

SSC#2020376 - BID SET - 07-20-21

MU STUDENT CENTER FIRE ALARM UPGRADES

MU PROJECT NO: CP210861

UNIVERSITY OF MISSOURI

FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

COLUMBIA, MISSOURI

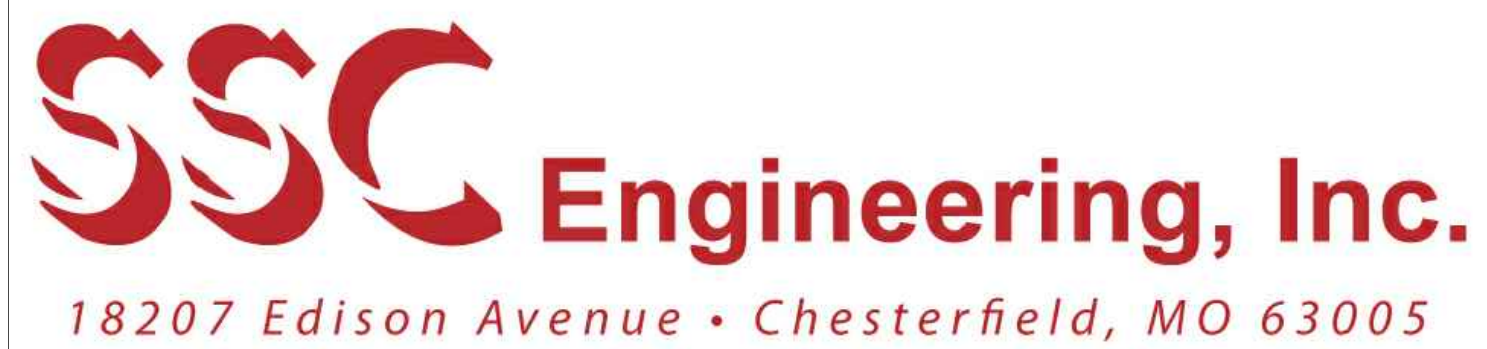
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BID DRAWINGS:

JULY 20, 2021

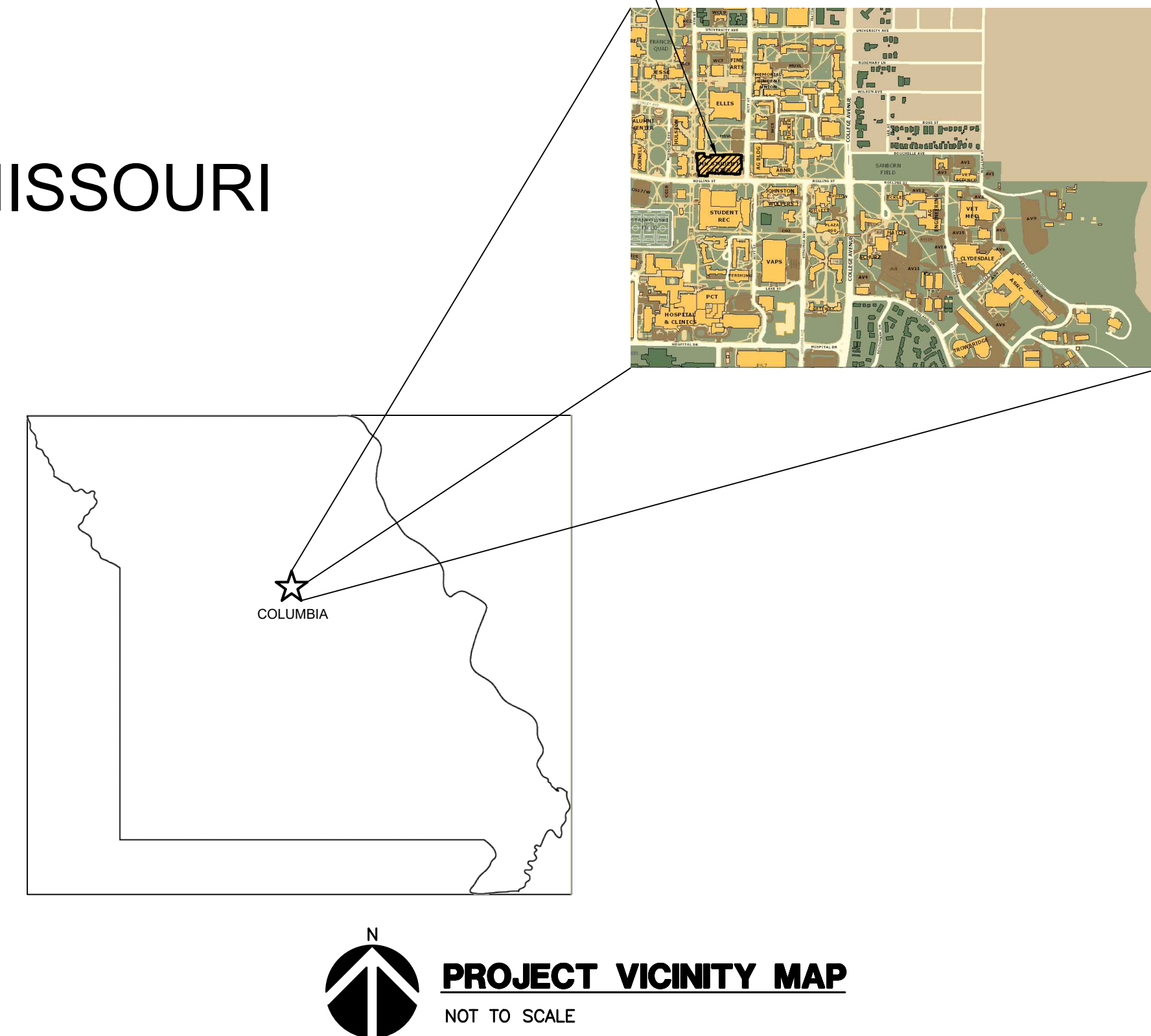
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SIGNATURE: _____

SITE LOCATION



APPLICABLE CODES & STANDARDS
APPLICABLE CODES: INTERNATIONAL MECHANICAL CODE – 2018 INTERNATIONAL EXISTING BUILDING CODE – 2018 INTERNATIONAL FIRE CODE – 2018 NFPA 90A – INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS – 2018 NFPA 72 – NATIONAL FIRE ALARM CODE 2016 NATIONAL ELECTRIC CODE – 2017

BUILDING DATA	CONSTRUCTION ASSEMBLIES
EXISTING BUILDING DESCRIPTION: BUILDING TYPE: TYPE 1-B – NON-COMBUSTIBLE MATERIALS OCCUPANCY TYPE: GROUP A-2, GROUP A-3, GROUP M, GROUP B EXISTING FIRE PROTECTION SYSTEM: AUTOMATIC SPRINKLER SYSTEM AREA: 225,383 GSF	EXTERIOR BEARING WALLS: 2 HOURS EXTERIOR NON-BEARING WALLS: 0 HOURS (>30 FEET FROM P.I. OR C.I. OF STREET) INTERIOR BEARING WALLS: 2 HOURS STRUCTURAL FRAME (PRIMARY COLUMNS AND GIRDERS): 2 HOURS, 1 HOUR WHEN SUPPORTING ROOF ONLY FLOOR: 2 HOURS ROOF: 1 HOUR



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CP210861
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901 ROLLINS ST.
COLUMBIA, MISSOURI 65211

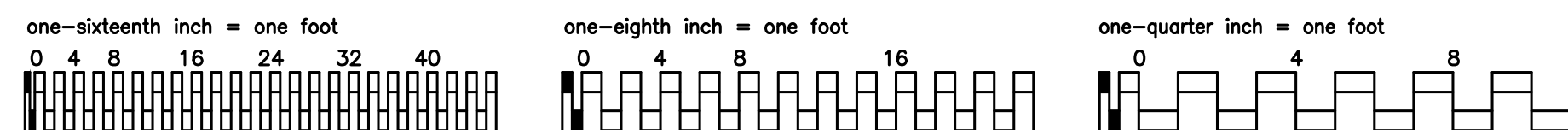
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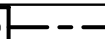

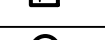


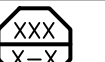


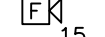









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DATE 07/20/21
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SHEET CONTENTS
COVER SHEET

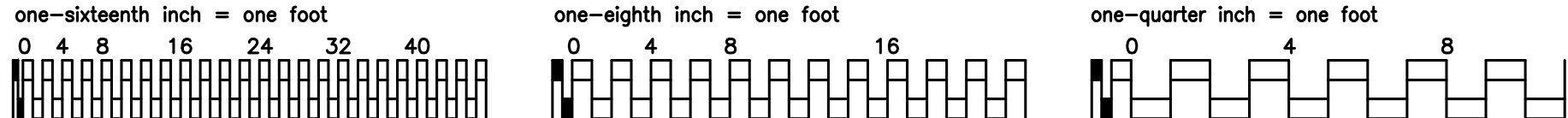
SHEET

G001



ELECTRICAL SYMBOLS LEGEND			
FIRE ALARM SYSTEM		ABBREVIATIONS	
 FACP	FIRE ALARM CONTROL PANEL – MOUNT TOP 72" AFF.	AFF	ABOVE FINISHED FLOOR.
 FAAP	FIRE ALARM ANNUNCIATOR PANEL – MOUNT TOP 72" AFF.	EX	EXISTING.
 DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER	MAX	MAXIMUM.
 FAPS	FIRE ALARM POWER SUPPLY – MOUNTED 72" A.F.F.	MFR	MANUFACTURER.
 M	MANUAL PULL STATION – MOUNT 46" AFF.	MH	MOUNTING HEIGHT
 SD	SMOKE DETECTOR – CEILING MOUNTED.	MIN	MINIMUM.
 SS	SINGLE STATION SMOKE ALARM – CEILING MOUNTED – "CO" INDICATES COMBINATION CARBON MONOXIDE ALARM	NTS	NOT TO SCALE
 SD	DUCT MOUNTED SMOKE DETECTOR WITH SAMPLING TUBES.	TYP	TYPICAL
 I/A	DUCT MOUNTED SMOKE DETECTOR'S REMOTE ANNUNCIATOR LAMP AND TEST SWITCH--MOUNT ON CEILING, (U.N.O.).	U.N.O.	UNLESS NOTED OTHERWISE.
 H	HEAT DETECTOR – CEILING MOUNTED (U.N.O.).	WP	WEATHERPROOF.
 C	CARBON MONOXIDE DETECTOR – CEILING MOUNTED.	MISCELLANEOUS	
 F15	VISUAL FLASHER – MOUNT 80" AFF TO BOTTOM OF FLASHER; (NUMERALS INDICATE CANDELA).		MECHANICAL EQUIPMENT ITEM IDENTIFICATION PER EQUIPMENT SCHEDULE ON MECHANICAL DRAWINGS.
 F15	SPEAKER – MOUNT 80" AFF; V DENOTES COMBINATION AUDIBLE/VISUAL APPLIANCE. (NUMERALS INDICATE CANDELA).		MISCELLANEOUS EQUIPMENT NUMBER. SEE MISCELLANEOUS EQUIPMENT SCHEDULE.
 V	VISUAL FLASHER – CEILING MOUNTED; (NUMERALS INDICATE CANDELA). FINISH TO MATCH CEILING.	-----	BOLD AND DASHED ON DEMO PLAN INDICATES ITEM TO BE DEMOLISHED.
 V30	SPEAKER – CEILING MOUNTED; V DENOTES COMBINATION AUDIBLE/VISUAL APPLIANCE. (NUMERALS INDICATE CANDELA). FINISH TO MATCH CEILING.	=====	BOLD AND SOLID ON PLAN INDICATES ITEM TO BE NEW IN THIS SCOPE OF WORK.
 F15	EXTERIOR FA BELL – MOUNT 90" AFF.	=====	LIGHT AND SOLID PLAN INDICATES ITEM EXISTING TO REMAIN AND BE PROTECTED.
 DH	FIRE ALARM MAGNETIC DOOR HOLDER.		
 R	INTERFACE RELAY FOR CODE REQUIRED ACTION, OR AS NOTED ON PLANS; SEE SPECIFICATION.		
 CM	CONTROL MODULE FOR CODE REQUIRED ACTION; SEE SPECIFICATION.		
 MM	MONITOR MODULE FOR CODE REQUIRED ACTION, OR AS NOTED ON PLANS; SEE SPECIFICATION.		
	SPRINKLER TAMPER SWITCH (FURNISHED BY FPC).		
	SPRINKLER FLOW SWITCH (FURNISHED BY FPC).		
	SPRINKLER PRESSURE SWITCH (FURNISHED BY FPC).		

SPECIAL SCHEDULING NOTES:
MEETING AND STUDY ROOMS – NEED TO BLOCK OUT THE TIMES (SCHEDULE THE ROOM) FOR THE WORK.
OFFICES – NEED TO GIVE AMPLE NOTIFICATION (7 DAYS) AHEAD.
TESTING – CONDUCT TESTING BETWEEN 12:00AM AND 6:30AM.
DINING LOCATIONS: NEED TO SCHEDULE WORK IN FOOD PREP, HANDLING AND SERVING AREAS IN ADVANCE (2 WEEKS).
MU BOOKSTORE – COORDINATE TESTING TIMES WITH MU BOOKSTORE MANAGEMENT.



ELECTRICAL GENERAL CONSTRUCTION NOTES:

- MU SHALL BE RESPONSIBLE FOR OBTAINING PERMITS AND COSTS ASSOCIATED WITH PERMITTING. CONTRACTOR SHALL BE RESPONSIBLE INSPECTIONS. CONTRACTOR SHALL BE LICENSED BY LOCAL AND/OR STATE AUTHORITIES HAVING JURISDICTION.
- ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), NATIONAL ELECTRICAL CODE (NEC), INTERNATIONAL BUILDING CODE (IBC) AND OTHER APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- ALL ELECTRICAL MATERIAL USED ON THIS PROJECT SHALL BE "UL" LISTED AND LABELED.
- THE ENTIRE ELECTRICAL SYSTEM AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND AS SHOWN ON THE DRAWINGS. PROVIDE A GROUND WIRE IN EACH POWER CONDUIT, SIZED PER THE NEC.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE SYSTEM PER CONTRACT DRAWINGS AND ENSURING THAT THE SYSTEM IS OPERATIONAL UPON JOB COMPLETION.
- CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIAL INSTALLED OR FURNISHED UNDER THIS CONTRACT FOR A PERIOD OF NOT LESS THAN ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING.
- MAINTAIN AND VERIFY ELECTRICAL EQUIPMENT CLEARANCES AND WORKING SPACE PER N.E.C.
- IF ANYTHING ON THE PLANS IS NOT IN COMPLIANCE WITH NATIONAL OR STATE CODES, THE ENGINEER SHALL BE ADVISED BY THE CONTRACTOR DURING THE BIDDING PROCESS. THERE ARE TO BE NO CHANGES TO THE CONTRACT DOCUMENTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS FOR NEW WORK, SAFETY, ETC., IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION. (I.E. OSHA, NEC, ETC.)
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION PHASING AND SYSTEM OUTAGES WITH OWNER'S FIELD REPRESENTATIVE.
- VERIFY ALL INDICATED DIMENSIONS BY FIELD MEASUREMENTS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- PROVIDE ACCESS PANELS OR DOORS WHERE EQUIPMENT OR DEVICES REQUIRED TO BE ACCESSIBLE ARE CONCEALED BEHIND INACCESSIBLE SURFACES.
- PRIOR TO TURNOVER, THIS CONTRACTOR SHALL REMOVE ALL RUBBISH, DIRT, DEBRIS AND STAINS ON THEIR WORK OR CAUSED BY THEIR WORK AND SHALL THOROUGHLY CLEAN ALL EQUIPMENT, FIXTURES, DEVICES, ETC. CONTRACTOR SHALL REPLACE, TOUCH-UP OR REFRESH THE FACTORY FINISH ON EQUIPMENT, FIXTURES, DEVICES, ETC. MARRED DURING SHIPMENT, INSTALLATION OR CONSTRUCTION.
- ALL CIRCUITS INDICATED ON THESE DRAWINGS ARE 20A, 1P CIRCUIT BREAKERS IN PANELS UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER IDENTIFICATION AND LABELING OF ALL CIRCUIT BREAKERS. EACH PANELBOARD SHALL BE EQUIPPED WITH A TYPE WRITTEN CIRCUIT DIRECTORY. ALL EXISTING PANELBOARDS THAT HAVE CIRCUITS ALTERED SHALL HAVE A NEW TYPE WRITTEN CIRCUIT DIRECTORY SHOWING CIRCUIT REVISIONS AND EXISTING CIRCUIT CONDITIONS ON THE NEW DIRECTORY.
- MINIMUM WIRE SIZE FOR POWER CIRCUITS SHALL BE #12 AWG UNLESS OTHERWISE NOTED. MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS OTHERWISE NOTED. ALL CONDUIT IN SLABS OR EXTERIOR TO BUILDING SHALL BE MINIMUM 1". PROVIDE A NYLON/POLY PULL CORD IN ALL EMPTY CONDUITS.
- CONTRACTOR SHALL PROVIDE ALL COPPER CONDUCTORS TYPE THHN OR THWN FOR ALL INTERIOR BUILDING WIRE. FOR EXTERIOR FEEDERS AND BRANCH CIRCUITS PROVIDE ALL COPPER CONDUCTORS TYPE XHHW-2.
- VOLTAGE DROP MINIMUM WIRE SIZING (20A POWER CIRCUIT) USE:
120V CIRCUIT OVER 100' SHALL BE #10 MINIMUM;
120V CIRCUIT OVER 175' SHALL BE #8 MINIMUM;
208V CIRCUIT OVER 200' SHALL BE #10 MINIMUM;
277V CIRCUIT OVER 200' SHALL BE #10 MINIMUM.
MINIMUM WIRE SIZE FOR ANY 20A CIRCUIT SHALL BE #12 MINIMUM.
FURTHERMORE, CONSIDER ALL DERATING OF CONDUCTORS AS REQUIRED IN ACCORDANCE WITH THE APPLICABLE NEC.
- ALL HOME RUNS SHALL BE IN EMT CONDUIT. MC CABLE IS PERMITTED ABOVE CEILINGS FROM HOMERUNS TO FIXTURES AND WIRING DEVICES WITHIN WALLS AND FURRED COLUMNS. REFER TO ELECTRICAL SPECIFICATIONS FOR MORE DETAILED INFORMATION.
- ALL FIRE ALARM CABLING SHALL BE ENTIRELY INDEPENDENT AND BE IN SEPARATE J-HOOKS, CONDUIT BOXES, PANELS, ETC. DO NOT ROUTE FIRE ALARM CABLES WITH POWER CONDUCTORS. WHEN LOCATED ABOVE ACT CEILINGS FIRE ALARM CABLING SHALL BE ROUTED IN J-HOOKS. WHEN FIRE ALARM CABLING IS ROUTED IN MECHANICAL ROOMS PROVIDE EMT CONDUIT. AVOID HARD LID CEILINGS WHERE EVER POSSIBLE. IF ROUTING IN EMT IS NOT FEASIBLE 3/8" FLEXIBLE METAL CONDUIT SHALL BE ACCEPTABLE.
- WHEN SAW CUTTING FLOOR IS REQUIRED, CONTRACTOR SHALL LIMIT DEPTH TO A MINIMUM. ROUTE NEW CONDUITS BELOW OR ABOVE EXISTING CONDUITS, WATER PIPES, ETC. CONDUIT SHALL HAVE A MINIMUM OF 1" OF CONCRETE COVER.
- SUPPORT ALL CONDUITS FROM STRUCTURAL WALLS, SLABS, MEMBERS AND ROOF JOISTS. DO NOT SUPPORT CONDUITS FROM CEILING TIE WIRES, DUCTWORK, PIPING, ROOF DECK OR OTHER NON-STRUCTURAL MEMBERS.
- SUPPORTING OF ELECTRICAL CONDUITS: THE INDIVIDUAL BRANCH CIRCUIT CONDUIT AND ASSOCIATED 4" X 4" JUNCTION BOXES MAY BE SUPPORTED FROM FLOOR/ROOF JOISTS. ALL LARGER FEEDER CONDUITS AND/OR CLUSTER OR GROUPS OF BRANCH CIRCUIT CONDUITS SHALL BE SUPPORTED ON STEEL TRAPEZE WITH STEEL CHANNEL ATTACHED TO STEEL OR WOOD JOIST/BEAMS WITH PROPER ATTACHMENTS. NO SUPPORT SHALL BE ATTACHED TO THE ROOF DECK (NO EXCEPTIONS). HANG CONDUIT FROM TOP CHORD OF BAR JOIST WHEN ATTACHING HOME RUNS TO JOIST.
- ALL WIRING DEVICES SHALL BE FLUSH MOUNTED, UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL BE RUN WITHIN WALL CAVITIES, BELOW FLOOR AND ABOVE CEILINGS. SURFACE MOUNTED ELECTRICAL WORK SHALL NOT BE USED UNLESS SPECIFICALLY NOTED ON THE PLANS.
- ALL WALL AND CEILING FIXTURES AND DEVICES SHALL BE INDEPENDENTLY AND SECURELY MOUNTED SO THEY ARE NOT DEPENDENT ON CEILING FINISH FOR SUPPORT AND CAN NOT BE ROTATED OR DISPLACED. FIXTURES AND DEVICES MOUNTED IN SUSPENDED ACOUSTICAL CEILING TILE SHALL HAVE CHANNEL SUPPORTS ACROSS THE MAIN GRID RUNNERS OR GRID SUPPORTS SECURELY ANCHORED SO AS NOT TO CAUSE TILE TO SAS OR SO FIXTURE OR DEVICE CAN NOT BE LIFTED, ROTATED OR DISPLACED.
- ALL OPENINGS IN FIRE AND/OR SMOKE RATED WALLS, FLOORS, AND PARTITIONS FOR CONDUITS SHALL BE SEALED WITH RED FIRE RESISTANT FOAM OR PUTTY TO MAINTAIN THE FIRE AND/OR SMOKE RATING. ALL OPENINGS IN FIRE RATED AND/OR SMOKE WALLS, FLOORS, AND PARTITIONS FOR CABLING SHALL BE SEALED WITH WIREMOLD FLAMESTOPPER, STI EZ-PATH, HILTI SPEED SLEEVE OR EQUIVALENT.
- OWNER RESERVES THE RIGHT TO RELOCATE ANY FIRE ALARM DEVICE, RECEPTACLE, ETC., BEFORE BEING INSTALLED 10'-0" FROM LOCATION AS SHOWN ON PLANS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- NO CONDUIT OR CABLES SHALL BE INSTALLED EXPOSED IN FINISHED AREA. NON--CEILING AREA CONDUITS SHALL BE INSTALLED EXPOSED IN A NEAT WORKMAN LIKE MANNER AND BE PAINTED TO MATCH ADJACENT FINISHES.
- ALL MATERIALS, DEVICES, FIXTURES, ETC., THAT ARE REQUIRED FOR THIS PROJECT ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR, UNLESS SPECIFICALLY INDICATED TO BE FURNISHED AND OR INSTALLED BY OTHERS.
- FIRE ALARM CABLE WIRING IN WALLS AND FLOOR SHALL BE ROUTED IN CONDUIT FROM DEVICE/JUNCTION BOX TO ABOVE AN ACCESSIBLE CEILING OR IN ATTIC SPACE; 1" EMT MINIMUM. ALL CABLES SHALL BE BUNDLED AND SUPPORTED FROM STRUCTURE ABOVE, NO MORE THAN 60" O.C. DO NOT LAY CABLES ON CEILING SYSTEM. PROVIDE J-HOOKS AND/OR CABLE TRAY SYSTEM. MAINTAIN 12" CLEARANCE ABOVE CEILING. COLOR CODE FIRE ALARM CABLING AS RED.
- ALL SIGNAL AND CONTROL CABLES SHALL BE MINIMUM #18 STRANDED COPPER, UNLESS NOTED OTHERWISE. ALL CONNECTIONS AND SPLICES TO BE MADE BY USE OF "STA-KON" CONNECTORS AND TERMINAL STRIPS.
- IF WALL PENETRATIONS ARE REQUIRED IN ASSEMBLIES WHERE WALL FIRE RATING LABELS ARE DISCOVERED, ENSURE THE FIRE PENETRATION DETAIL USED PROVIDES EQUAL PROTECTION TO THAT OF THE LABELED RATING.
- FOR LOBBIES, GALLERIES, PUBLIC CORRIDORS AND SIMILAR SPACES, THE CONTRACTOR SHALL COORDINATE THE EXACT ROUTING OF SURFACE RACEWAY (WHERE REQUIRED) WITH THE OWNER PRIOR TO INSTALLATION. WHERE POSSIBLE NEW CABLING SHALL BE INSTALLED CONCEALED IN EXISTING WALLS AND ABOVE CEILINGS.
- ALL SURFACE RACEWAY SHALL BE CAREFULLY ROUTED TIGHT TO CORNERS OF WALLS/CEILING OR ALONG EXISTING TRIM FOR INCONSPICUOUS INSTALLATION. ALL RACEWAY SHALL BE PRIMED AND PAINTED TO MATCH THE SURROUNDING WALL COLOR. EFFORT SHALL BE MADE TO MINIMIZE THE USE OF SURFACE RACEWAY AS MUCH AS POSSIBLE.
- ALL EXISTING PULL STATION AND SMOKE DETECTORS EXISTING TO REMAIN.

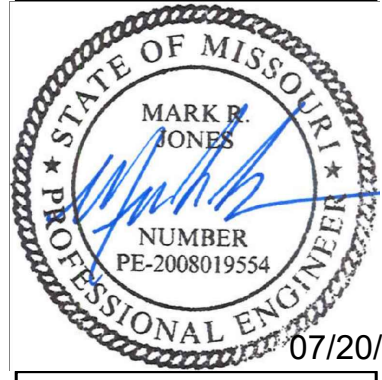
ELECTRICAL GENERAL NOTES - DEMOLITION:

- THE OWNER INTENDS TO OCCUPY THE BUILDING THROUGHOUT CONSTRUCTION. UTILITIES AND SERVICES SHALL NOT BE INTERRUPTED WITHOUT THE OWNER'S APPROVAL AS TO THE TIME AND DURATION. THE CONTRACTOR SHALL SO ORGANIZE THEIR WORK AS TO CAUSE A MINIMUM OF UTILITY INTERRUPTIONS, WHICH SHALL BE SCHEDULED AT THE CONVENIENCE OF THE OWNER.
- ALL DEVICES WHICH ARE NOTED TO BE DEMOLISHED, OR ARE SHOWN WITH DASHED LINE SYMBOLS ON THE DEMOLITION PLANS, SHALL BE REMOVED. ASSOCIATED WIRING AND CONDUIT SHALL BE REMOVED BACK TO THE SOURCE OR EXISTING UPSTREAM DEVICE TO REMAIN AND MADE SAFE.
- REMOVE EQUIPMENT, FIXTURES, DEVICES AND OUTLETS AS SPECIFIED AND SHOWN ON DRAWINGS, AND AS MAY BECOME NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS. EXAMINE ALL EXISTING WALLS AND CEILING DESIGNATED FOR REMOVAL TO DETERMINE THE CONDUIT AND WIRING THAT WILL REQUIRE REMOVAL.
- FOR EXISTING ELECTRICAL DEVICES IN WALLS TO BE REMOVED, DISCONNECT POWER, REMOVE CONDUCTORS AND CAP CONDUIT BELOW FLOOR OR ABOVE CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR.
- FOR EXISTING ELECTRICAL EQUIPMENT, FIXTURES AND DEVICES TO BE REMOVED FROM WALLS WHICH REMAIN, DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE THE ELECTRICAL ITEM, AND PATCH AND FINISH THE SURFACE AS REQUIRED TO MATCH THE EXISTING, OR MAKE READY FOR NEW WALL FINISH. PROVIDE BLANK PLATES WHERE NOTED OR REQUIRED.
- EXISTING RECEPTACLES, DEVICES, ETC. TO REMAIN ARE DENOTED BY THIN SOLID LINE OR MAY NOT BE INDICATED AT ALL. THESE DEVICES SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH ON EXISTING WALL WHERE REQUIRED.
- MAINTAIN CIRCUIT CONTINUITY TO ALL EQUIPMENT, FIXTURES, DEVICES, ETC., TO REMAIN IN USE WHETHER NOTED ON THE PLANS OR NOT. FIELD VERIFY EXISTING ITEMS TO REMAIN IN USE. WIRING FOR EXISTING CIRCUITS WHICH ARE PARTIALLY ABANDONED SHALL BE RECONNECTED BY THE CONTRACTOR TO SERVICE THE REMAINING OUTLETS ON THE CIRCUIT.
- ALL WIRING FOR A CIRCUIT WHICH IS TO BE REMOVED SHALL BE REMOVED BACK TO THE PANEL WHICH SUPPLIED THE CIRCUIT.
- EXISTING CONDUIT & CONDUCTORS MAY BE REUSED WHERE FEASIBLE. ALL UNUSED CONDUIT MADE EMPTY BY THIS DEMOLITION SHALL BE REMOVED BY THE CONTRACTOR. WHERE CONDUITS EXTENDING OUT OF THE FLOOR ARE TO BE REMOVED, CUT THE CONDUIT OFF 1/2" BELOW THE FLOOR LINE AND PATCH.
- ALL ACTIVE CIRCUITING THAT RUNS THROUGH THIS SPACE, ORIGINATING AND/OR TERMINATING IN OTHER SPACES, SHALL REMAIN IN PLACE. COORDINATE WITH NEW CEILING WORK FOR RAISED CEILING WHICH MAY REQUIRE CIRCUITING RELOCATION.
- ALL UNUSED TELEPHONE AND DATA CABLES SHALL BE REMOVED. ANY OTHER UNUSED LOW VOLTAGE SYSTEMS CABLES SHALL ALSO BE REMOVED.
- ALL EXISTING EQUIPMENT, DEVICES, AND MATERIALS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES AND PROPERLY DISPOSED OF IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION, UNLESS OTHERWISE NOTED. ALL ITEMS NOTED THAT THE OWNER CHOOSES TO KEEP SHALL BE TRANSFERRED TO THEIR STORAGE AREA BY THE CONTRACTOR.
- INFORMATION ON THE EXISTING CONDITIONS PLANS ARE COMPILED FROM EXISTING DRAWINGS AND CASUAL FIELD OBSERVATIONS AND SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF ALL EQUIPMENT, WIRING DEVICES AND FIXTURES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES EXIST.



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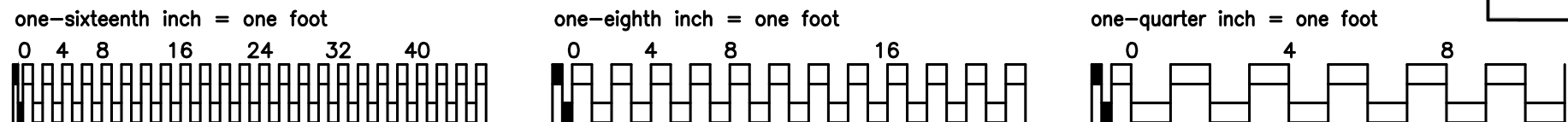
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SHEET CONTENTS

SYMBOLS, ABBREVIATIONS & NOTES

SHEET

E001



UL/cUL SYSTEM NO. W-L-1054

METAL PIPE THROUGH GYPSUM WALL ASSEMBLY

F-RATING = 1-HR. OR 2-HR.

T-RATING = 0-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT

L-RATING AT 400°F = LESS THAN 1 CFM / SQ FT

FRONT VIEW

SECTION A-A

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300 OR U400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).

2. [NOT SHOWN] WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE.

3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :

A. MAXIMUM 30" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).

B. MAXIMUM 30" DIAMETER CAST IRON PIPE.

C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.

D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.

E. MAXIMUM 4" NOMINAL DIAMETER EMT.

4. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.

5. MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING :

A. 32-1/4" FOR STEEL STUD WALLS.

B. 14-1/2" FOR WOOD STUD WALLS.

2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".

3. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT OF CONTACT.

HILTI

Hilti Firestop Systems

HILTI, Inc.

Plano, Texas USA (800) 879-8000

Sheet 1 of 1

Scale 7/32" = 1"

Date Apr. 13, 2016

Drawing No. WL 1054u

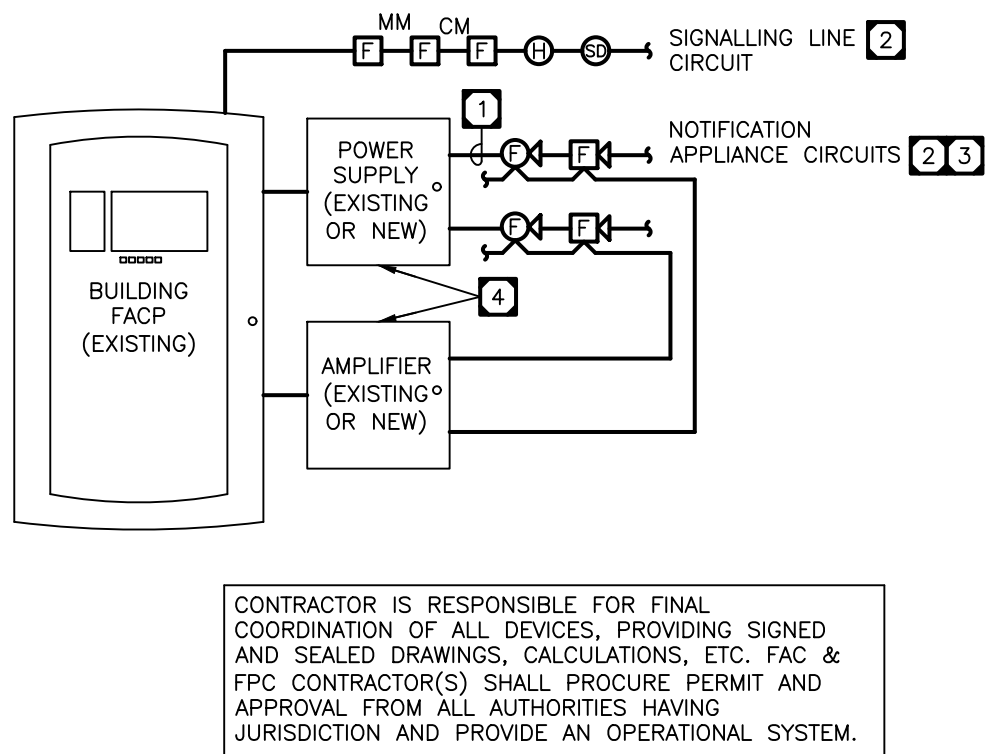
Saving Lives through Innovation and Education

WL1054u041316

	ANNUNCIATES ALARM SIGNAL AT FIRE ALARM CONTROL PANEL(S)	ANNUNCIATES SUPERVISORY SIGNAL AT FIRE ALARM CONTROL PANEL(S)	ANNUNCIATES TROUBLE SIGNAL AT FIRE ALARM CONTROL PANEL(S)	TRANSMITS ALARM SIGNAL TO SUPERVISING STATION	TRANSMITS SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMITS TROUBLE SIGNAL TO SUPERVISING STATION	SPRINKLER AUDIO/VISUAL NOTIFICATION APPLIANCES	RELEASE ALL DOOR HOLD OPENS	ACTIVATES WATERFLOW ALARM	INITIATE ELEVATOR RECALL – PRIMARY FLOOR	INITIATE ELEVATOR RECALL – ALTERNATE FLOOR	INITIATE ELEVATOR SHUNT TRIP	SHUT DOWN ASSOCIATED HVAC UNIT(S)	CLOSE ASSOCIATED SMOKE OR FIRE-SMOKE DAMPEN(S)	MUTES A/V RACK IN "THE SHACK" RESTAURANT
SMOKE DETECTORS															
– AREA SMOKE DETECTORS	X			X			X	X		X					X
– ELEC ROOMS / FACP / FAPS	X			X			X	X		X					X
– DUCT MOUNTED		X			X								X	X	
– ELEVATOR LOBBY OTHER THAN 1ST FLOOR	X			X			X	X		X					X
– ELEVATOR LOBBY 1ST FLOOR	X			X			X	X			X				X
– ELEVATOR HOISTWAY / MACHINE ROOM	X			X			X	X		X					X
HEAT DETECTORS															
– KITCHEN & AREA DETECTORS	X			X			X	X		X					X
– ELEVATOR EQUIPMENT ROOM / TOP OF HOISTWAY	X			X			X	X			X				X
– ELEVATOR HOISTWAY PIT	X			X			X	X		X					X
MANUAL CONTROLS															
– MANUAL PULL STATION AT FACP / EXITS	X			X			X	X							X
SPRINKLER SYSTEM															
– FLOW SWITCH	X			X			X	X	X						X
– TAMPER SWITCH		X			X										
– PRESSURE SWITCH		X			X										
LOW TEMPERATURE															
– LOW TEMPERATURE SENSOR		X			X										
FIRE ALARM INTEGRITY															
– FIRE ALARM CONTROL PANEL LOSS OF POWER			X			X									
– CABLING LINE OPEN, SHORT OR GROUND CIRCUIT			X			X									

3 FIRE ALARM MATRIX - EXISTING

NO SCALE



FIRST FLOOR

1 FIRE ALARM RISER DIAGRAM

NOT TO SCALE

NOTES:

- DEDICATED SET OF J-HOOKS FOR FIRE ALARM SYSTEM CABLES. DO NOT LAY ON CEILING. ALL CABLES SUBJECT TO DAMAGE AND BELOW 10' AFF SHALL BE IN CONDUIT. ALL CABLES AND WIRING IN DATA CENTER CEILING PLENUM SHALL BE IN CONDUIT AND SECURED WELL AND SHALL BE SECURED TIGHT TO BEAMS, JOISTS, OR OTHER STRUCTURE.
- NOT ALL REQUIRED DEVICES ARE SHOWN. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR DETERMINING QUANTITIES AND DESIGNING LOCATIONS OF ALL DEVICES INCLUDING NOTIFICATION AND INITIATION APPLIANCES. MANUAL PULL-STATIONS, ABORT SWITCHES, ETC. REFER TO FP SPECIFICATIONS FOR MORE INFORMATION.
- ALL NOTIFICATION APPLIANCE CIRCUITS SHALL BE CLASS A. DO NOT TEE TAP EXISTING NAC LOOPS FOR NEW DEVICES.
- CONTRACTOR SHALL FIELD VERIFY EXISTING CAPACITY OF ALL POWER SUPPLIES/AMPLIFIERS AND ALL ASSOCIATED NAC LOOPS TO DETERMINE SPARE CAPACITY FOR NEW DEVICES. WHERE NEW DEVICES EXCEED EXISTING CAPACITY THE CONTRACTOR SHALL PROVIDE NEW POWER SUPPLIES/AMPLIFIERS AS REQUIRED.

MARK R. JONES, P.E.
MO LIC# PE-2008019554
EXP:12/31/22



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CP210861
MU STUDENT CENTER - FIRE ALARM UPGRADES

901 ROLLINS ST.
COLUMBIA, MISSOURI 65211

REVISIONS

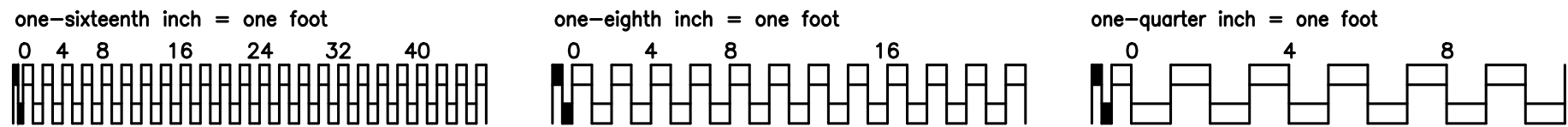
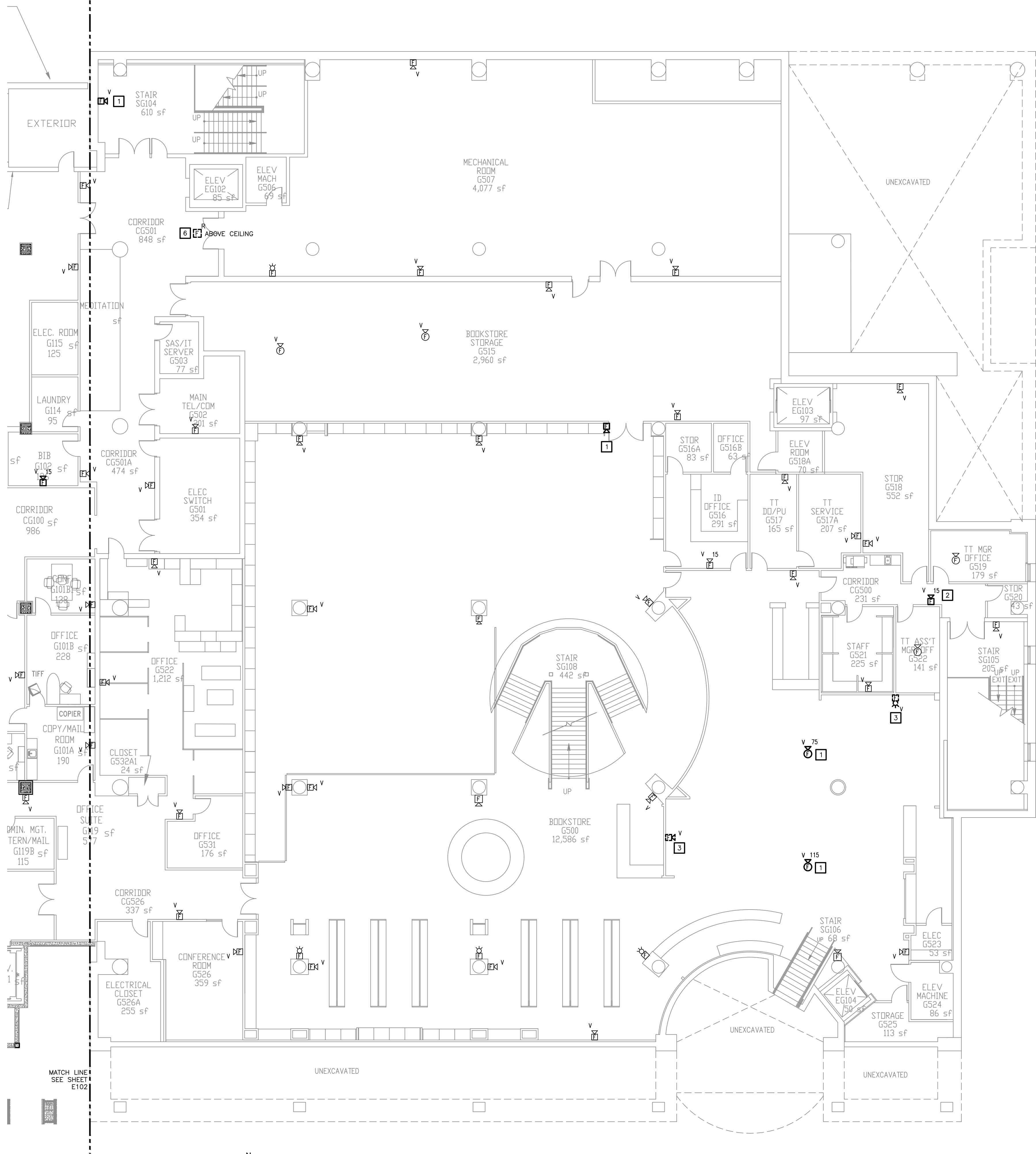
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DATE 07/20/21
DRAWN BY SSC
CHECKED BY JMS

SHEET CONTENTS

DETAILS

SHEET

E002



ELECTRICAL BASEMENT FIRE ALARM PLAN - RENOVATION
SCALE: 3/32" = 1' - 0"

ELECTRICAL GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
2. ALL MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND HVAC WORK SHALL BE COORDINATED BY THE CONTRACTOR DOING THE WORK. ANY CORRECTIONS TO ANY OF THE ABOVE SHALL BE AT THAT CONTRACTOR'S EXPENSE.
3. REFER TO ELECTRICAL DETAIL SHEET(S) FOR ADDITIONAL ACCESS CONTROL, SECURITY & VIDEO SURVEILLANCE REQUIREMENTS.
4. PROVIDE 120V POWER FOR DOOR ACCESS CONTROL AND SECURITY DEVICES AS REQUIRED. COORDINATE WITH DOOR HARDWARE INSTALLER.
5. INFORMATION ON THIS SHEET IS COMPILED FROM EXISTING DRAWINGS AND CASUAL FIELD OBSERVATIONS AND SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF ALL EQUIPMENT AND DEVICES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. EXISTING FIXTURES & DEVICES TO REMAIN ARE INDICATED WITH THIN SOLID LINES; DARK SOLID LINES INDICATE NEW FIXTURES/DEVICES.
7. THE FA CONTRACTOR SHALL PROVIDE SIGNED AND SEALED FA SHOP DRAWINGS AS OUTLINED IN THE ELECTRICAL SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO WIRING DIAGRAMS, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, DEVIATIONS OR EXCEPTIONS FROM THIS DRAWING, ETC. SHOP DRAWINGS WILL BE RETURNED UNREVIEWED IF THEY ARE NOT SIGNED AND SEALED.

ELECTRICAL KEYED NOTES:

- 1 PROVIDE AND INSTALL NEW FIRE ALARM SPEAKER OR SPEAKER/STROBE INDICATED.
- 2 REPLACE EXISTING STROBE WITH NEW SPEAKER STROBE. RE-USE EXISTING JUNCTION BOX AND NAC WIRING.
- 3 DISCONNECT AND REMOVE EXISTING STROBE OBSTRUCTED BY MERCHANDISE. RETAIN THE EXISTING NAC WIRING TO THE EXTENT FEASIBLE FOR EXTENSION TO NEW CEILING DEVICE IN THE VICINITY.
- 4 COORDINATE WITH STORE MANAGER TO KEEP AREA AROUND FIRE ALARM DEVICE CLEAR.
- 5 EXISTING ANSUL FIRE PROTECTION SYSTEMS FOR KITCHEN HOODS MONITORED BY THE FIRE ALARM SYSTEM SHALL REMAIN.
- 6 CONTRACTOR SHALL TEMPORARILY DISCONNECT AUDIO CIRCUIT T-TAPPED INTO CLASS A LOOP. REMOVE EXISTING RELAYS/CONTROL MODULES AND PROVIDE NEW AUDIO AMPLIFIERS AS REQUIRED TO RESTORE CLASS A WIRING LOOP. CONTRACTOR SHALL FIELD VERIFY ALL ASSOCIATED WIRING.
- 7 COORDINATE WITH OWNER FOR EXACT LOCATIONS OF DEVICES TO LIMIT OBSTRUCTION OF CARVINGS ROUTE. WIRING ABOVE SUSPENDED WOOD CEILING.
- 8 PROVIDE FIRE ALARM CONTROL MODULE(S) AS REQUIRED TO INHIBIT A/V SOUND SYSTEM IN "THE SHACK" DURING EMERGENCY FIRE ALARM ANNOUNCEMENTS. FIELD VERIFY EXISTING SOUND SYSTEM RACK AND COORDINATE WITH OWNER'S A/V VENDOR.

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STATE OF MISSOURI
Professional Engineer
MARK R. JONES
NUMBER
PE-2008019554
07/20/21

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CP210861
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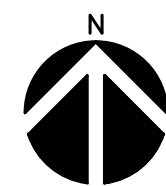
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DATE 07/20/21
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CHECKED BY MRJ

SHEET CONTENTS

ELECTRICAL BASEMENT
FIRE ALARM
PLAN - RENOVATION

SHEET

E101



SCALE: 3/32" = 1' - 0"

1. PROVIDE AND INSTALL NEW FIRE ALARM SPEAKER OR SPEAKER/STROBE INDICATED.
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one-sixteenth inch = one foot

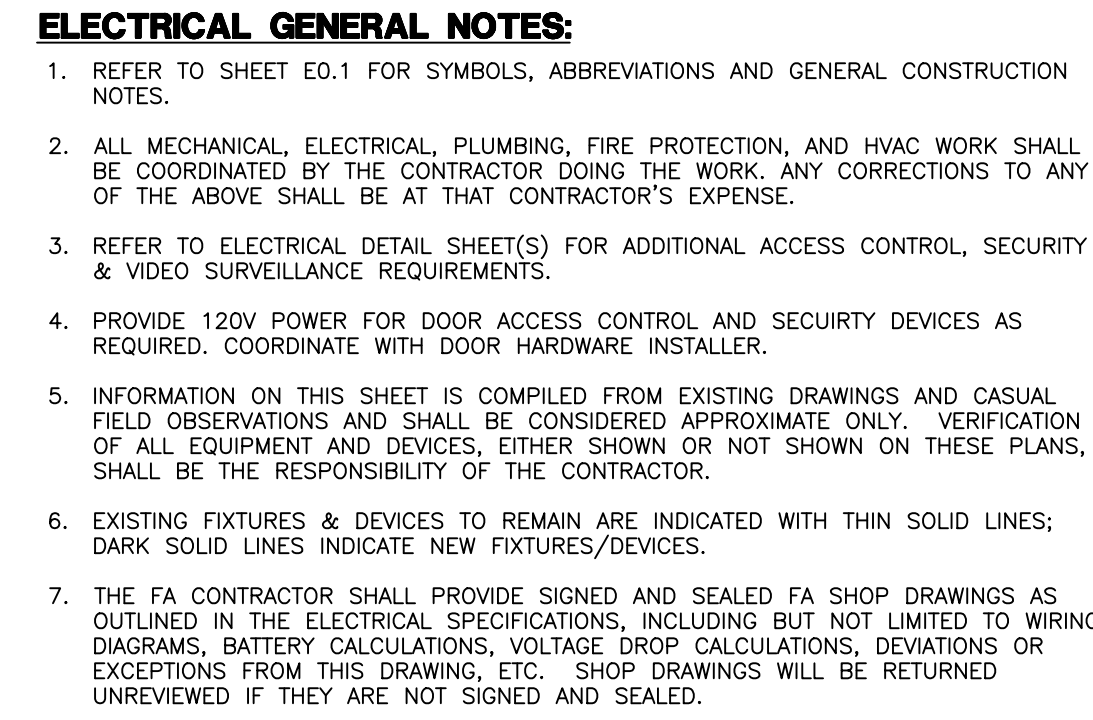
0 4 8 16 24 32 40

one-eighth inch = one foot

0 4 8 16

one-quarter inch = one foot

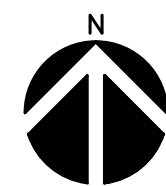
0 4 8



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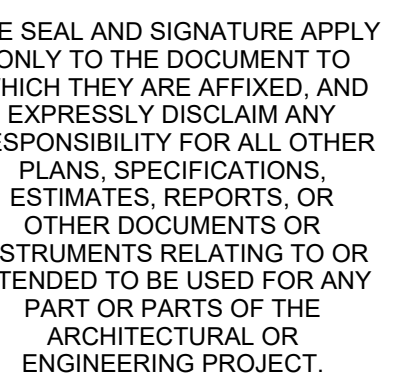
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E103



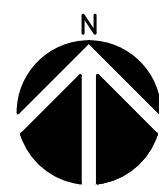
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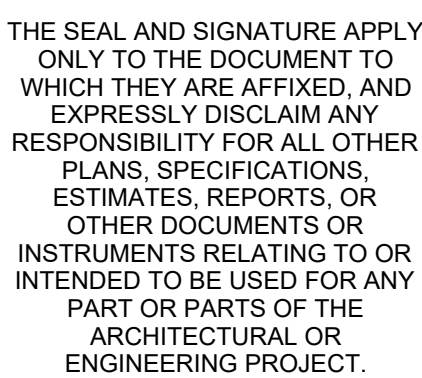
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E111



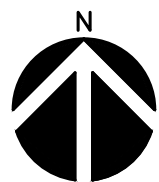
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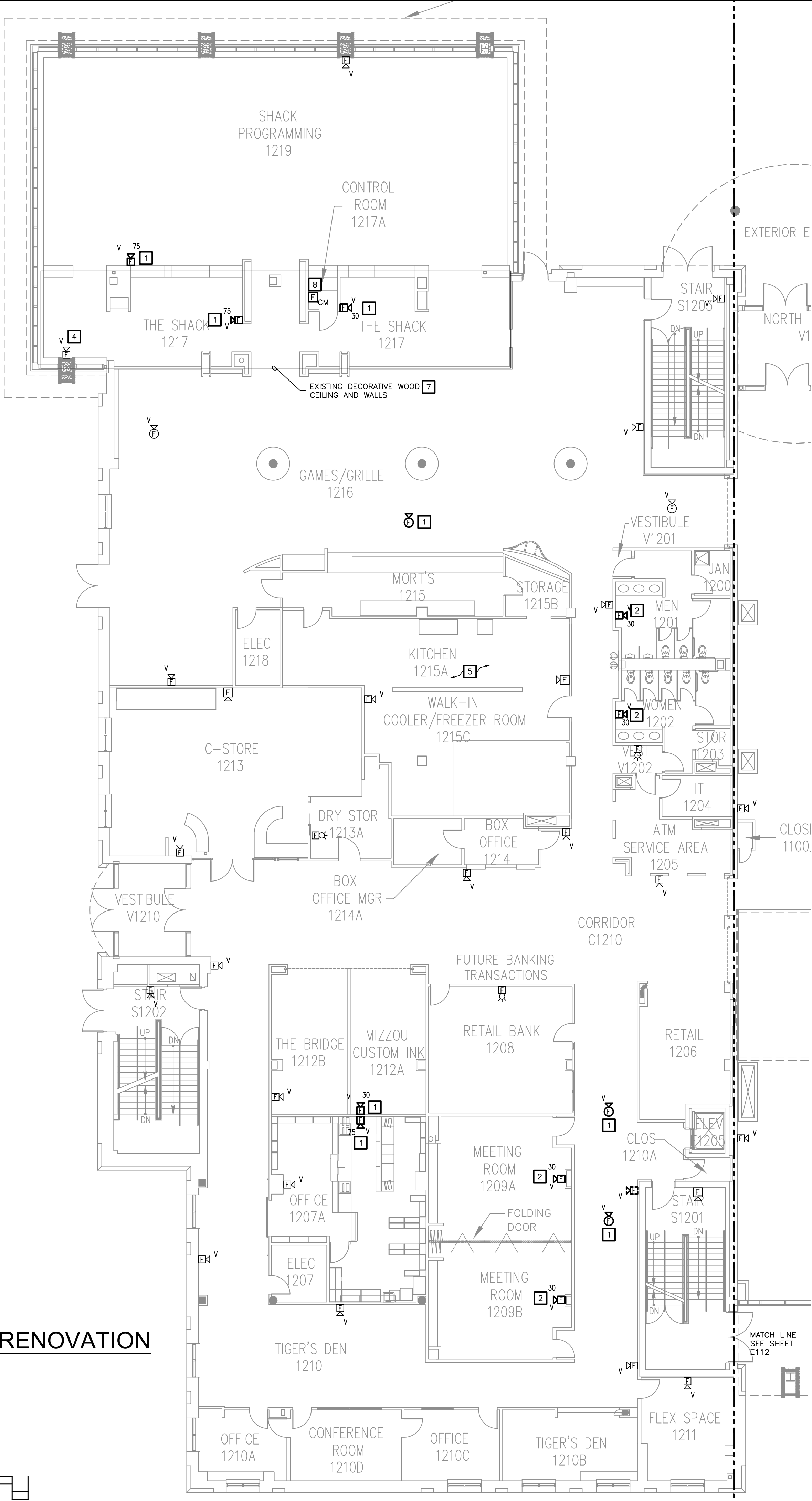
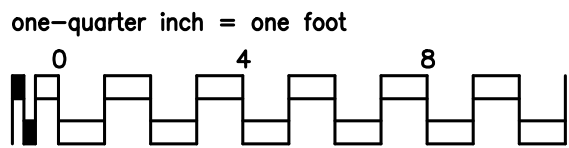
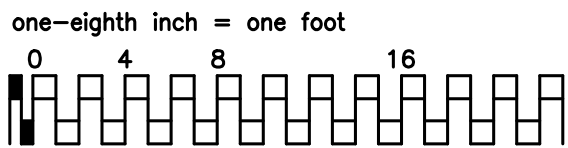
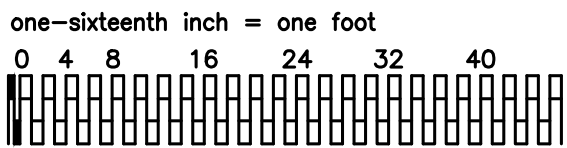
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COLUMBIA, MISSOURI 65211

E112



ELECTRICAL FIRST FLOOR FIRE ALARM PLAN - RENOVATION

SCALE: 3/32" = 1' - 0"



ELECTRICAL GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
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ELECTRICAL KEYED NOTES:

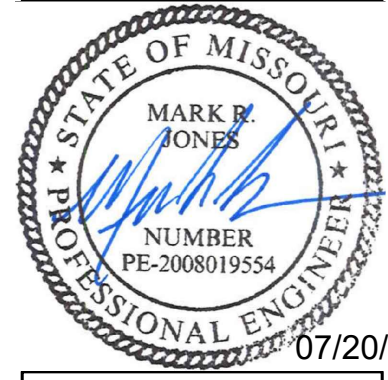
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CP210861
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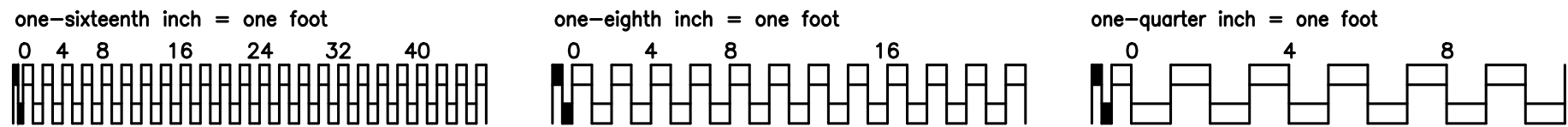
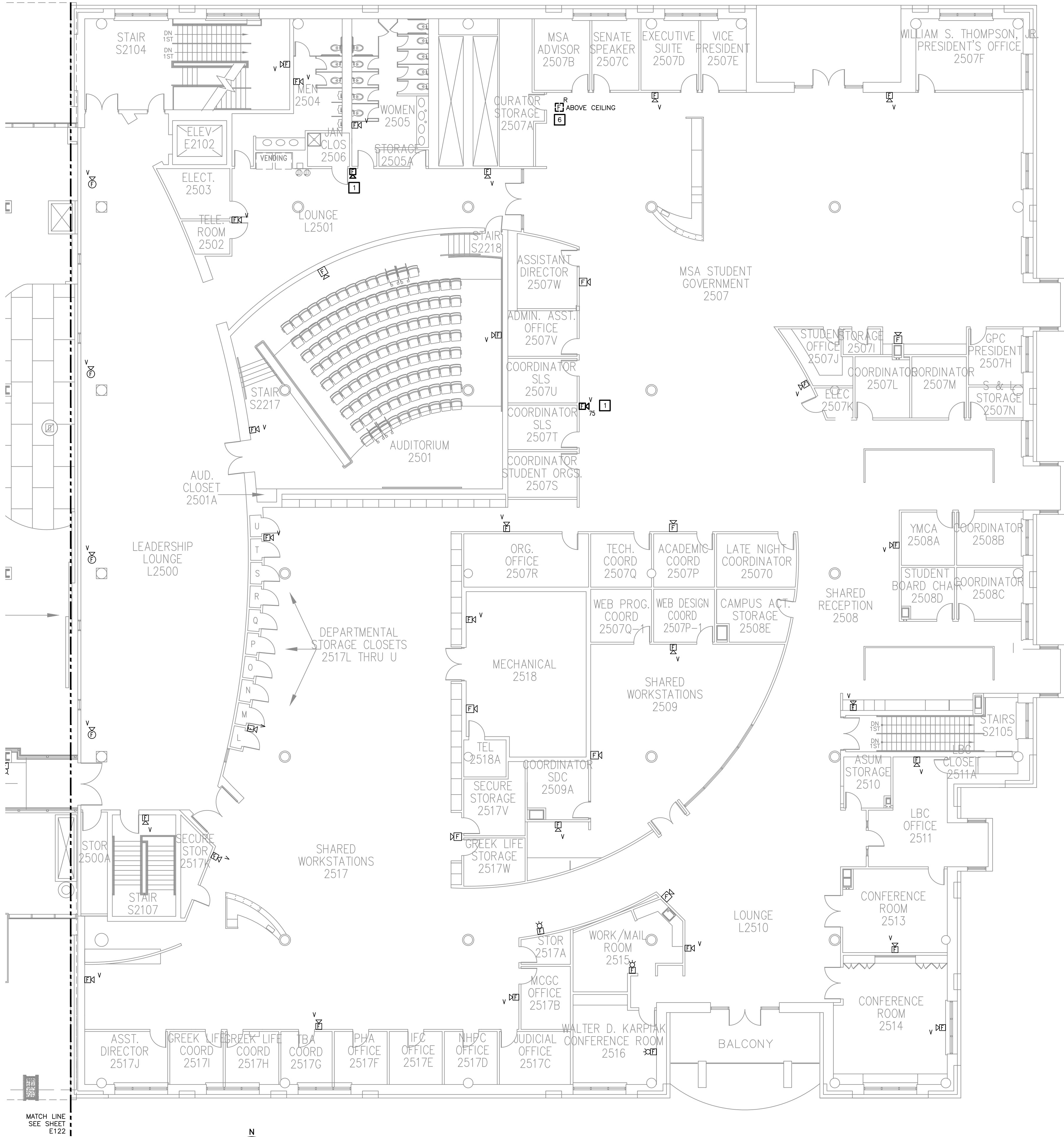
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ELECTRICAL FIRST FLOOR
FIRE ALARM
PLAN - RENOVATION

SHEET

E113

SSC#2020376 - BID SET - 07-20-21



ELECTRICAL SECOND FLOOR FIRE ALARM PLAN - RENOVATION
SCALE: 3/32" = 1' - 0"

ELECTRICAL GENERAL NOTES:

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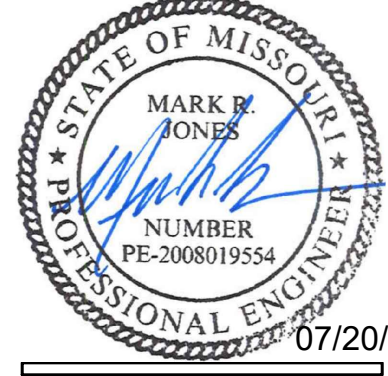
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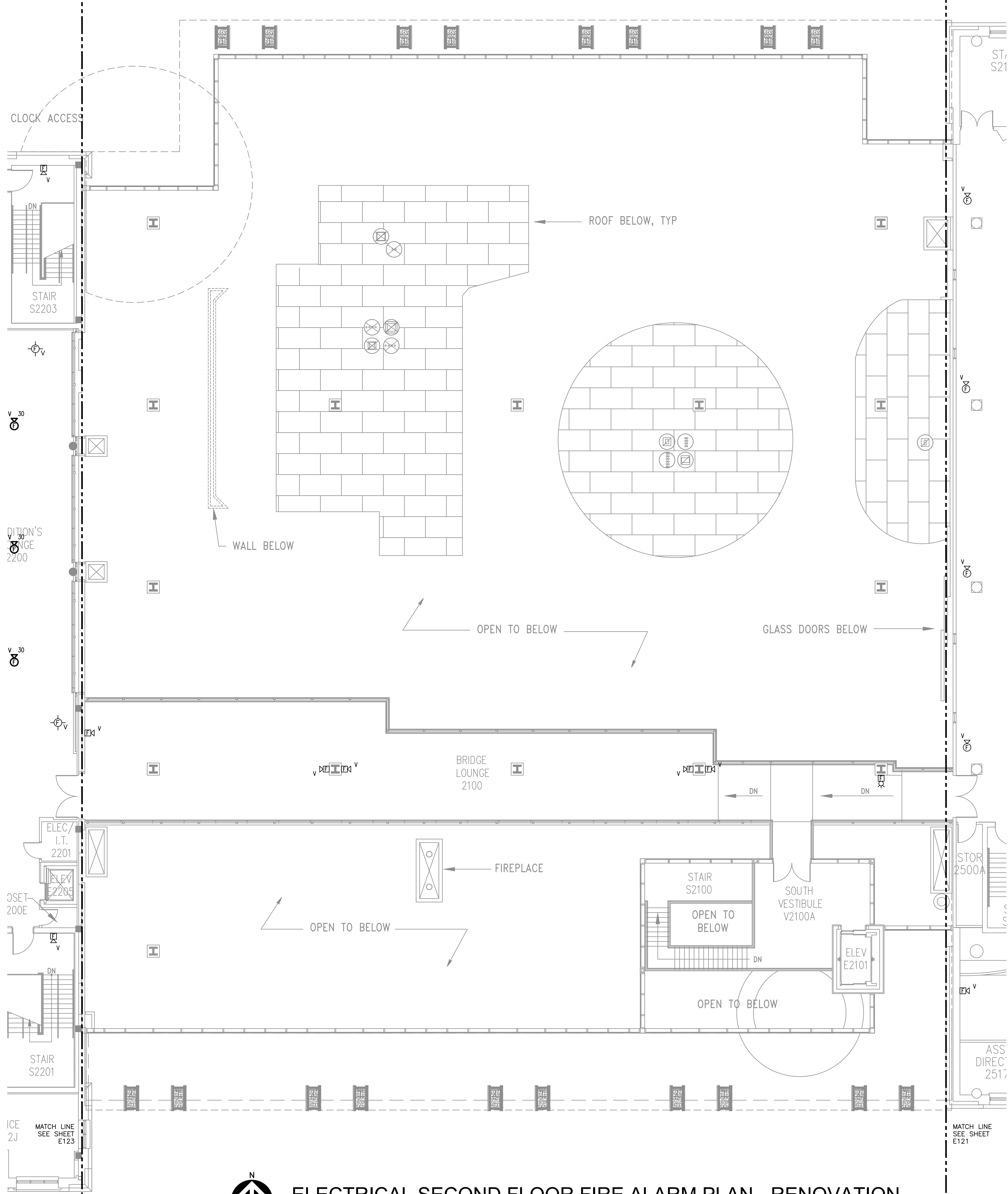
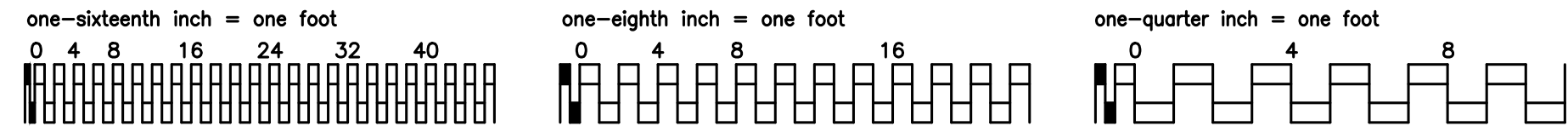
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SHEET CONTENTS

ELECTRICAL SECOND FLOOR
FIRE ALARM
PLAN - RENOVATION

SHEET

E121



ELECTRICAL GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
2. ALL MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND HVAC WORK SHALL BE COORDINATED BY THE CONTRACTOR DOING THE WORK. ANY CORRECTIONS TO ANY OF THE ABOVE SHALL BE AT THAT CONTRACTOR'S EXPENSE.
3. REFER TO ELECTRICAL DETAIL SHEET(S) FOR ADDITIONAL ACCESS CONTROL, SECURITY & VIDEO SURVEILLANCE REQUIREMENTS.
4. PROVIDE 120V POWER FOR DOOR ACCESS CONTROL AND SECURITY DEVICES AS REQUIRED. COORDINATE WITH DOOR HARDWARE INSTALLER.
5. INFORMATION ON THIS SHEET IS COMPILED FROM EXISTING DRAWINGS AND CASUAL FIELD OBSERVATIONS AND SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF ALL EQUIPMENT AND DEVICES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. EXISTING FIXTURES & DEVICES TO REMAIN ARE INDICATED WITH THIN SOLID LINES; DARK SOLID LINES INDICATE NEW FIXTURES/DEVICES.
7. THE FA CONTRACTOR SHALL PROVIDE SIGNED AND SEALED FA SHOP DRAWINGS AS OUTLINED IN THE ELECTRICAL SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO WIRING DIAGRAMS, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, DEVIATIONS OR EXCEPTIONS FROM THIS DRAWING, ETC. SHOP DRAWINGS WILL BE RETURNED UNREVIEWED IF THEY ARE NOT SIGNED AND SEALED.

NO NEW WORK ON SHEET

ELECTRICAL SECOND FLOOR FIRE ALARM PLAN - RENOVATION
SCALE: 3/32" = 1' - 0"



1807 Edison Avenue
Chesterfield, Missouri 63005
Phone: 636.530.7770 Fax: 636.530.7877
Missouri Certificate of Authority #NC 001244

MARK R. JONES, P.E.
MO LIC# PE-2008019554
EXP: 12/31/22



THE SEAL AND SIGNATURE APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

CP210861
MU STUDENT CENTER - FIRE ALARM UPGRADES
901 ROLLINS ST.
COLUMBIA, MISSOURI 65211

REVISIONS

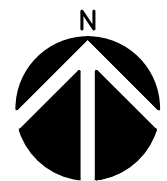
PROJECT NO. CP210861
DATE 07/20/21
DRAWN BY JMS
CHECKED BY MRJ

SHEET CONTENTS

ELECTRICAL SECOND FLOOR
FIRE ALARM
PLAN - RENOVATION

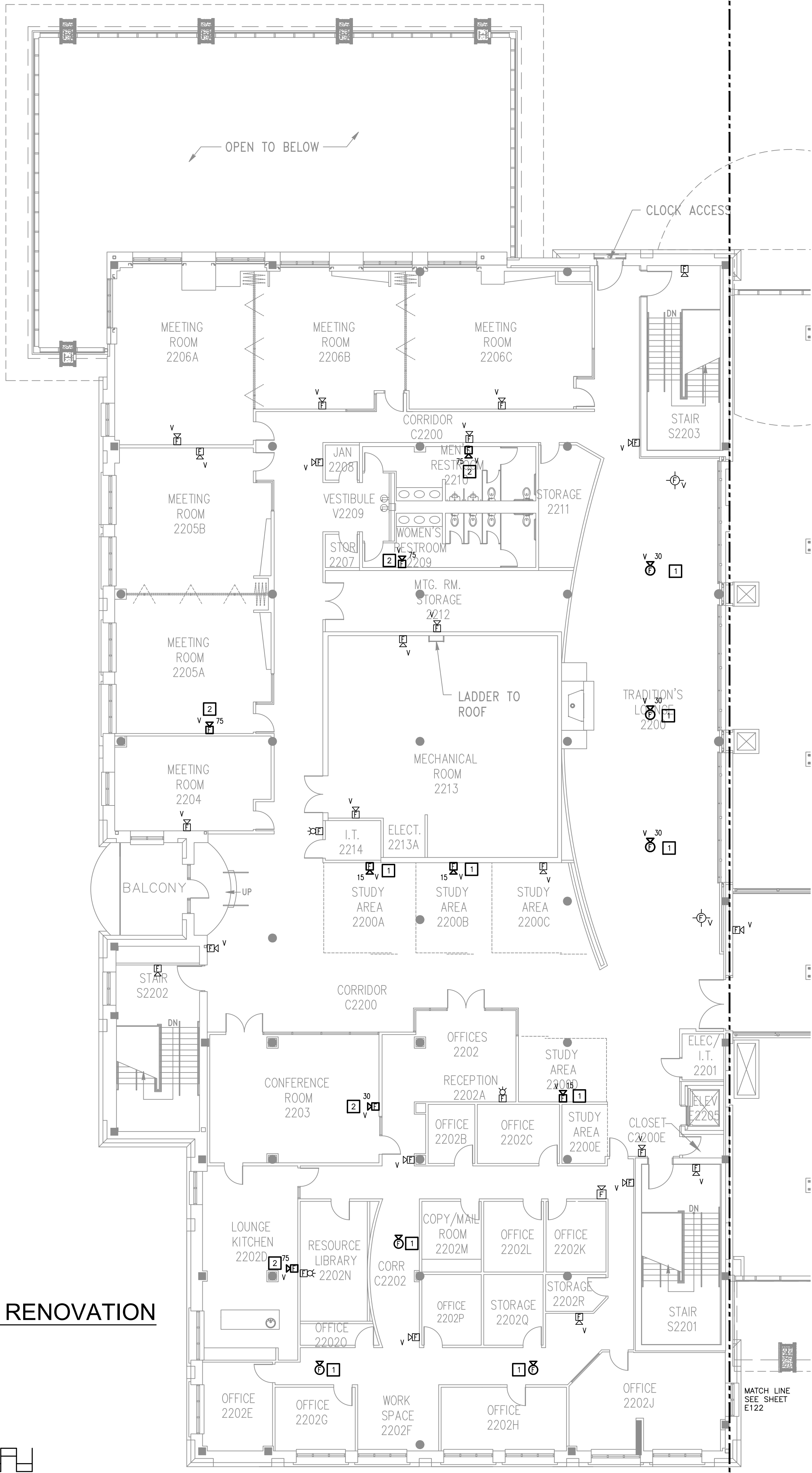
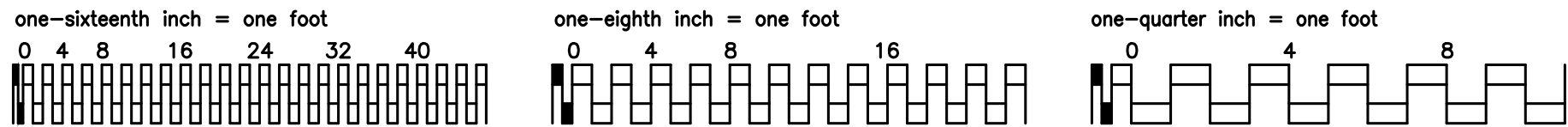
SHEET

E122



ELECTRICAL SECOND FLOOR FIRE ALARM PLAN - RENOVATION

SCALE: 3/32" = 1' - 0"



ELECTRICAL GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
2. ALL MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND HVAC WORK SHALL BE COORDINATED BY THE CONTRACTOR DOING THE WORK. ANY CORRECTIONS TO ANY OF THE ABOVE SHALL BE AT THAT CONTRACTOR'S EXPENSE.
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ELECTRICAL KEYED NOTES:

- 1 PROVIDE AND INSTALL NEW FIRE ALARM SPEAKER OR SPEAKER/STROBE INDICATED.
- 2 REPLACE EXISTING STROBE WITH NEW SPEAKER STROBE. RE-USE EXISTING JUNCTION BOX AND NAC WIRING.
- 3 DISCONNECT AND REMOVE EXISTING STROBE OBSTRUCTED BY MERCHANDISE. RETAIN THE EXISTING NAC WIRING TO THE EXTENT FEASIBLE FOR EXTENSION TO NEW CEILING DEVICE IN THE VICINITY.
- 4 COORDINATE WITH STORE MANAGER TO KEEP AREA AROUND FIRE ALARM DEVICE CLEAR.
- 5 EXISTING ANSUL FIRE PROTECTION SYSTEMS FOR KITCHEN HOODS MONITORED BY THE FIRE ALARM SYSTEM SHALL REMAIN.
- 6 CONTRACTOR SHALL TEMPORARILY DISCONNECT AUDIO CIRCUIT T-TAPPED INTO CLASS A LOOP. REMOVE EXISTING RELAYS/CONTROL MODULES AND PROVIDE NEW AUDIO AMPLIFIERS AS REQUIRED TO RESTORE CLASS A WIRING LOOP. CONTRACTOR SHALL FIELD VERIFY ALL ASSOCIATED WIRING.
- 7 COORDINATE WITH OWNER FOR EXACT LOCATIONS OF DEVICES TO LIMIT OBSTRUCTION OF CARVINGS ROUTE WIRING ABOVE SUSPENDED WOOD CEILING.
- 8 PROVIDE FIRE ALARM CONTROL MODULE(S) AS REQUIRED TO INHIBIT A/V SOUND SYSTEM IN "THE SHACK" DURING EMERGENCY FIRE ALARM ANNOUNCEMENTS. FIELD VERIFY EXISTING SOUND SYSTEM RACK AND COORDINATE WITH OWNER'S A/V VENDOR.



Engineering, Inc.

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