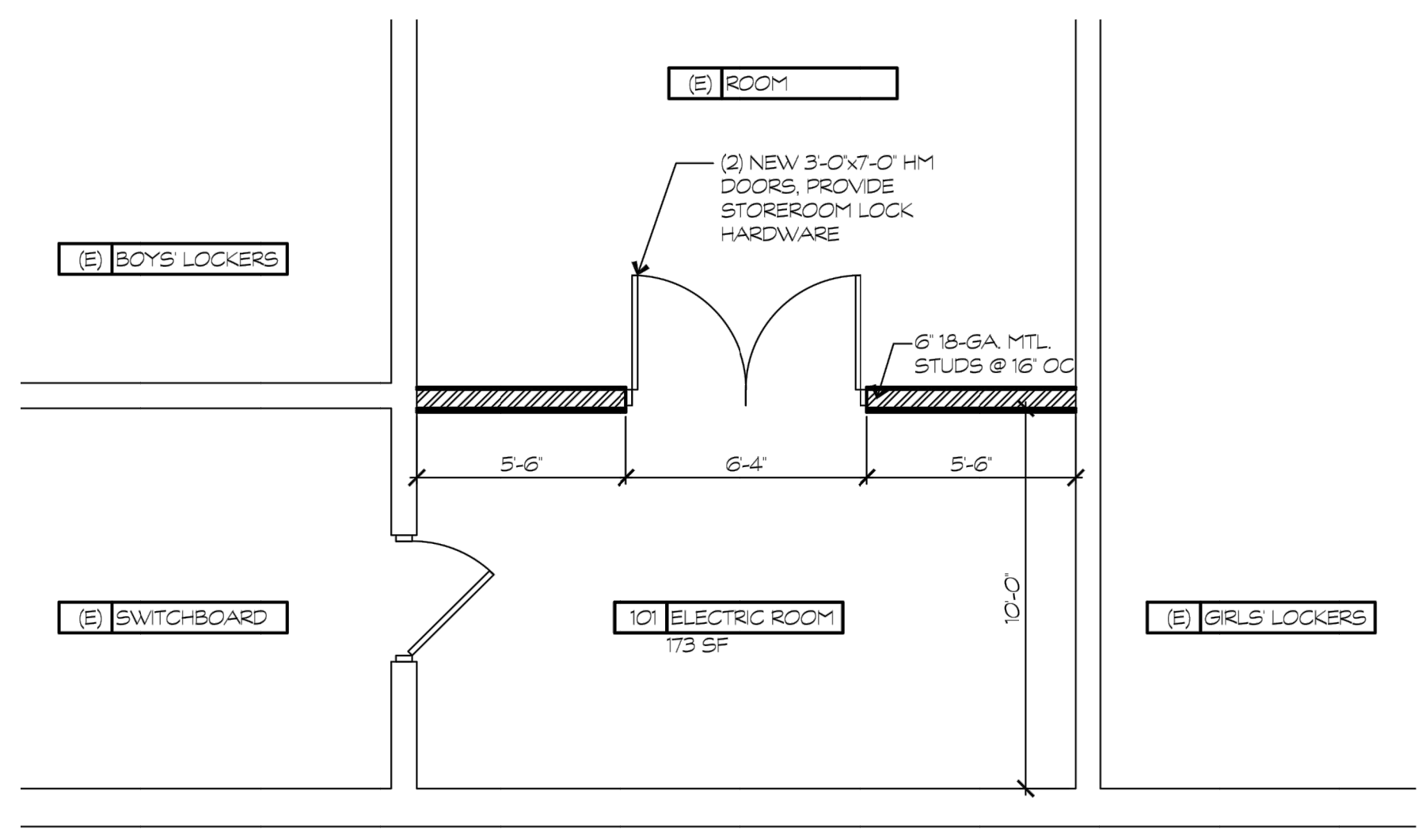
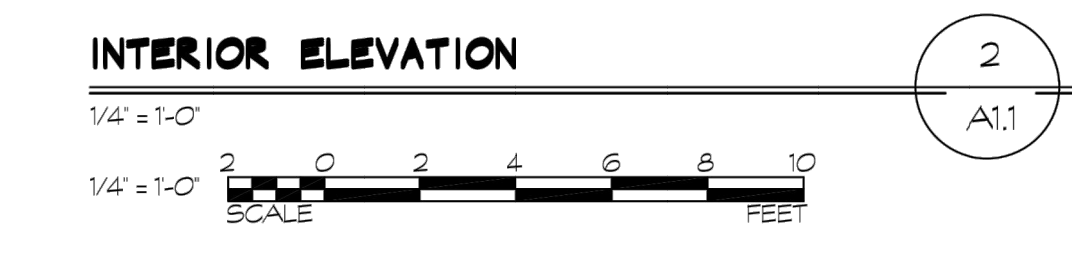
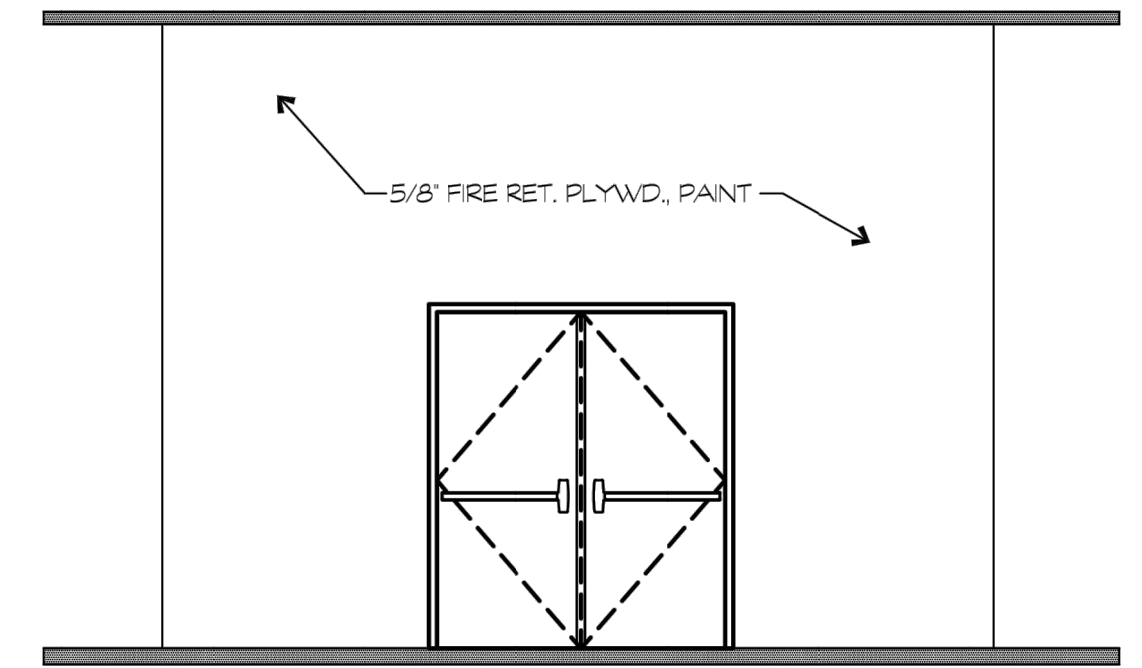
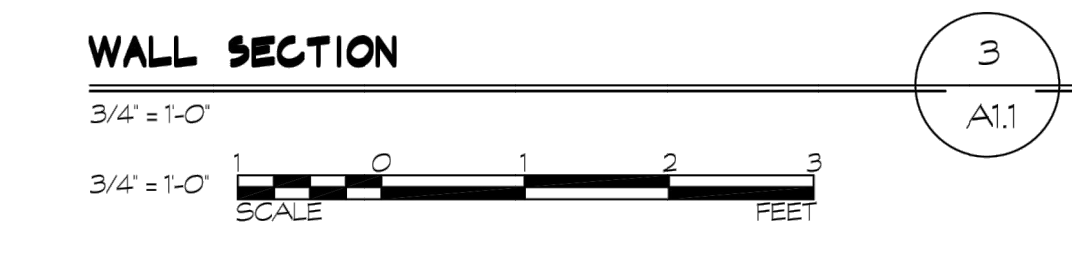
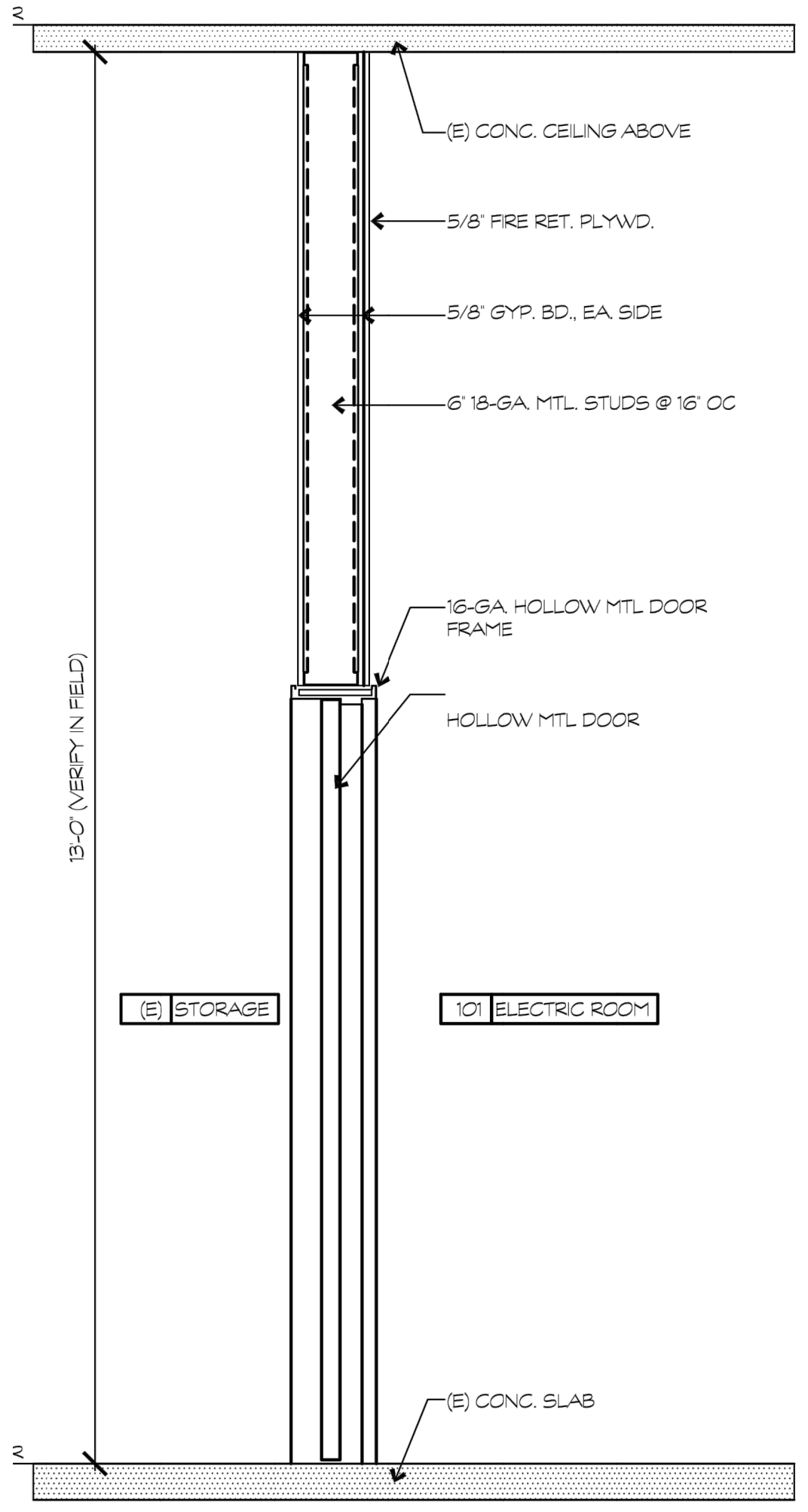
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OF 9 SHEETS  
DATE: APR 10, 2023



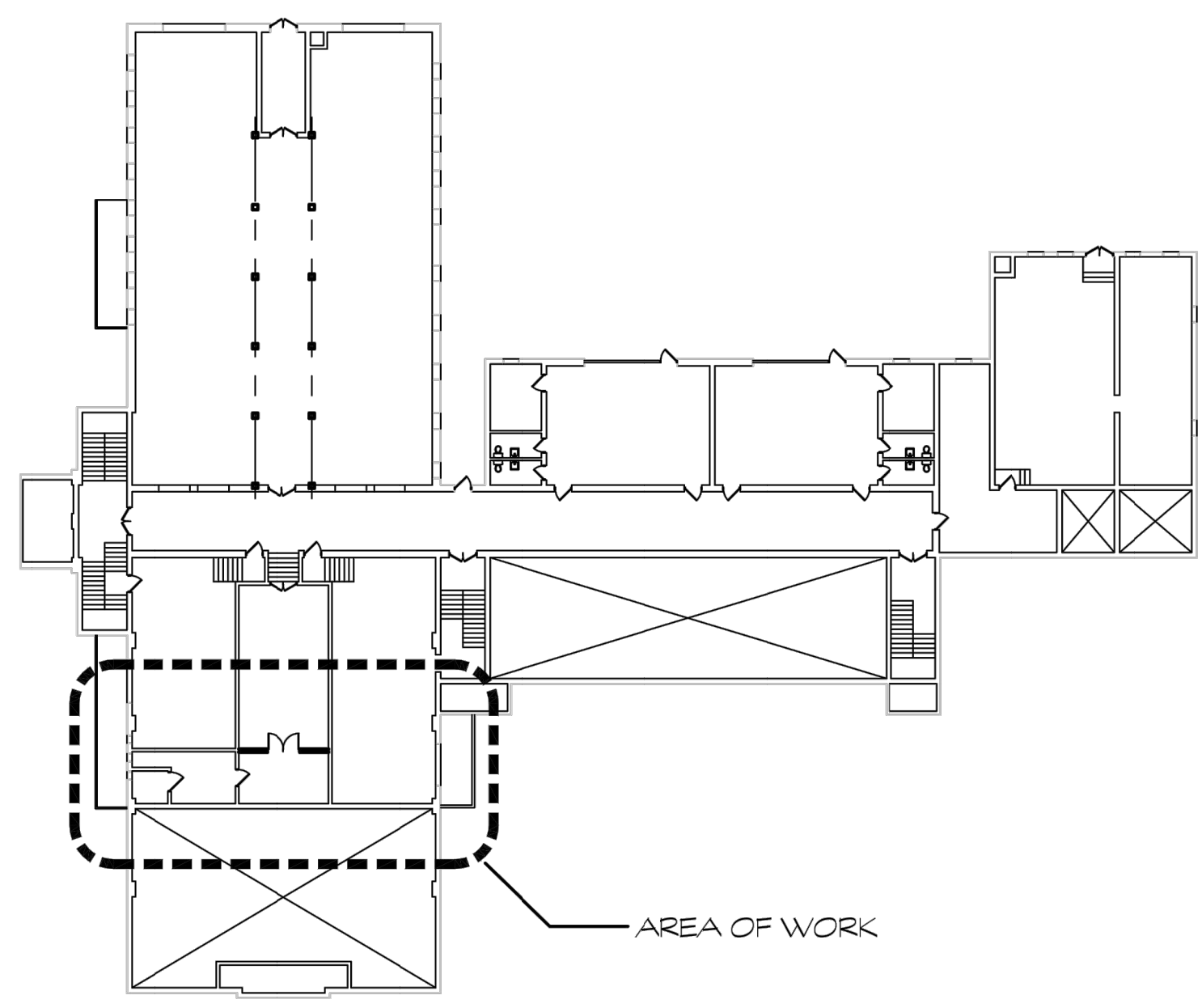
**DOOR HARDWARE**

6 HINGES	F88 199 4.5x4.5	STANLEY 630
2 PANIC RM DEVICE	33/370L	VON DUREN 626
2 CLOSER	1461	LCN POWDER COAT
2 KICKPLATE	8400 B3E 8x34	NES 830
2 DOOR SHOE	35 VDK9	NSP DARK BRONZE
2 THRESHOLD	896 ADA PANIC	NSP ALUM
1 WEATHERSTRIPPING	8050C	NSP CHARCOAL
1 REMOVABLE MULLION	DOUBLE STRIKE PLATES 1409	VON DUREN

- DOOR SPEC**
- PART 2 PRODUCTS**
- 2.01 DOOR MANUFACTURERS
- A. STEELCRAFT.
- B. CECO.
- C. REPUBLIC.
- D. CURRES.
- 2.02 DOORS AND PANELS
- A. INTERIOR DOORS (NON-RATED): 1 3/4 INCHES THICK SD-100 GRADE II MODEL 3. (HEAVY DUTY - SEAMLESS - HOLLOW STEEL CONSTRUCTION)
- 2.03 DOOR CONSTRUCTION
- A. FACE STEEL SHEET IN ACCORDANCE WITH ANSI/S100.
- EXTERIOR: 18 GAUGE FACE GALVANIZED.
  - INTERIOR: 18 GAUGE FACE PRINTED.
- B. CORE
- EXTERIOR POLYSTYRENE FOAM
  - INTERIOR STEEL CHANNEL GRID.
- 2.05 FABRICATION
- A. FABRICATE DOORS WITH HARDWARE REINFORCEMENT WELDED IN PLACE.
- 2.06 FINISH
- A. STEEL SHEET: GALVANIZED TO ASTM A525 G60.
- B. PRIMER: RUST INHIBITIVE PRIMER, BAKED ON IN ACCORDANCE WITH ANSI A224.1 TEST PROCEDURE AND ACCEPTANCE CRITERIA FOR PRIME PAINTED STEEL SURFACES. COLOR: GRAY.
- 2.01 FRAME MANUFACTURERS
- A. STEELCRAFT.
- B. CECO.
- C. REPUBLIC.
- D. CURRES.
- E. FRP, INC. LLC - CORROSION RESISTANT FRAMES
- 2.02 FRAMES
- A. INTERIOR FRAMES: 16 GAUGE THICK MATERIAL, BASE METAL THICKNESS.
- 2.03 ACCESSORIES
- A. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE.
- 2.04 FABRICATION
- A. FABRICATE FRAMES AS WELDED UNIT.
- B. MULLIONS FOR DOUBLE DOORS: REMOVABLE TYPE, OF SAME PROFILES AS JAMBS.
- C. FABRICATE FRAMES WITH HARDWARE REINFORCEMENT PLATES WELDED IN PLACE. PROVIDE MORTAR GUARD BOXES.
- D. REINFORCE FRAMES WIDER THAN 48 INCHES WITH ROLL FORMED STEEL CHANNELS FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.
- E. PREPARE FRAME FOR SILENCERS. PROVIDE THREE SINGLE SILENCERS FOR SINGLE DOORS AND MULLIONS OF DOUBLE DOORS ON STRIKE SIDE. PROVIDE TWO SINGLE SILENCERS ON FRAME HEAD AT DOUBLE DOORS WITHOUT MULLIONS.



WORK INDICATED ON THIS SHEET WILL BE PERFORMED BY THE OWNER - INFORMATION FOR COORDINATION ONLY.



KEYPLAN

**Professional Certification**  
 I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland License Number: 14401 Expiration Date: 4/21/2025

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 CO PROF. ENG. NO. PE0050461  
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 PA PROF. ENG. NO. PE032636E  
 VA PROF. ENG. NO. 023240  
 WV PROF. ENG. NO. 10764

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## GENERAL ELECTRICAL NOTES

- MATERIALS, EQUIPMENT, AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF THE AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM), 2017-NATIONAL-ELECTRIC-CODE (NEC), THE UNDERWRITERS LABORATORY (UL), THE NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION (NEMA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AND OTHER NATIONALLY RECOGNIZED AGENCIES AS WELL AS APPLICABLE LOCAL CODES.
- ANYTHING DRAWN OR SPECIFIED SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY LOCAL, MUNICIPAL OR STATE LAW, REGULATION OR ORDINANCE WHICH GOVERNS THE INSTALLATION OF ANY ELECTRICAL OR RELATED WORK. ITEMS SHALL NOT BE INSTALLED IN CONFLICT WITH THE NEC. RESOLVE ANY AND ALL CONFLICTS BEFORE INSTALLATION AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL ELECTRICAL EQUIPMENT SHALL BE LISTED AND LABELED FOR THE QUALIFIED USE. VERIFY CIRCUIT BREAKER INTERRUPT CAPACITY NEEDED FOR EACH PANEL WITH LOCAL UTILITY. FOR BID PURPOSES, ASSUME 65,000 AIC FOR SERVICE ENTRANCE EQUIPMENT AND 25,000 AIC ELSEWHERE. BALANCE THE POWER EQUALLY (+/- 10%) ON ALL PHASES.
- THE SYSTEMS SHOWN ON DRAWINGS SHALL BE PROVIDED TO SERVE ALL FIXTURES, EQUIPMENT, AND AREAS WITHIN THE CONTRACT LIMIT LINES AS SET FORTH BY THE ARCHITECTURAL SOLUTION FOR THE PROJECT. THE BIDDING AND CONTRACT REQUIREMENTS, GENERAL REQUIREMENTS, AND GENERAL PROVISIONS SHALL APPLY TO THIS SECTION. SYSTEMS SHALL INCLUDE ALL EQUIPMENT, APPURTENANCES, SAFETY DEVICES, AND CONTROLS NECESSARY FOR THE INTENDED SERVICE.
- ALL PERMITS AND FEES REQUIRED FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE ELECTRICAL CONTRACTOR AND INCLUDED IN BID PRICE.
- WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.
- BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.
- ALL EQUIPMENT SHALL BE NEW AND UNUSED. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A HIGHER QUALITY INSTALLATION THAN RECOMMENDED BY THE MANUFACTURER.
- ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL CONTRACTOR-SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERRECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED, AND ALL WORK IN CONNECTION WITH INSTALLING MANUFACTURER'S GUARANTEED EQUIPMENT. THIS CONTRACTOR'S GUARANTEE SHALL EXIST FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL OWNER ACCEPTANCE OF THE WORK AND SHALL APPLY TO DEFECTS IN MATERIAL AND TO DEFECTIVE WORKMANSHIP OF ANY KIND.
- VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
- SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF ELECTRICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING-IN THE BUILDING. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE INSTALLATION OF ELECTRICAL EQUIPMENT AND MATERIALS.
- COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT AND SYSTEMS, AND STRUCTURAL COMPONENTS. COORDINATE ELECTRICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
- WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL ELECTRICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE. INSTALL ELECTRICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- COORDINATE CONNECTION OF ELECTRICAL SYSTEMS WITH EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. PROVIDE REQUIRED CONNECTION FOR EACH SERVICE.
- DO NOT ENDANGER OR DAMAGE INSTALLED WORK THROUGH PROCEDURES AND PROCESSES OF CUTTING AND PATCHING. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF ELECTRICAL INSTALLATIONS.
- BIDDERS SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THEY SHALL EXAMINE ALL SERVICES, EQUIPMENT, SURFACES, ETC., WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON, AND BRING ANY DISCREPANCIES DETERMINED OR OMISSIONS FOUND IN THE DRAWINGS TO THE OWNER'S ATTENTION BEFORE SUBMITTING BID.
- VERIFY MECHANICAL EQUIPMENT SWITCH AND CONNECTION REQUIREMENTS, ITEM BY ITEM, WITH THE MECHANICAL CONTRACTOR, BEFORE WIRING EQUIPMENT. RESOLVE ALL DISCREPANCIES WITHOUT FURTHER COST TO OWNER.
- ALL WIRING SHALL BE IN CONDUIT, 3/4" EMT MINIMUM WITH SET SCREW FITTINGS SUPPORTED AT 10'-0" INTERVALS.
- ALL WIRING SHALL BE THHN/THWN COPPER (NO. 12 AWG MINIMUM) UNLESS OTHERWISE NOTED. WIRE AND CONDUIT SIZES ARE SHOWN ON THE PANEL SCHEDULE.
- ALL LIGHTS SHALL BE SUPPORTED AND SECURED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE SUPPORT SHALL BE FROM A BUILDING SUPPORT MEMBER AND NOT THE FIRE PROTECTION SYSTEM OR OTHER PIPES.
- ALL PANELS, CONTROL DEVICES AND MISCELLANEOUS ELECTRICAL APPARATUS SHALL BE CLEARLY MARKED FOR EASY IDENTIFICATION AND SAFETY. USE BLACK PLASTIC OR BAKELITE NAME PLATE ENGRAVED WITH WHITE LETTERS 1/4" HIGH. PUNCHED TAPE IS NOT ACCEPTABLE.
- PANELS SHALL BE PROVIDED WITH A TYPEWRITTEN DIRECTORY AFFIXED TO INSIDE OF PANEL DOOR WITH A CLEAR PLASTIC SLEEVE.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE FOR CIRCUIT ALLOCATION ONLY. DO NOT SCALE DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS MARKED IN RED INK.

## 1. SCOPE OF WORK:

- CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS TO THE EXTENT POSSIBLE, CONCEALED CONDITIONS EXCLUDED. FIELD VERIFY ALL ELECTRICAL EQUIPMENT.
- FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
  - MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UNDERWRITERS LABORATORIES LIST OF APPROVED ITEMS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (2015) AND THE UNIFORM CONSTRUCTION CODE (LATEST EDITION).
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION PROCEDURES.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM, WHETHER SPECIFIED OR IMPLIED.

## 2. PERMITS:

- SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES.

## 3. SHOP DRAWINGS:

- SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT FOR APPROVAL. SUBMITTALS SHALL BE IN ACCORDANCE WITH GENERAL CONDITIONS AND SHALL BEAR STAMP OF THE GENERAL CONTRACTOR SHOWING THAT HE HAS REVIEWED AND APPROVED THEM. LACK OF SUCH CONTRACTOR'S APPROVAL WILL BE CAUSE FOR REJECTION WITHOUT REVIEW BY THE ARCHITECT OR ENGINEER.
- SUBMIT ELECTRONIC COPIES FOR APPROVAL.

## 4. CONDUITS:

- THE TYPE OF CONDUIT SHALL BE AS FOLLOWS FOR ALL FEEDERS AND DISTRIBUTION CIRCUITS, UNLESS OTHERWISE SPECIFIED.
 

APPLICATION	TYPE OF CONDUIT
BURIED IN CONCRETE	PVC - SCHED. 40
IN MASONRY	EMT OR IMC
EXPOSED ABOVE GRADE	RIGID STEEL - SCH. 40
UNDERGROUND	PVC - SCHED. 40
SUPPLY TO DISTRIBUTION PANELS	EMT
INTERIOR BRANCH CIRCUITS (CONCEALED)	MC
INTERIOR BRANCH CIRCUITS (EXPOSED)	EMT

## 5. WIRE:

- WIRE SHALL BE SINGLE CONDUCTOR COPPER WITH 600 VOLT INSULATION. #10 AND SMALLER SHALL BE SOLID. #8 AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE #12 EXCEPT #14 MAY BE USED FOR CONTROL. ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. ALL WIRING OF ANY TYPE SHALL BE IN CONDUIT.
  - GENERAL WIRING SHALL BE THW OR THHN (ALUMINUM CONDUCTORS ARE NOT PERMITTED).
- WIRE CONNECTORS SHALL BE EQUAL BY SCOTCHLOCK FOR #6 AND SMALLER AND T & B "LOCK-LITE" FOR #8 AND LARGER.

## 6. LIGHTING:

- LIGHTING FIXTURES AND LAMPS (UNLESS NOTED OTHERWISE) SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL ALL FIXTURES AND LAMPS.

## 7. WIRE DEVICES:

- RECEPTACLES SHALL BE 20 AMP, 3-WIRE GROUNDING TYPE EQUAL TO HUBBELL 5362 (MOUNTING @ 18"A.F.F.).
- SWITCHES SHALL BE STANDARD GRADE RATED 20 AMP AT 120 VOLT (MOUNTING @ 48"A.F.F.).
- SPECIAL DEVICES SHALL BE A SPECIFICATION GRADE.

## ELECTRICAL NOTES:

## 8. SAFETY SWITCHES:

- PROVIDE SAFETY AND DISCONNECT SWITCHES, FUSED OR NONFUSED, AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE D, GOULD, ITE OR EQUAL.
- MANUAL MOTOR STARTERS WITH OVERLOAD PROTECTION MAY BE USED FOR FRACTIONAL HORSEPOWER MOTORS. SINGLE PHASE STARTERS SHALL BE SQUARE D OR EQUAL. THREE PHASE STARTERS SHALL BE PROVIDED WITH OVERLOAD DEVICES IN EACH PHASE. MAGNETIC MOTOR STARTERS SHALL BE USED FOR INTEGRAL HORSEPOWER MOTORS, COMBINATION STARTERS, WHEN USED, SHALL CONTAIN FUSIBLE SWITCHES.

## 9. BOXES:

- OUTLET BOXES AND COVERS SHALL BE GALVANIZED, ONE-PIECE PRESSED STEEL KNOCKOUT.
- JUNCTION, PULL BOXES AND COVERS SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE. SERVICES:

## 10. SERVICES:

- PROVIDE ELECTRICAL SERVICE AS SHOWN ON THE DRAWINGS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OWNER OR POWER COMPANY SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CLOSELY CO-ORDINATE ENTIRE INSTALLATION WITH OWNER AND POWER COMPANY AS REQUIRED.

## 11. INSTALLATION:

- ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO STEEL, CONCRETE OR WOOD, BUT NOT TO PIPING. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEAST 3 INCHES FROM WATER LINES WHEREVER THEY RUN ALONG SIDE OR ACROSS SUCH LINES. CONDUCTORS SHALL BE IN CONDUIT, DUCTS OR APPROVED RACEWAYS.
- THE CONTRACTOR SHALL DO ALL CUTTING, CHASING OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF OWNER. SLEEVES SHALL EXTEND AT LEAST TWO (2") INCHES ABOVE FINISHED FLOOR AND ALL SLEEVES, OPENINGS, ETC., THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED AFTER CONDUIT INSTALLATION TO REMAIN THEIR FIRE RATING.
- THE FOLLOWING EQUIPMENT SHALL BE IDENTIFIED WITH ENGRAVED BAKELITE NAMEPLATES AS TO NAME AND/OR FUNCTION; DISTRIBUTION PANEL, LIGHTING PANELS, MOTOR STARTERS, TIME CLOCKS, AND DISCONNECT SWITCHES.
- THE LOCATION OF OUTLETS AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE AND THE ARCHITECT SHALL HAVE THE RIGHT TO RELOCATE ANY OUTLETS OR FIXTURES BEFORE THEY ARE INSTALLED WITHOUT ADDITIONAL COST.
- ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES.

## 12. GUARANTEE:

- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
- FOR THE SAME PERIOD, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

## 13. FINALLY:

- IT IS THE INTENT THAT THE FOREGOING WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE FURNISHED.

## ELECTRICAL SYSTEM GROUNDING NOTES

ONE OF THE MOST IMPORTANT PARTS IN THE INSTALLATION OF ELECTRICAL SYSTEMS IS GROUNDING. PROPER GROUNDING WILL PROVIDE PROTECTION OF PERSONNEL, EQUIPMENT, AND CIRCUITS BY ELIMINATING THE POSSIBILITY OF DANGEROUS OR EXCESSIVE VOLTAGES.

- GROUNDING SYSTEM MUST BE IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE OR LOCAL ELECTRICAL CODES.
- THE GROUND PATH MUST BE PERMANENT AND CONTINUOUS, AND THE RESISTANCE OF THE GROUND PATHS MUST NOT EXCEED TWO (2) OHMS.
- ALL GROUNDING ELECTRODES OF DIFFERENT SYSTEMS MUST BE BONDED TOGETHER.
- METALLIC CONDUIT USED TO ENCLOSE A GROUNDING CONDUCTOR MUST BE BONDED TO THE GROUNDING CONDUCTOR AT BOTH ENDS TO REDUCE IMPEDANCE.
- ALL ISOLATED GROUNDING TYPE RECEPTACLES MUST BE INDIVIDUALLY CONNECTED TO GROUND (NOT SERIALY) TO ASSURE THE CONTINUITY OF THE GROUND PATH.
- RECEPTACLE BOXES MUST BE GROUND BY RACEWAY BACK TO THE GROUNDING PANEL.
- IF FLEXIBLE OR PVC CONDUIT IS USED, OR WHERE REQUIRED BY LOCAL CODE, THEN A SEPARATE MECHANICAL GROUND WIRE MUST CONNECT THE OUTLET BOX TO THE PANEL MECHANICAL GROUND BUS.
- ISOLATED GROUNDING SYSTEM FOR THE ISO GRD PANEL MUST BE BONDED TO THE MAIN DISTRIBUTION PANELBOARD GROUNDING SYSTEM AND IN TURN BONDED TO THE SYSTEM'S NEUTRAL.

## REQUIRED GROUNDING TESTS

AFTER INSTALLATION OF THE ISO GRD PANEL, TESTS MUST BE PERFORMED TO CHECK THE FOLLOWING:

- EXCESSIVE GROUND POTENTIAL DIFFERENCES BETWEEN DIFFERENT AREAS, DO NOT EXIST.
- GROUNDING SYSTEM INTEGRITY.

TESTS TO BE PERFORMED ARE:

- GROUND LOOP CONTINUITY
- GROUND LOOP RESISTANCE
- GROUND POTENTIAL DIFFERENCE MEASUREMENT

## FIRE STOPPING NOTES

ALL PIPES, DUCTS, CONDUITS AND CABLES PASSING THROUGH THE FOLLOWING WALLS/CEILINGS SHALL BE FIRE STOPPED WITH 3M FIRE BARRIER CAULK CP 25. INSTALL PER MANUFACTURE'S INSTRUCTIONS AND TO SATISFY THE FOLLOWING FIRE RATING REQUIREMENTS:

ELEVATOR MACHINE ROOM	- 2 HOUR FIRE RATING FOR WALLS AND CEILING
MECHANICAL ROOM	- 1 HOUR FIRE RATING FOR WALLS
COMMON WALL BETWEEN NEW AND OLD CONSTRUCTION	- 1 HOUR FIRE RATING FOR WALLS

'EQUIPMENT NO.' ← INSERT ACTUAL EQUIPMENT NO.  
'FED FROM' ← INSERT SOURCE PANEL NO.  
'PANEL NO.' ← INSERT SOURCE PANEL NO.

## NAME PLATES

## PANEL/GEAR NOTES

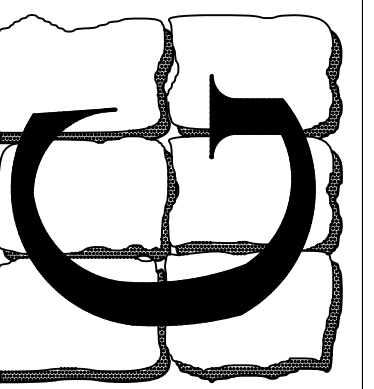
- MAIN PANEL/GEAR SHALL BE FACTORY ASSEMBLED, METAL ENCLOSED BRACED FOR THE REQUIRED AVAILABLE FAULT CURRENT, AND WITH ALL EQUIPMENT, BUSSING CONNECTIONS, CURRENT LIMITING FUSES, CIRCUIT BREAKERS, AND ALL SIMILAR COMPONENTS REQUIRED FOR PROPER OPERATION. THE SWITCHBOARD SHALL BE SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST NEMA PB-2 AND UL-891 STANDARDS.
- MAIN PROTECTIVE DEVICE SHALL BE EITHER A BOLTED PRESSURE SWITCH WITH CURRENT LIMITING CLASS L FUSES OR AN INSULATED CASE POWER CIRCUIT BREAKER. THE MAIN PROTECTIVE DEVICE SHALL INCLUDE INTEGRAL GROUND FAULT PROTECTION IN ACCORDANCE WITH NEC 230-95.
- BRANCH CIRCUIT PROTECTIVE DEVICE SHALL BE MOLDED CASE CIRCUIT BREAKERS (WITH CURRENT LIMITING FUSES, IF REQUIRED).
- FUSES, AS REQUIRED, SHALL BE CURRENT LIMITING AND SHALL BE MANUFACTURED BY BUSSMAN, GOULD-SHAWMUT, OR LITTELFUSE.
- NAMEPLATES: ALL BRANCH CIRCUIT AND MAIN PROTECTIVE DEVICES SHALL HAVE AN ENGRAVED LAMACIOD (BLACK LETTERING ON WHITE BACKGROUND).
- FOR DIMENSIONAL AND WIRING DETAILS OF C.T. COMPARTMENT AND METERING EQUIPMENT AND CONNECTION OF SYSTEM GROUNDING CONDUCTOR SEE POWER COMPANY HAVING JURISDICTION STANDARD DRAWINGS AND SPECIFICATIONS. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. GROUND ROD ELECTRODES SHALL BE 3/4", 10' LONG COPPER WITH STEEL CORE.

## SITE ELECTRICAL NOTES

- ELECTRICAL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ANY OTHER STATE OR LOCAL CODE HAVING JURISDICTION.
- CABLE RUNS ARE DIAGRAMMATICALLY SHOWN ON THE DRAWING. FINAL ROUTING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR AND APPROVED BY THE OWNER.
- ALL LIGHTING POLES, BOLLARDS AND SIGNS SHALL BE GROUND AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
- UNDERGROUND CABLE SHALL BE IN SCHEDULE 40 PVC CONDUIT.
- CABLE TRENCH SHALL BE 36" DEEP WITH 4" SAND BEDDING AND 4" SAND COVER INSTALLED OVER CABLE BEFORE BACKFILLING. BACK FILL SHALL OF ROCKS/DEBRIS.
- CABLE RUNS SHALL BE MARKED WITH RED PLASTIC MARKING TAPE INSTALLED IN THE TRENCH ONE FOOT BELOW SURFACE.
- THE OUTDOOR SIGN POWER SUPPLY CIRCUIT HAS BEEN PRELIMINARY RATED 120/277VAC-20A. ELECTRICAL CONTRACTOR WILL OBTAIN AND COORDINATE THE ELECTRICAL DATA OF THE INSTALLATION OF RELATED CONDUIT AND CONDUCTORS. THE OUTDOOR SIGN INFORMATION WAS NOT AVAILABLE AT THE DESIGN STAGE.

21-022

**L.S. GRIM, INC.**  
Consulting Engineers



MARTIN LUTHER KING JR.  
COMMUNITY CENTER  
181 WEST NORTH AVENUE  
HAGERSTOWN, MD 21740

ELECTRICAL COVER SHEET

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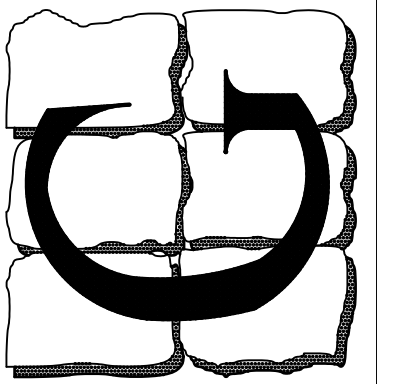
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WV. PROF. ENG. NO. 10764

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DRAWN BY: TMH

**E-0.0**  
3 OF 9 SHEETS  
DATE: APR 10, 2023



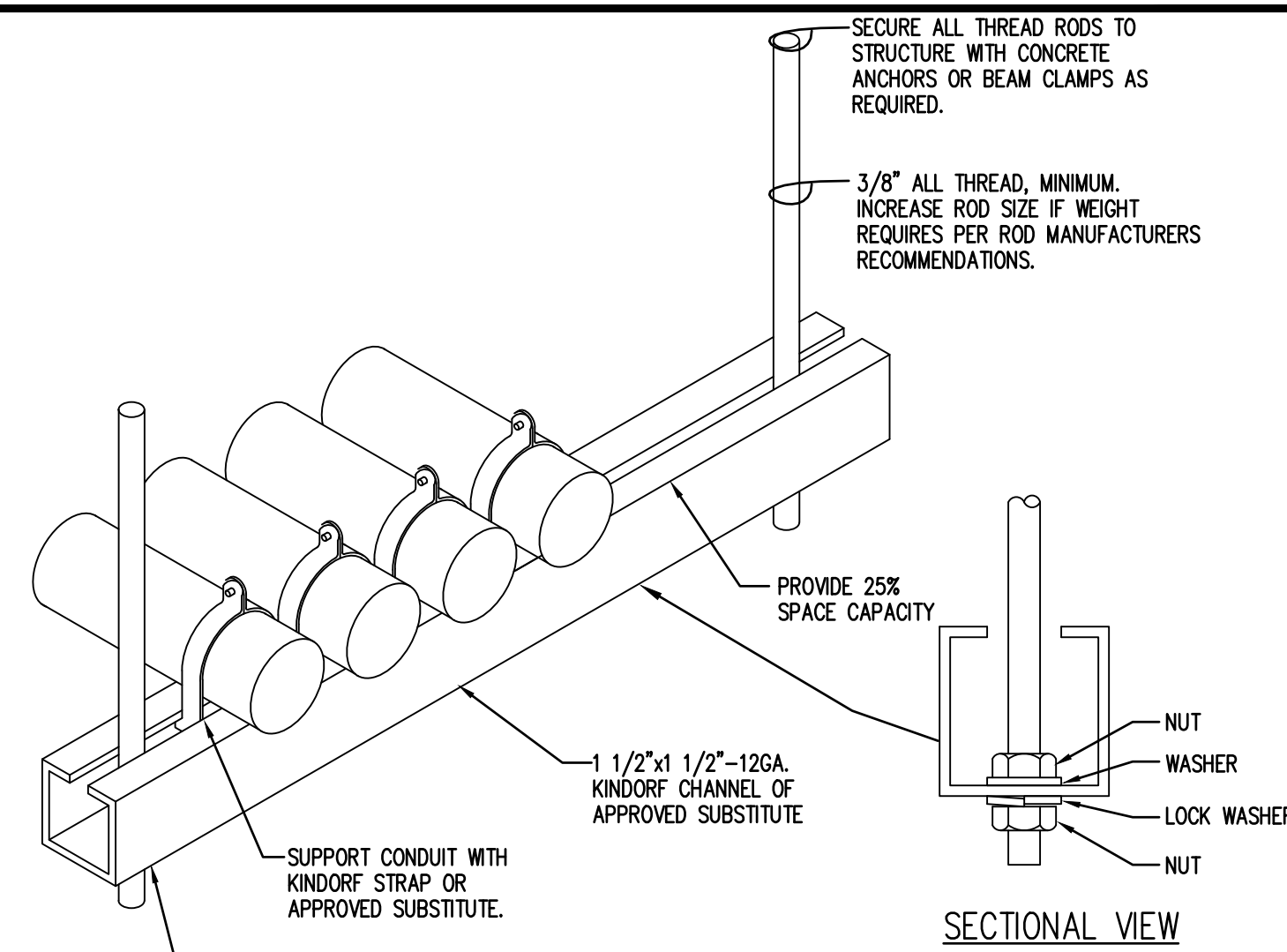
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**ELECTRICAL POWER SYMBOLS**

	POWER WIRING LEG
	HOME RUN TO PANEL/CKT, NUMBER OF TICK MARKS = NUMBER OF CONDUCTORS EXCLUDING GROUND, PROVIDE 'GREEN' GROUND WIRE FOR ALL CIRCUITS, NUMBER OF ARROW HEADS = NUMBER OF HOME RUNS
	DUPLEX GROUNDED RECEPTACLE
	DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER
	QUAD DUPLEX GROUNDED RECEPTACLE
	SPECIAL PURPOSE OUTLET, CONFIRM OUTLET CONFIGURATION (TYPE) WITH EQUIPMENT TO BE SERVED PRIOR TO INSTALLATION
	DISCONNECT SWITCH
	JUNCTION BOX
	EXHAUST FAN
	MOTOR OR MISCELLANEOUS LOAD
	TELEPHONE/DATA/TV BOX
	CEILING MOUNTED MOTION SENSOR
	WALL MOUNTED MOTION SENSOR
	RADIO POWER SAVER WIRELESS DAYLIGHT SENSOR
	LUTRON POWPAK DIMMING MODULE WITH 0-10V DIMMING
	SINGLE POLE SWITCH
	DOUBLE SWITCH
	THREE WAY SWITCH
	FOUR WAY SWITCH
	DIMMER SWITCH
	KEYED SWITCH
	JAMB SWITCH
	TIMER SWITCH
	MOTION SWITCH
	DIMMING MOTION SWITCH
	TOUCHLESS WAVE LIGHT SWITCH
	LED EMERGENCY EXIT LIGHT
	LED COMBINATION EXIT/EMERGENCY LIGHT
	LED EMERGENCY LIGHT

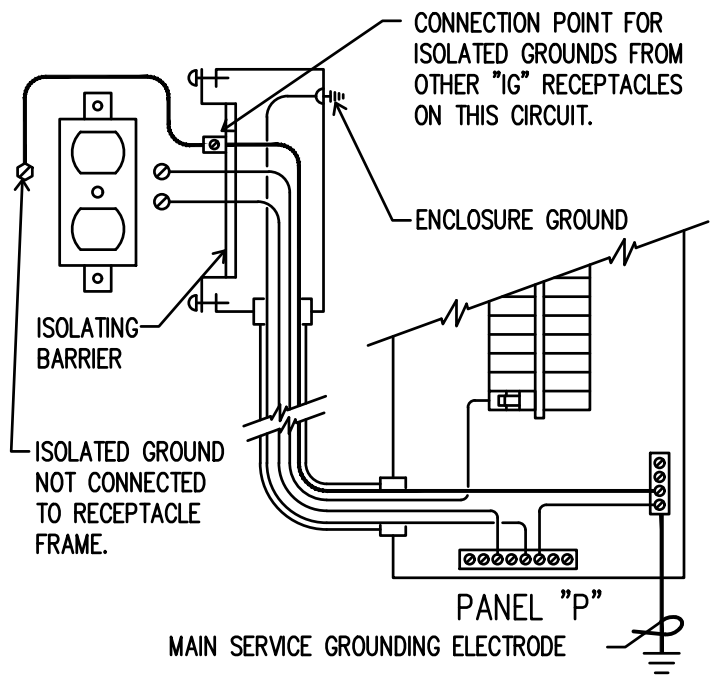
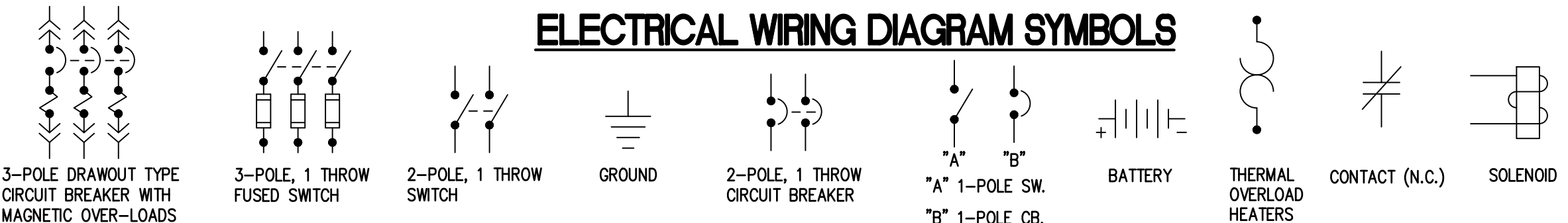


**#6 TRAPEZE SUPPORT DETAIL**  
 NOT TO SCALE

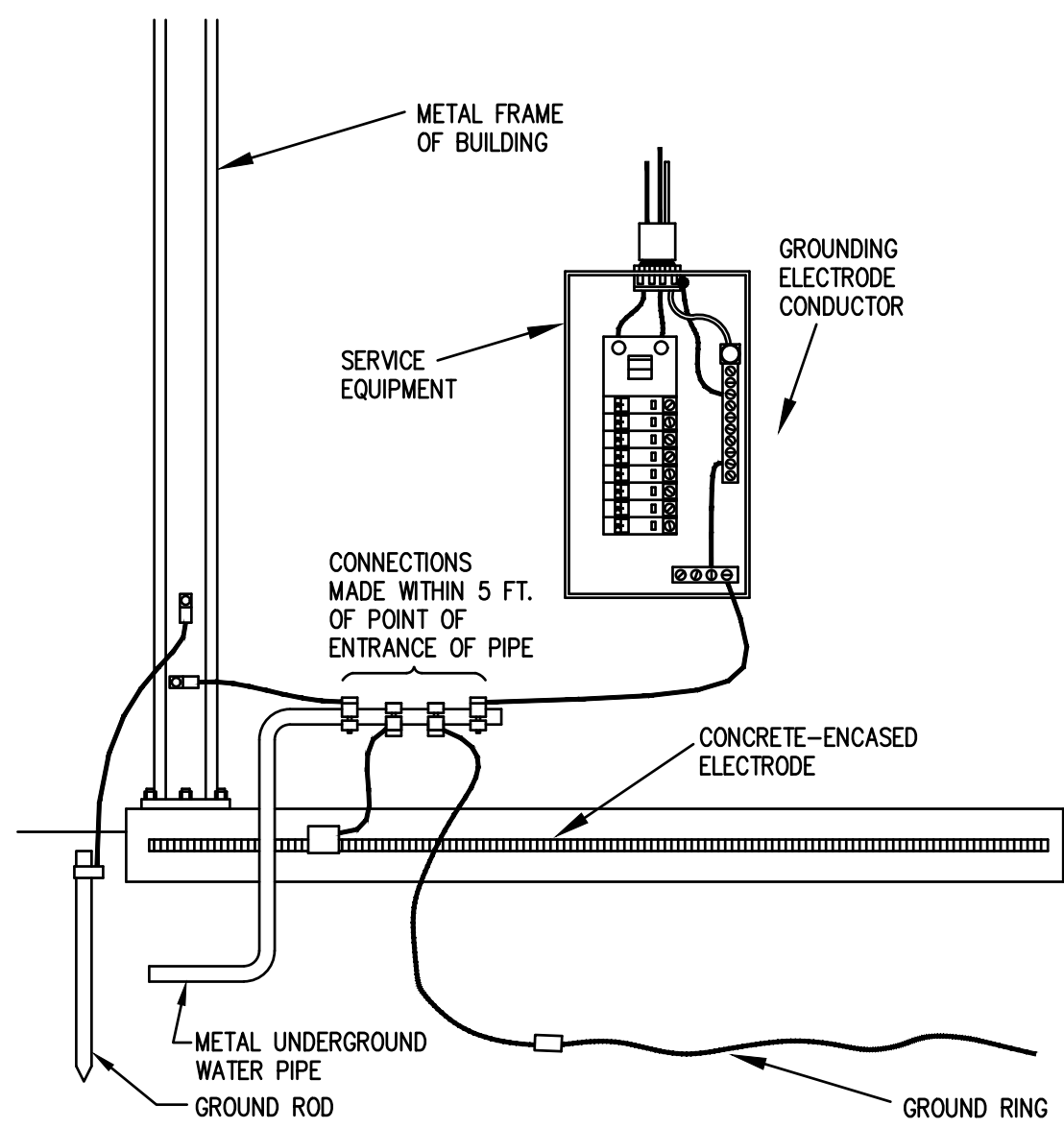
**ELECTRICAL ABBREVIATIONS**

A	AMPERES	ESB	ENERGY SAVING BALLAST	MCA	MINIMUM CIRCUIT AMPACITY	SWBD	SWITCHBOARD
AC	ABOVE COUNTER OR ALTERNATING CURRENT	EF	EXHAUST FAN	MCC	MOTOR CONTROL CENTER	SWGR	SWITCHGEAR
AFF	ABOVE FINISHED FLOOR	EX	EXISTING	MH	METAL HALIDE	2S2W	TWO SPEED, TWO WINDINGS
AFG	ABOVE FINISHED GRADE	FAAR	FIRE ALARM ANNUNCIATOR PANEL	MIN	MINIMUM	TC	TIME CLOCK
AHU	AIR HANDLING UNIT	FACP	FIRE ALARM CONTROL PANEL	MLO	MAIN LUGS ONLY	TBD	TO BE DETERMINED
AL	ALUMINUM	FP	FIRE PUMP	MOV	MOTORIZED VALVE	TBI	TO BE INSTALLED
AIC	AMPERES INTERRUPTING CAPACITY	FL	FLOOR	MTD	MOUNTED	TBR	TO BE REMOVED
ATS	AUTOMATIC TRANSFER SWITCH	FLUOR	FLUORESCENT	NEC	NATIONAL ELECTRICAL CODE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
BKR	BREAKER	FVNR	FULL VOLTAGE NON-REVERSING	NIC	NOT IN CONTRACT	TYP	TYPICAL
BLDG	BUILDING	FVR	FULL VOLTAGE REVERSING	NL	NIGHT LIGHT	UNO	UNLESS NOTED OTHERWISE
BAS	BUILDING AUTOMATION SYSTEM	FEW	FURNISHED WITH EQUIPMENT	NEUT	NEUTRAL	UPS	UNINTERRUPTABLE POWER SUPPLY
BMS	BUILDING MANAGEMENT SYSTEM	GFI	GROUND FAULT CIRCUIT INTERRUPTER	NTS	NOT TO SCALE	UH	UTILITY HEATER
CLG	CEILING	GRND	GROUND	PVC	POLYVINYL CHLORIDE CONDUIT	VAV	VARIABLE AIR VOLUME
CK	CIRCUIT	HOA	HAND-OFF-AUTOMATIC	PB	PULL BOX	V	VOLTS
CB	CIRCUIT BREAKER	HOR	HAND-OFF-REMOTE	PC	PHOTOELECTRICAL CONTROL	VFD	VARIABLE FREQUENCY DRIVE
CP	CIRCULATOR PUMP	HP	HORSEPOWER	P	POLE	VF	VENTILATION FAN
CCTV	CLOSED CIRCUIT TELEVISION	HPF	HIGH POWER FACTOR	PLC	PROGRAMMABLE LOGIC CONTROLLER	WH	WATER HEATER
C	CONDUIT	HPS	HIGH PRESSURE SODIUM	PNL	PANEL	W	WIRE OR WATTS
CU	COPPER OR CONDENSING UNIT	IG	ISOLATED GROUND	PH	PHASE	WP	WEATHERPROOF
DIA	DIAMETER	INST	INSTRUMENTATION	QTY	QUANTITY		
DS	DISCONNECT SWITCH OR DUCTLESS SPLIT UNIT	KVA	KILO VOLT-AMPERES	REC	RECEPTACLES		
DPDT	DOUBLE POLE DOUBLE THROW	KW	KILOWATT	RGS	RIGID GALVANIZED CONDUIT		
ELEC	ELECTRICAL	LAN	LOCAL AREA NETWORK	RTU	ROOF TOP UNIT		
EC	ELECTRICAL CONTRACTOR	LTG	LIGHTING	SH	SHIELDED		
EH	ELECTRIC HEATER	LTS	LIGHTS	ST	SHUNT TRIP		
EMT	ELECTRICAL METALLIC TUBING	MAX	MAXIMUM	SF	SQUARE FEET		
EP	EXPLOSION PROOF	MOP	MAXIMUM OVERCURRENT PROTECTION	SS	STAINLESS STEEL		
ES	EMERGENCY STOP	MCB	MAIN CIRCUIT BREAKER	SW	SWITCH		

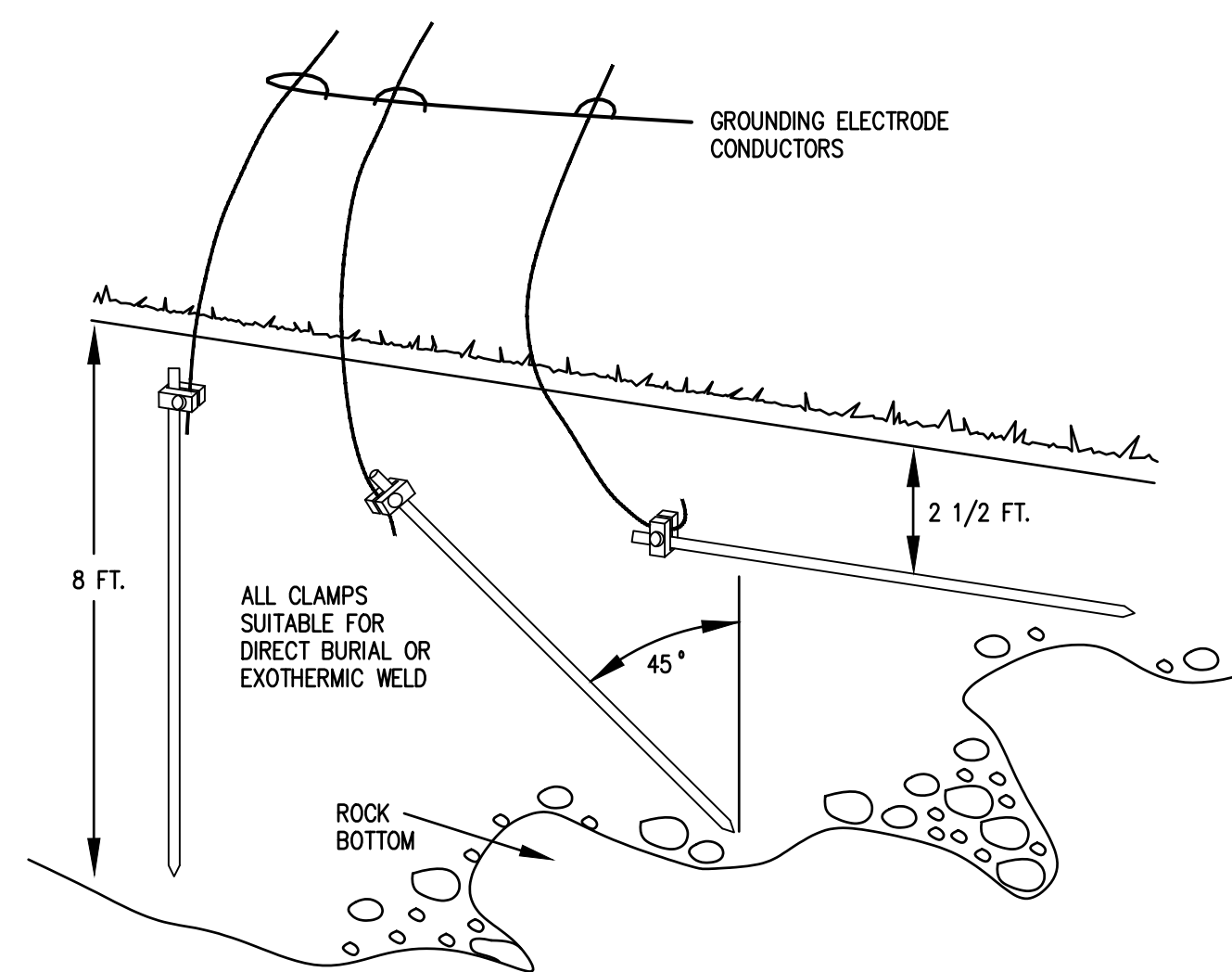
**ELECTRICAL WIRING DIAGRAM SYMBOLS**



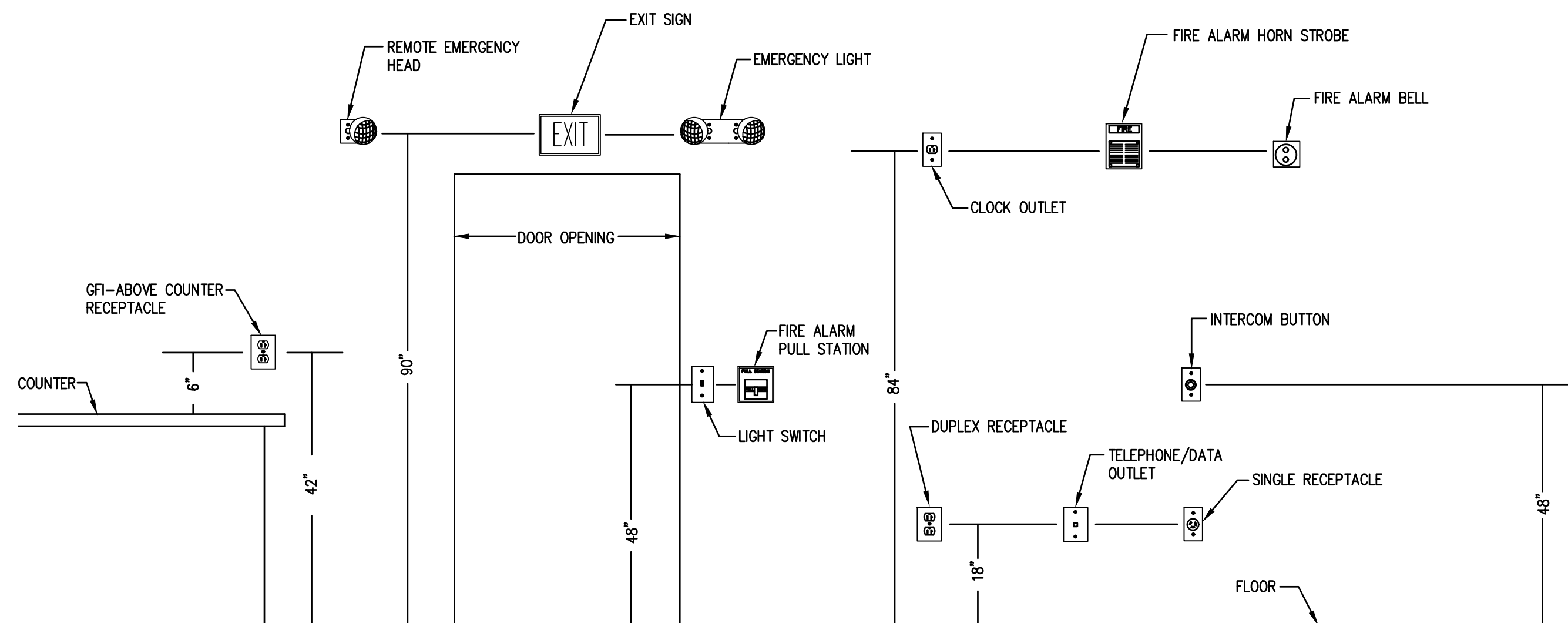
**#1 ISOLATED GROUND RECEPTACLE PANEL**  
 NOT TO SCALE



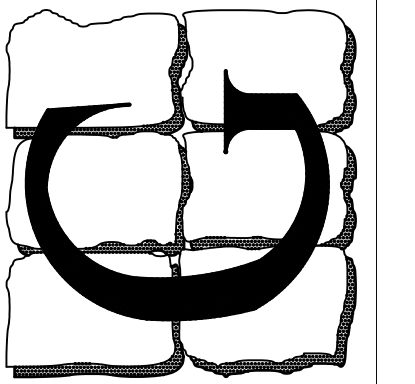
**#4 GROUNDING ELECTRODE SYSTEM DETAIL**  
 NOT TO SCALE



**#5 INSTALLATION DETAIL FOR ROD + PIPE ELECTRODES**  
 NOT TO SCALE



**#7 MOUNTING HEIGHT DETAIL**  
 NOT TO SCALE

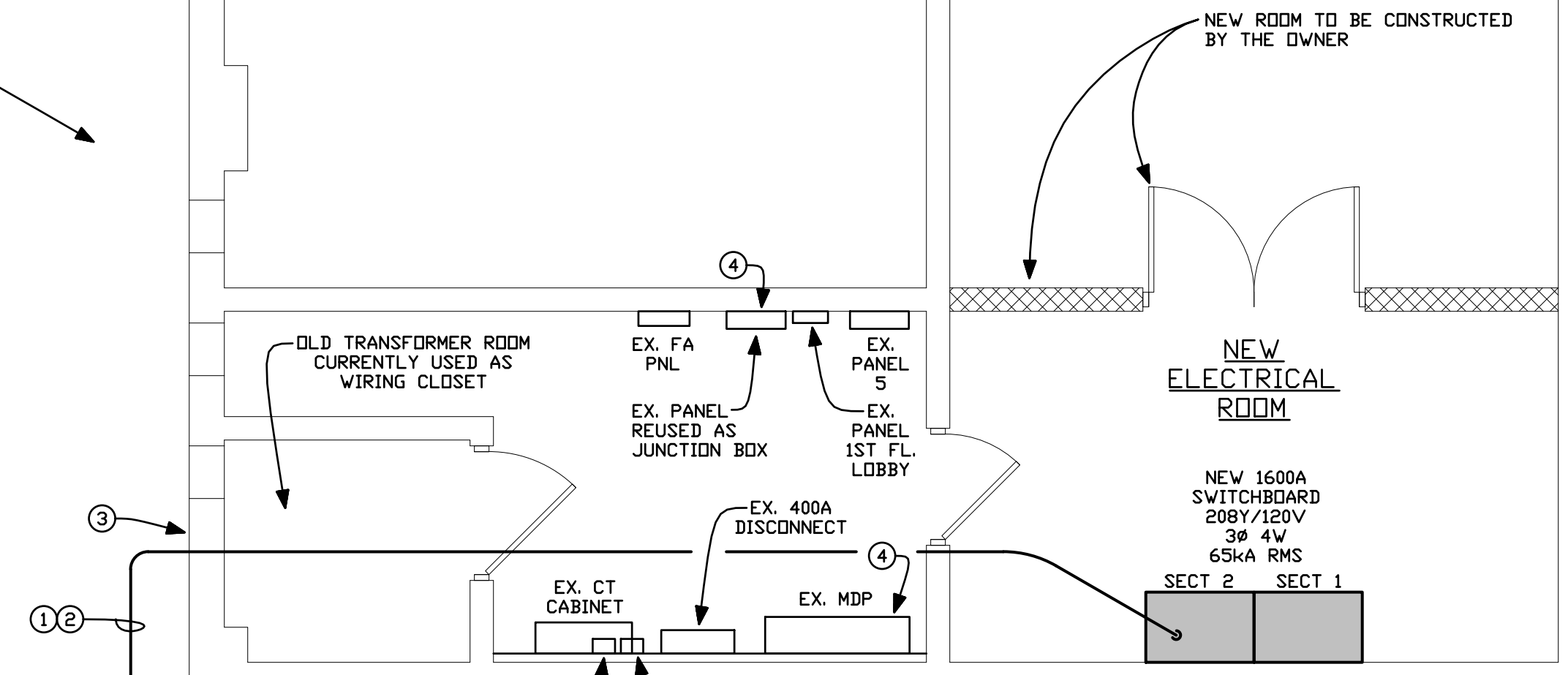


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 VA. PROF. ENG. NO. 022240  
 WV. PROF. ENG. NO. 10764

EXISTING AREA WELL WITH HAND RAIL

NEW ROOM TO BE CONSTRUCTED BY THE OWNER



**DRAWING KEYED NOTES:**

- ① EXPOSED CONDUIT IN AREA WELL AND INTO CONNECTION AT NEW MAIN DISTRIBUTION PANEL SHALL BE RIGID STEEL.
- ② CONTRACTOR SHALL PAINT EXPOSED CONDUIT.
- ③ OWNER WILL REMOVE EXISTING LOUVER FROM WALL AND INFILL OPENING WITH COMMON BRICK MASONRY WALL PATCH.
- ④ EXISTING PANEL TO BE USED AS JUNCTION BOX, FABRICATE AND INSTALL NEW BLANK COVER.

**GENERAL DRAWING NOTES:**

- 1) CONTRACTOR SHALL REWORK EXISTING ELECTRICAL FEEDERS TO BE FED FROM NEW MAIN DISTRIBUTION PANEL.

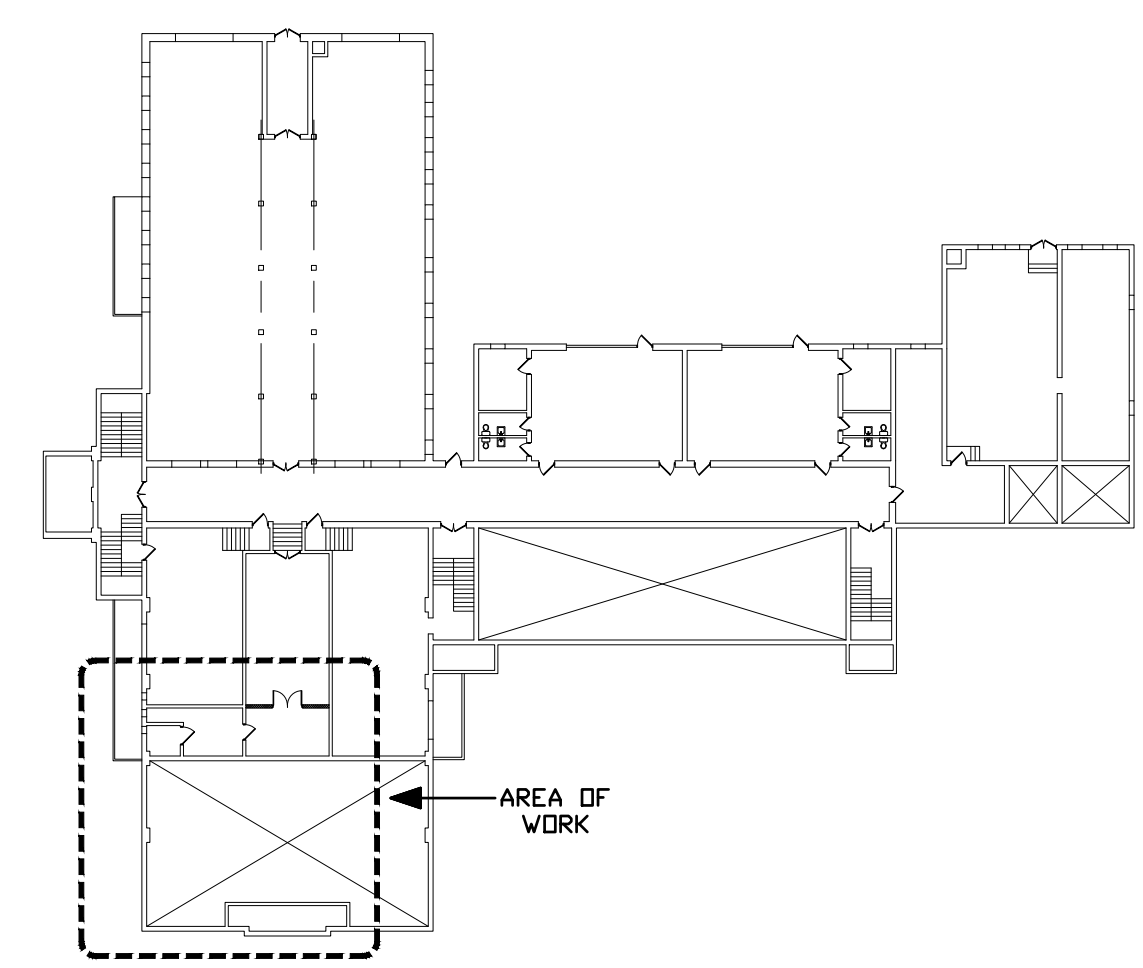
EXACT ROUTING OF CONDUITS TO BE DETERMINED IN FIELD

OUT TO POWER COMPANY METERED TRANSFORMER

SEE SHEET E-13 SITE PLAN FOR ADDITIONAL INFORMATION ON SITE ELECTRICAL

APPROXIMATE LOCATION OF EXISTING DOWNSPOUT

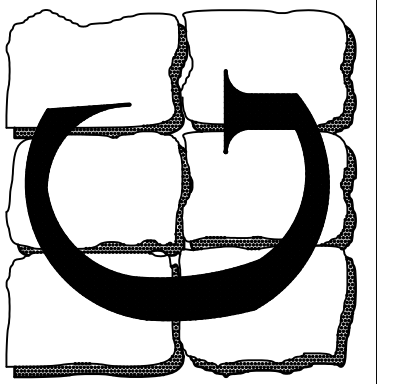
UNEXCAVATED AREA UNDER A PORTION OF THE GYM ABOVE



**KEY PLAN**  
 SCALE: 1"=40'-0"

**ELECTRICAL POWER PART PLAN**  
 SCALE: 1/4"=1'-0"

REV.	DATE	COMMENT
	4-10-2023	REVISED BID SET

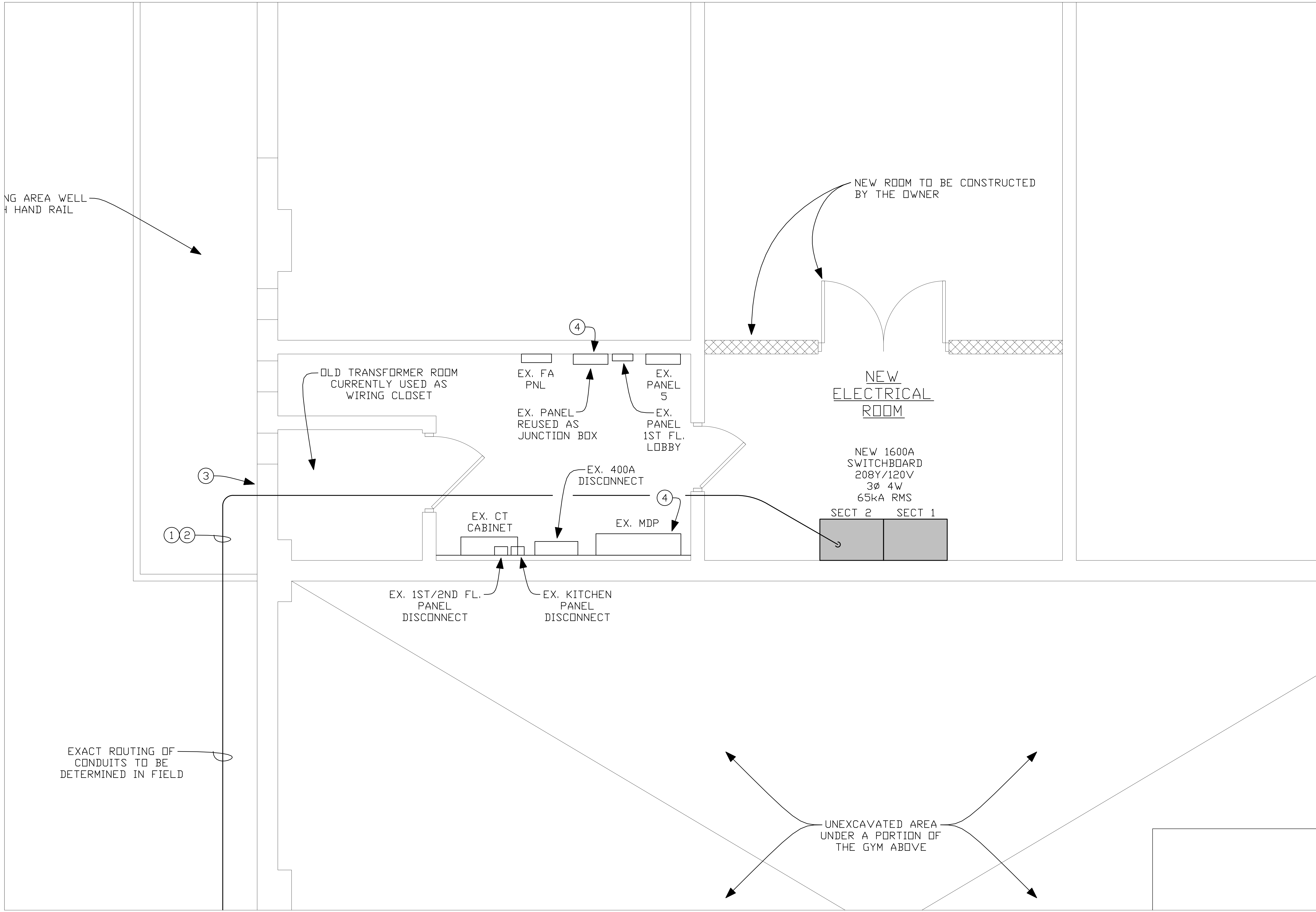


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NG AREA WELL  
 H HAND RAIL

OLD TRANSFORMER ROOM  
 CURRENTLY USED AS  
 WIRING CLOSET

NEW ROOM TO BE CONSTRUCTED  
 BY THE OWNER

**NEW  
 ELECTRICAL  
 ROOM**

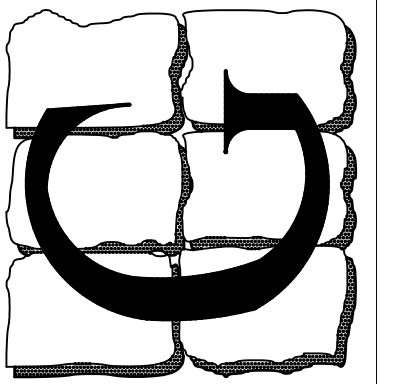
NEW 1600A  
 SWITCHBOARD  
 208Y/120V  
 3Ø 4W  
 65kA RMS  
 SECT 2 SECT 1

EX. 1ST/2ND FL.  
 PANEL  
 DISCONNECT

EX. KITCHEN  
 PANEL  
 DISCONNECT

UNEXCAVATED AREA  
 UNDER A PORTION OF  
 THE GYM ABOVE

EXACT ROUTING OF  
 CONDUITS TO BE  
 DETERMINED IN FIELD

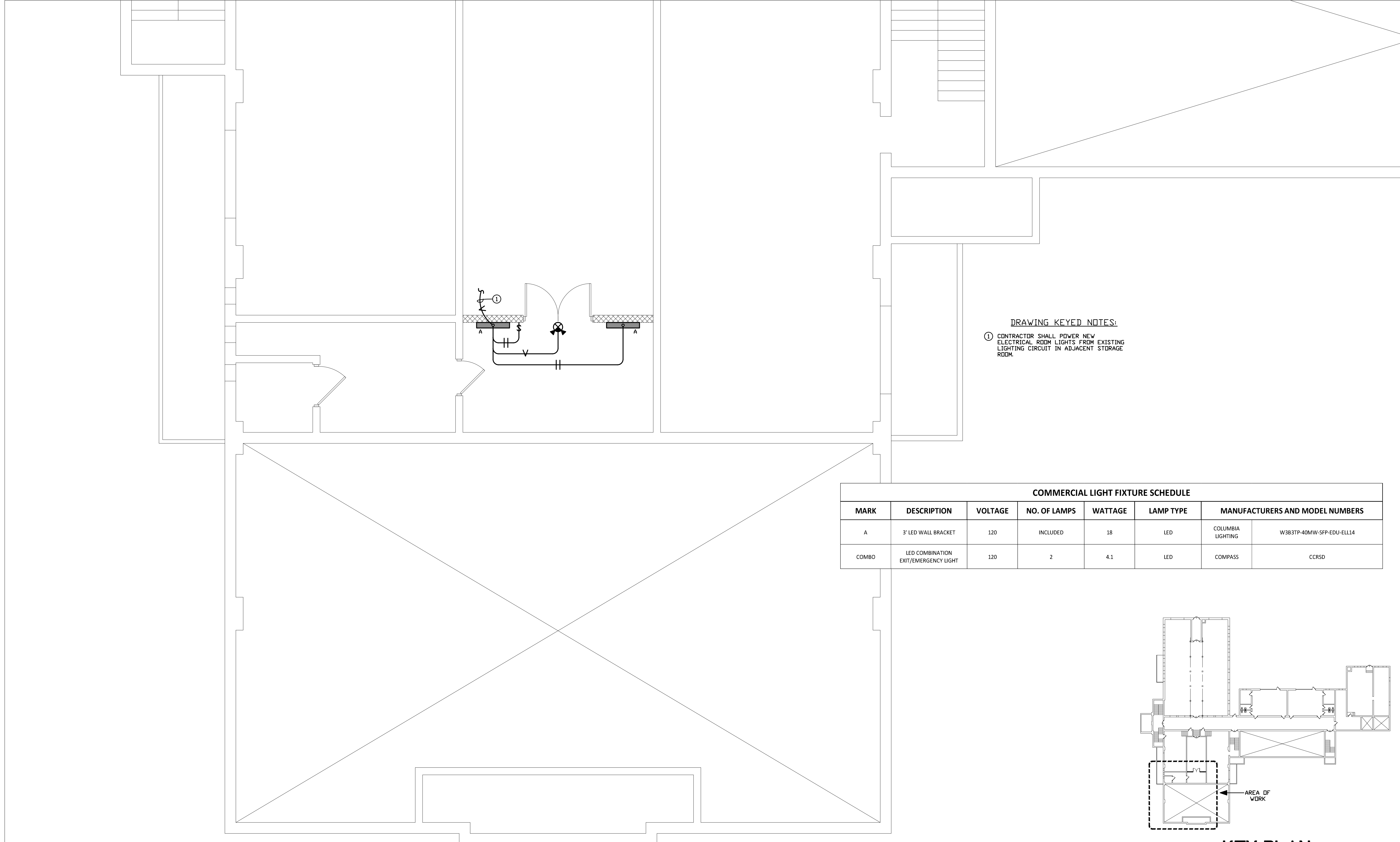


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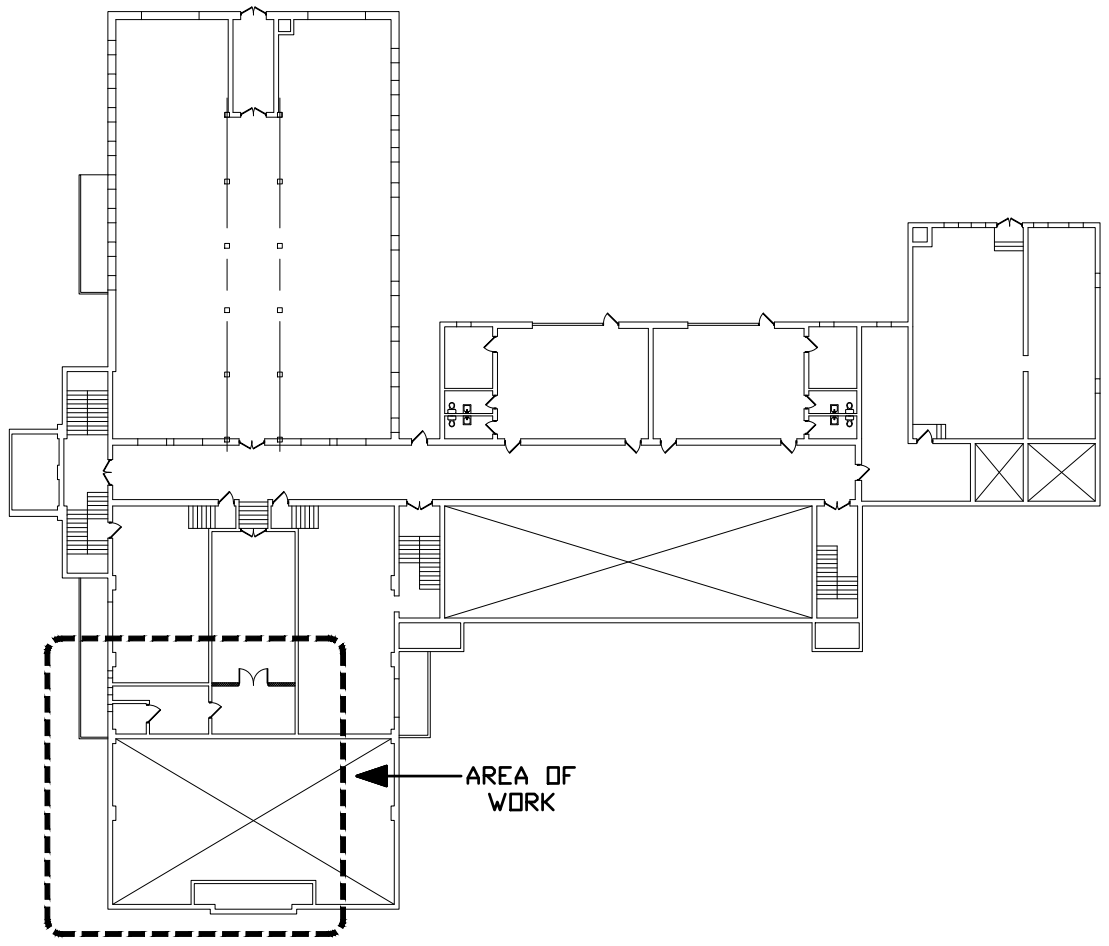
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	4-10-2023	REVISED BID SET

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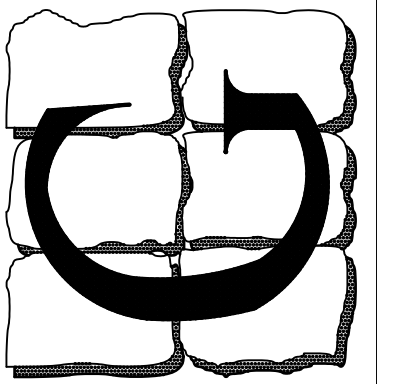
**DRAWING KEYED NOTES:**  
 ① CONTRACTOR SHALL POWER NEW ELECTRICAL ROOM LIGHTS FROM EXISTING LIGHTING CIRCUIT IN ADJACENT STORAGE ROOM.

COMMERCIAL LIGHT FIXTURE SCHEDULE							
MARK	DESCRIPTION	VOLTAGE	NO. OF LAMPS	WATTAGE	LAMP TYPE	MANUFACTURERS AND MODEL NUMBERS	
A	3' LED WALL BRACKET	120	INCLUDED	18	LED	COLUMBIA LIGHTING	W3B3TP-40MW-SFP-EDU-ELL14
COMBO	LED COMBINATION EXIT/EMERGENCY LIGHT	120	2	4.1	LED	COMPASS	CCRS0



**KEY PLAN**  
 SCALE: 1"=40'-0"

**ELECTRICAL LIGHTING PART PLAN**  
 SCALE: 1/4"=1'-0"



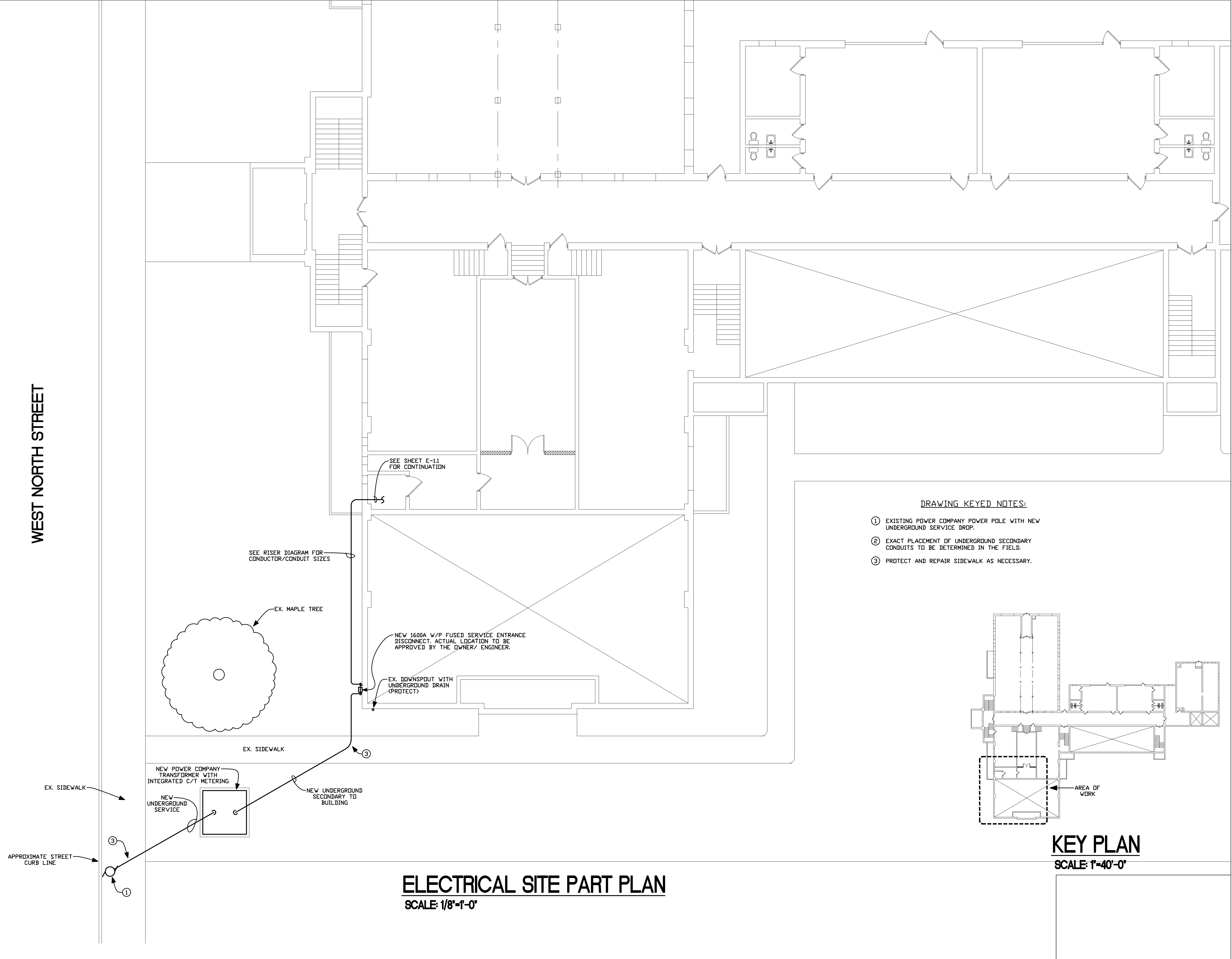
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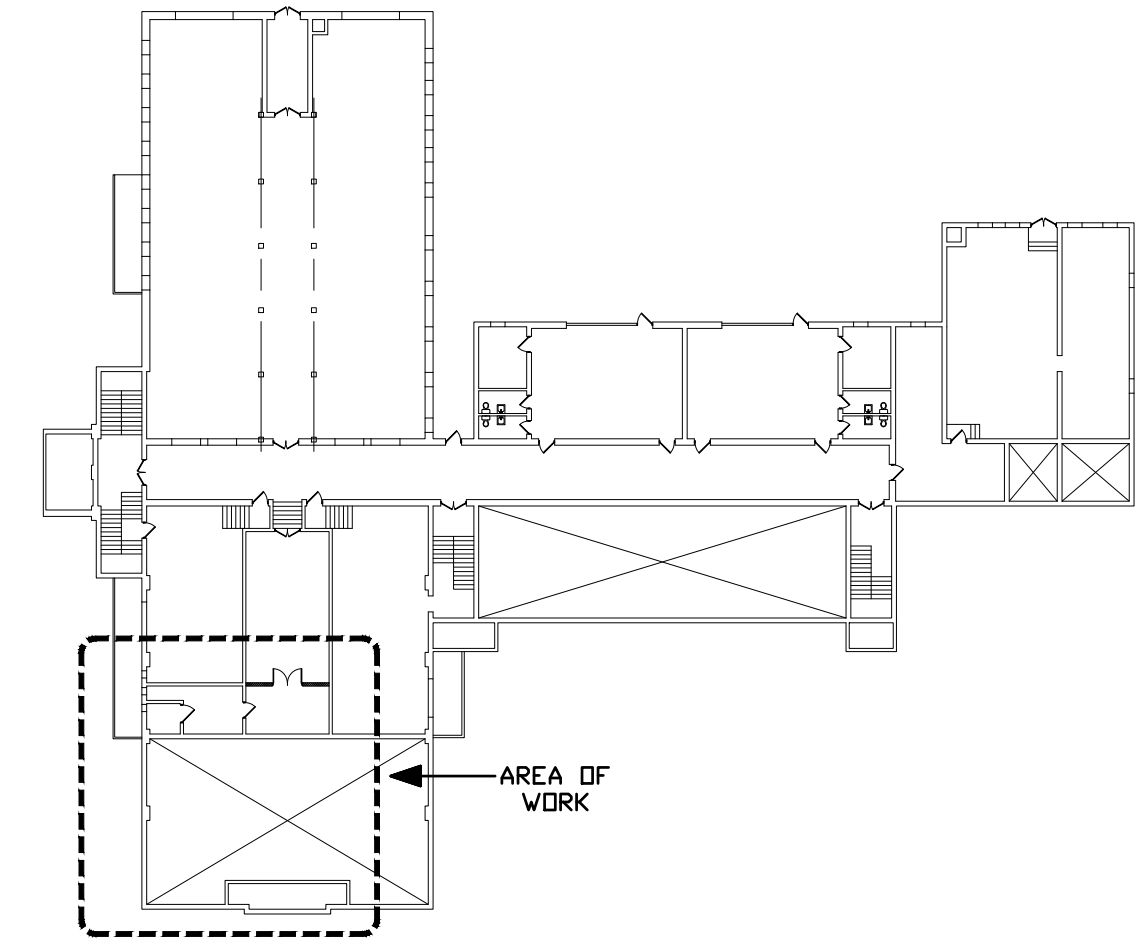
DRAWN BY: TMH

WEST NORTH STREET



DRAWING KEYED NOTES:

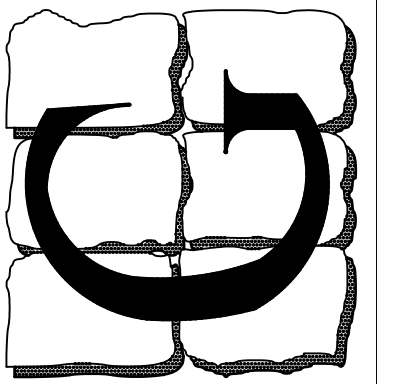
- ① EXISTING POWER COMPANY POWER POLE WITH NEW UNDERGROUND SERVICE DROP.
- ② EXACT PLACEMENT OF UNDERGROUND SECONDARY CONDUITS TO BE DETERMINED IN THE FIELD.
- ③ PROTECT AND REPAIR SIDEWALK AS NECESSARY.



KEY PLAN  
SCALE: 1"=40'-0"

ELECTRICAL SITE PART PLAN  
SCALE: 1/8"=1'-0"



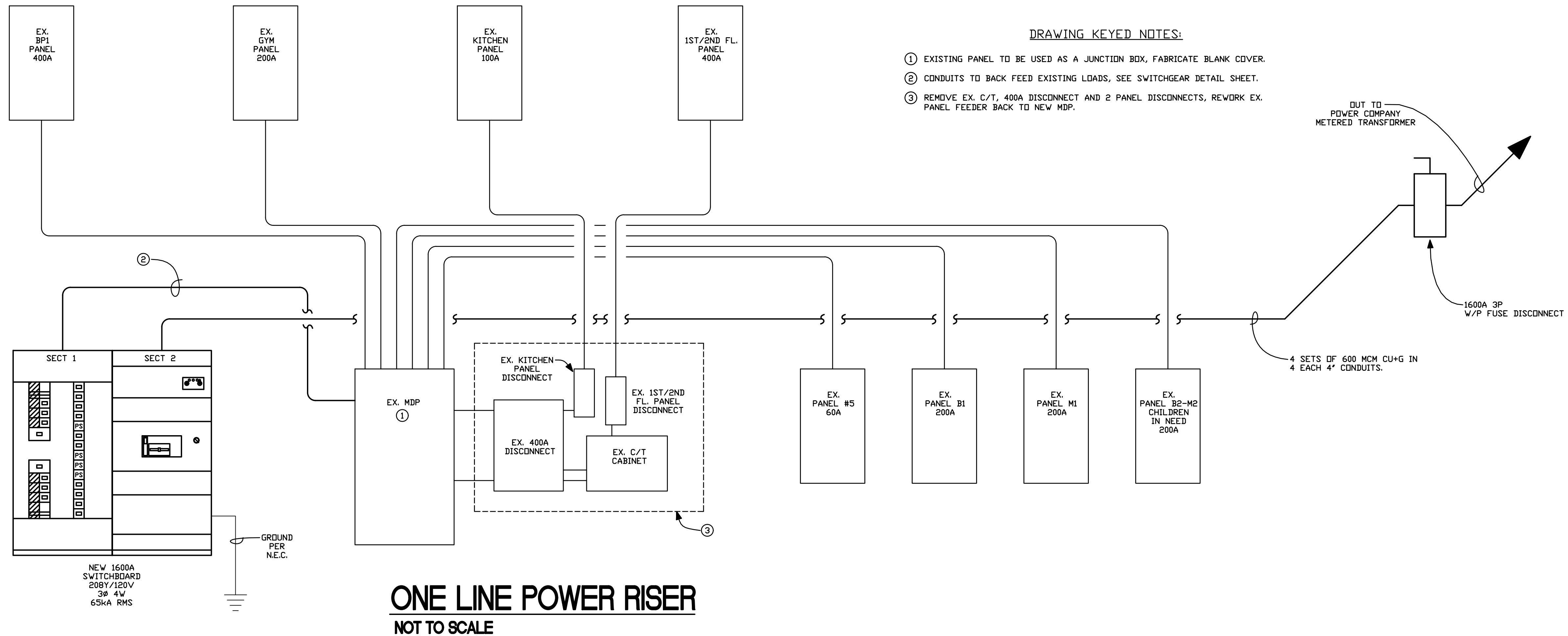


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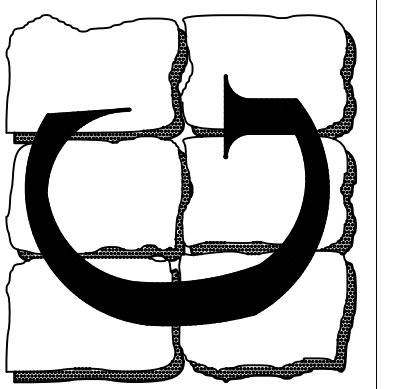
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 D.C. METRO. OFFICE: 2275 RESEARCH BLVD., SUITE 500, ROCKVILLE, MD 20850  
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Product Description: Schneider Square D Standard Switchboard 2-GE2-2 Switchboard. Includes details on components, dimensions, and mounting requirements.

Product Description: Schneider 2 Pole Breaker Phase Sequencing - BC. Includes details on components, dimensions, and mounting requirements.

SWITCHBOARD GENERAL NOTES - SERIES 2. Includes equipment description, power system data, bus system data, enclosure data, and product information.

TOP VIEW - FRONT, LEFT SIDE VIEW, FLOOR PLAN - FRONT. Includes dimensions and notes for the switchboard layout.

SECTION 1, SECTION 2. Includes wiring diagrams and equipment details for the power riser.

POWER STYLE QED-2 SWITCHBOARD SERIES 2. Includes a detailed table of equipment specifications and a legend.

CONTRACTOR NOTE: PROVIDE ELECTRONIC TRIP FOR MAIN DEVICE ONLY, ALL OTHER DEVICES ARE NOT ELECTRONIC TRIP.

Table with columns: REV., DATE, COMMENT. Includes revision history for the drawing.