MIDDLE TENNESSEE STATE UNIVERSITY.

366/009-02-2024
Campus Life Safety System Updates
Phase 1

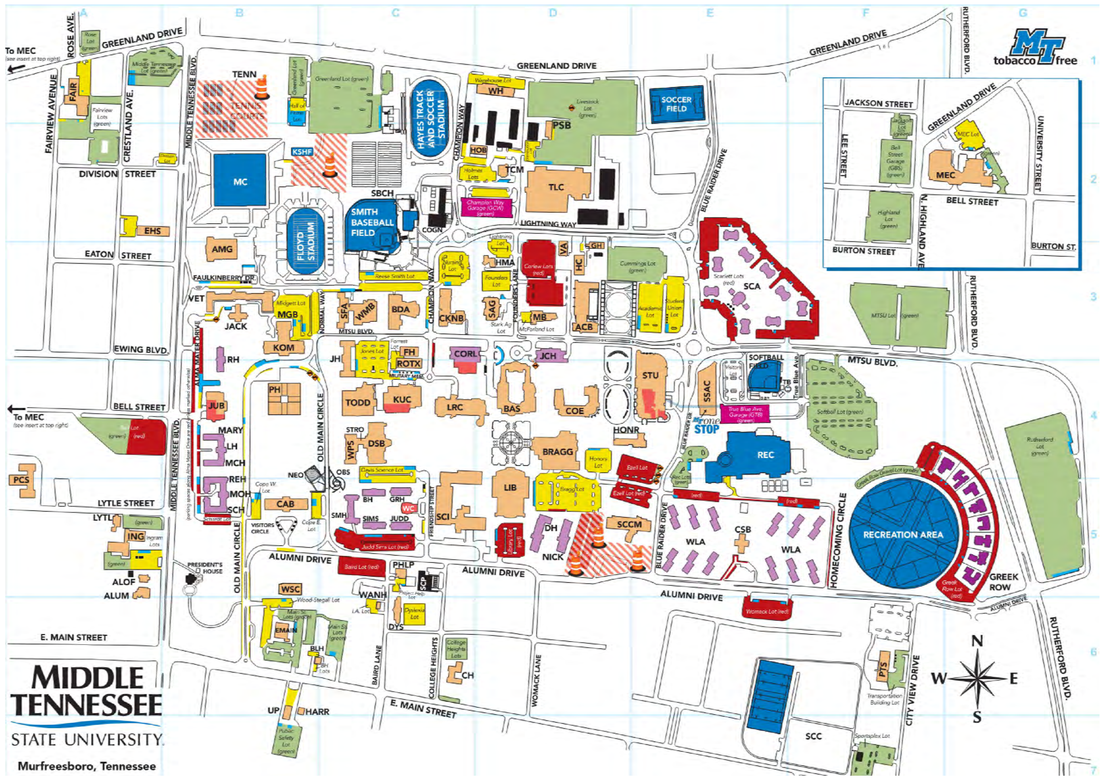
(A) Campus-Wide Fire Alarm Control Panel Network Upgrades
Scope of Work: Network Upgrade of Existing Building Fire Alarm Control Panels

(B) Campus-Wide Fire Alarm Control Panel Replacement
Scope of Work: Replacement of Existing Building Fire Alarm Control Panel

(C) Business & Aerospace Building Fire Alarm Upgrades
Scope of Work: Replacement of Existing Building Fire Alarm System

(D) Forrest Hall & Annex Building Fire Alarm Upgrades
Scope of Work: Replacement of Existing Building Fire Alarm System

(E) Campus-Wide Fire Pump Upgrades
Scope of Work: Replacement of Existing Building Fire Pump and Controller



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STATE OF TENNESSEE
9/5/25

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE: 07/25/2025
JOB NUMBER: 24-121-TN
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GENERAL PROJECT NOTES

1. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION MEETS OR EXCEEDS APPLICABLE CODES AND STANDARD PRACTICES, INCLUDING ALL FEDERAL, STATE, LOCAL BUILDING CODES AND ACCESSIBILITY REQUIREMENTS AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VIOLATION OF THE SAME AND SHALL MAKE ALL WORK ACCEPTABLE TO THE JURISDICTIONAL AUTHORITY INVOLVED WITHOUT COST OR TIME TO THE PROJECT.

2. ALL GENERAL NOTES APPLY TO THE ENTIRE SCOPE OF THIS TOTAL PROJECT AND THE CONTRACT DOCUMENTS (DRAWINGS, SPECIFICATIONS, ADDENDUMS, SUPPLEMENTAL DRAWINGS, ETC.).

3. THE CONTRACTOR SHALL COORDINATE SCHEDULING, SUBMITTALS, AND WORK TO ENSURE EFFICIENT AND ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS WITH PROVISIONS FOR ACCOMMODATING ITEMS TO BE INSTALLED LATER. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL SPACE REQUIREMENTS, SUPPORTS, AND INSTALLATION OF EQUIPMENT, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK WHICH ARE INDICATED DIAGRAMMATICALLY ON DRAWINGS PRIOR TO INITIATING WORK. ROUTING SHOWN FOR PIPES, DUCTS AND CONDUIT SHALL BE FOLLOWED AS CLOSELY AS PRACTICABLE WITH SPACE UTILIZED EFFICIENTLY TO MAXIMIZE ACCESSIBILITY FOR OTHER INSTALLATIONS, FOR MAINTENANCE, AND FOR REPAIR. THE GENERAL CONTRACTOR SHALL VERIFY THAT UTILITY REQUIREMENTS AND CHARACTERISTICS OF NEW OPERATING EQUIPMENT ARE COMPATIBLE WITH BUILDING UTILITIES PRIOR TO PROCUREMENT OR INSTALLATION, AND SHALL COORDINATE WORK OF VARIOUS TRADES HAVING INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING TO, AND PLACING IN SERVICE SUCH EQUIPMENT. ANY REQUIRED CHANGES OR ADJUSTMENTS TO THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

4. ALL SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE ARCHITECT AND/OR ARCHITECT'S CONSULTANT AND IF APPLICABLE MUST BE RESUBMITTED TO AND APPROVED BY THE APPROPRIATE JURISDICTIONAL AUTHORITY. FAILURE TO FOLLOW THIS PROCEDURE MAY RESULT IN THE REJECTION OF SOME OR ALL WORK INSTALLED, REGARDLESS OF THE STATUS OF THE WORK, AT THE SOLE EXPENSE OF THE CONTRACTOR.

5. ERRORS OR OMISSIONS IN ANY SCHEDULE OR DRAWINGS DO NOT RELIEVE THE CONTRACTOR(S) FROM EXECUTING WORK INTENDED IN THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.

6. THE CONTRACTOR(S) SHALL BEAR THE TOTAL EXPENSE FOR AND SHALL REPAIR TO EXISTING CONDITIONS, ANY DAMAGE TO EXISTING CONSTRUCTION EQUIPMENT, IMPROVEMENTS, UNDERGROUND UTILITIES, PIPING OR CONDUIT NOT INDICATED IN THE DRAWINGS OR SPECIFICATIONS TO RECEIVE ALTERATIONS, ADDITIONS OR REMOVAL.

7. ALL WORK SHALL BE PERFORMED IN THE BEST WORKMANSHIP POSSIBLE IN ACCORDANCE WITH THAT TRADE'S BEST INDUSTRY STANDARDS.

8. HAZARDOUS MATERIALS: IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB AND IMMEDIATELY NOTIFY THE ARCHITECT AND THE OWNER.

9. INSTALL ALL ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, EXCEPT THAT THE SPECIFICATIONS HEREIN, WHERE THE MORE STRINGENT, SHALL BE COMPLIED WITH. NOTIFY THE ARCHITECT IN WRITING OF ANY CONFLICTS IMMEDIATELY AND BEFORE PROCEEDING.

10. CONTRACTOR SHALL EXERCISE CARE WHEN PENETRATING EXISTING WALLS OR FLOOR / CEILING SLABS SO STRUCTURAL INTEGRITY OF SUCH ELEMENTS IS NOT DEGRADED. CONTRACTOR SHALL RESTORE EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY SCOPE OF WORK, CONTRACTOR SHALL SEAL TIGHT ALL NEW PENETRATIONS IN WALLS AND FLOOR / CEILING SLABS TO PROVIDE THE REQUIRED FIRE RATING INTEGRITY.

11. NOT ALL ITEMS TO BE DEMOLISHED ARE SHOWN ON THE PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A WALK-THRU OF THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS FOR IDENTIFYING POSSIBLE CRITICAL ITEMS, NOT ADDRESSED OR INCORRECTLY ADDRESSED, WHICH REQUIRE REMOVAL / RELOCATION.

12. THESE DRAWINGS ARE ONLY TO ASSIST IN THE SHOWING OF SCOPE OF DEMOLITION WORK AND ARE NOT INTENDED TO INDICATE ALL DEMOLITION. CONTRACTOR SHALL REMOVE ALL EXISTING ITEMS AS REQUIRED TO COMPLETE THE JOB.

13. MAINTAIN FIRE RATINGS OF RATED WALLS WHERE APPLICABLE, TYP.

14. PATCH AND REPAIR FLOORS/WALLS/CEILINGS AS NECESSARY / NOTED IN PLANS.

15. REMOVE AND STORE AS DIRECTED BY OWNER THE FOLLOWING ITEMS: DOORS, DOOR HARDWARE, MILLWORK, ITEMS MARKED TO KEEP, AND ITEMS STORED ON SITE.

16. CONTRACTOR TO PERFORM THE WORK OUTLINED IN THESE NOTES IN ALL AREAS OF CONSTRUCTION UNLESS NOTED OTHERWISE IN THESE DOCUMENTS.

SHEET INDEX

(A) Campus-Wide Fire Alarm Control Panel Network Upgrades

Scope of Work: Network Upgrade of Existing Building Fire Alarm Control Panels

BUIDLING NAME	MTSU DESIGNATION	ADDRESS
MAINTENANCE/WAREHOUSE	MAINT WHSE/WH	1672 GREENLAND DRIVE, MURFREESBORO, TN 37132
TENNESSEE LIVESTOCK CENTER	TLC	1720 GREENLAND DRIVE, MURFREESBORO, TN 37132
MILLER EDUCATION CENTER	MEC	503 BELL STREET, MURFREESBORO, TN 37132
JOHN BRAGG MEDIA AND ENTERTAINMENT	BRAGG	1735 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132
CONSTRUCTION MANAGEMENT	SCCM	1723 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132
PAUL MARTIN HONORS BUILDING	HONORS	1737 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132
TELECOMMUNICATIONS BUILDING	TCM	732 CHAMPION WAY, MURFREESBORO, TN 37132
COLLEGE OF EDUCATION BUILDING	COE	1756 MTSU BOULEVARD, MURFREESBORO, TN 37132
STUDENT UNION	STU	1768 MTSU BOULEVARD, MURFREESBORO, TN 37132
STUDENT SERVICE & ADMISSIONS CENTER	SSAC	1860 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132
SCIENCE BUILDING	SCI	440 FRIENDSHIP STREET, MURFREESBORO, TN 37132
ACADEMIC CLASSROOM BUILDING	ACB	1751 MTSU BOULEVARD, MURFREESBORO, TN 37132
KEATHLY UNIVERSITY CENTER	KUC	1524 MILITARY MEMORIAL, MURFREESBORO, TN 37132
HAYNES/TURNER	HAYNES/TURNER	1411 E MAIN STREET, MURFREESBORO, TN 37132
DYSLEXIA BUILDING	DYS	200 NORTH BAIRD LANE, MURFREESBORO, TN 37132
JAMES WARNER LIBRARY	LIBRARY	1611 ALUMNI DRIVE, MURFREESBORO, TN 37132
1403 EAST MAIN BUILDING	MAIN BUILDING	1403 EAST MAIN, MURFREESBORO, TN 37132
COPE ADMINISTRATION	COPE/CAB	315 VISITORS CIRCLE, MURFREESBORO, TN 37132
PROJECT HELP	PHLP	206 NORTH BAIRD LANE, MURFREESBORO, TN 37132
PITTARD CAMPUS SCHOOL	PCS	923 EAST LYTLE STREET, MURFREESBORO, TN 37132
SATELLITE CHILLER PLANT	CHILLER/SCP	215 COLLEGE HEIGHTS, MURFREESBORO, TN 37132
COLLEGE HEIGHTS	CH	1601 EAST MAIN STREET, MURFREESBORO, TN 37132
SAM INGRAM BUILDING	ING	2269 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132

(B) Campus-Wide Fire Alarm Control Panel Replacement

Scope of Work: Replacement of Existing Building Fire Alarm Control Panel

BUIDLING NAME	MTSU DESIGNATION	ADDRESS
PRINTING SERVICES	PRINTING SERVICES	1756 GREENLAND DRIVE, MURFREESBORO, TN 37132
PRESIDENTS RESIDENCE	PRES RES	2212 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132
LYTLE BUILDING	LYTL	1114 EAST LYTLE STREET, MURFREESBORO, TN 37132
ALUMNI OFFICE	ALOF/MT10	2263 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132
ALUMNI HOUSE	ALUM	2259 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132

(C) Business & Aerospace Building Fire Alarm Upgrades

Scope of Work: Replacement of Existing Building Fire Alarm System

BUIDLING NAME	MTSU DESIGNATION	ADDRESS
BUSINESS & AEROSPACE BUILDING	BAS	1827 MTSU BOULEVARD, MURFREESBORO, TN 37132

(D) Forrest Hall & Annex Building Fire Alarm Upgrades

Scope of Work: Replacement of Existing Building Fire Alarm System

BUIDLING NAME	MTSU DESIGNATION	ADDRESS
FORREST HALL	FH	543 CHAMPION WAY, MURFREESBORO, TN 37132
ANNEX BUILDING	ROTX	531 CHAMPION WAY, MURFREESOBOR, TN 37132

(E) Campus-Wide Fire Pump Upgrades

Scope of Work: Replacement of Existing Building Fire Pump and Controller

BUIDLING NAME	MTSU DESIGNATION	ADDRESS
BOUTWELL DRAMATIC ARTS	BDA	615 CHAMPION WAY, MURFREESOBOR, TN 37132
ANDREW TODD HALL	TODD	1512 MILITARY MEMORIAL, MURFREESBORO, TN 37132

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STATE OF TENNESSEE
7/25/25

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ELECTRICAL SYMBOL LEGEND

LINE WEIGHT & LINE TYPE DESIGNATIONS

SYMBOL	DESCRIPTION	REMARKS
	EXISTING (UNLESS OTHERWISE INDICATED)	
	PROVIDE AS NEW (UNLESS OTHERWISE INDICATED)	

BASIC DRAWING

SYMBOL	DESCRIPTION	REMARKS
(#)	KEYED DRAWING NOTE	
	REMOVALS	
	CIRCUIT	

ONE-LINE/RISER

SYMBOL	DESCRIPTION	REMARKS
	CIRCUIT BREAKER	
	FUSE	
	DISCONNECT SWITCH (NON-FUSED)	
	DISCONNECT SWITCH (FUSED)	
	TRANSFER SWITCH	
	TRANSFORMER	
	PANELBOARD	
(M)	METER (SELF CONTAINED)	
(M)	METER (WITH CURRENT TRANSFORMERS)	
(#)	MOTOR (NUMBER INDICATES HORSEPOWER)	
(G)	GENERATOR	
	GROUND CONNECTION	
	CONTINUATION	

POWER - DISTRIBUTION

SYMBOL	DESCRIPTION	REMARKS
	PANELBOARD (FLUSH-MOUNTED)	
	PANELBOARD (SURFACE-MOUNTED)	
T	TRANSFORMER	
ATS	AUTOMATIC TRANSFER SWITCH	
MTS	MANUAL TRANSFER SWITCH	
	DISCONNECT SWITCH (NON-FUSED)	
	DISCONNECT SWITCH (FUSED)	
MS	MANUAL MOTOR STARTER	
	MAGNETIC MOTOR STARTER	
	COMBINATION MAGNETIC MOTOR STARTER/DISCONNECT	
VFD	VARIABLE FREQUENCY DRIVE (VFD)	
(M)	MOTOR	
	HARD-WIRED EQUIPMENT CONNECTION	
(G)	GENERATOR	
⊗	GROUND ROD	

POWER - BRANCH DEVICES

SYMBOL	DESCRIPTION	REMARKS
	SIMPLEX RECEPTACLE	MOUNT AT 18" AFF, UNO
	DUPLEX RECEPTACLE	MOUNT AT 18" AFF, UNO
	DUPLEX RECEPTACLE	MOUNT ABOVE COUNTER, UNO MOUNT HORIZONTAL FOR ADA
	GFI DUPLEX RECEPTACLE	MOUNT AT 18" AFF, UNO
	GFI DUPLEX RECEPTACLE	MOUNT ABOVE COUNTER, UNO MOUNT HORIZONTAL FOR ADA
	TWO DUPLEX RECEPTACLES MOUNTED IN COMMON BOX	MOUNT AT 18" AFF, UNO
	SPECIAL PURPOSE RECEPTACLE, SUBSCRIPT INDICATES TYPE	MOUNT AT 18" AFF, UNO
(J) [J]	JUNCTION BOX OR OUTLET BOX	
	RECEPTACLE(S) IN RECESSED FLOOR BOX	
	CEILING MOUNTED RECEPTACLE(S)	

FIRE ALARM

SYMBOL	DESCRIPTION	REMARKS
FACP	FIRE ALARM CONTROL PANEL	
FAAP	FIRE ALARM REMOTE ANNUNCIATOR	
(S)	SMOKE DETECTOR	
(S)S	SMOKE DETECTOR WITH SOUNDER BASE	
(S)V	SMOKE DETECTOR WITH VISUAL BASE	
(H)	HEAT DETECTOR	
(D)	DUCT SMOKE DETECTOR	
F	MANUAL PULL STATION	MOUNT AT 42" - 48" AFF
F◁	STROBE NOTIFICATION DEVICE	MOUNT AT 80" - 96" AFF, MIN 6" BELOW CEILING
F◁	COMBINATION SPEAKER/STROBE NOTIFICATION DEVICE	MOUNT AT 80" - 96" AFF, MIN 6" BELOW CEILING
F◀	SPEAKER NOTIFICATION DEVICE	MOUNT AT 80" - 96" AFF, MIN 6" BELOW CEILING
DH	DOOR HOLD-OPEN DEVICE	
FS	WATER FLOW DETECTION SWITCH	
TS	TAMPER SWITCH	
CM	CONTROL MODULE	
MM	MONITOR MODULE	
SD	SMOKE DAMPER	
FSD	COMBINATION FIRE/SMOKE DAMPER	
PS	PRESSURE SWITCH	
(C)	CARBON MONOXIDE DETECTOR	
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL	
KNO	KNOX BOX	

TELEPHONE/DATA/COMMUNICATION

SCOPE OF WORK SHALL BE RACEWAY ONLY. FOR EACH WALL DEVICE LOCATION, PROVIDE RECESSED WALL-BOX AND 1" CONDUIT STUB WITH PULL STRING TO ACCESSIBLE ABOVE CEILING SPACE. FOR EACH CEILING DEVICE LOCATION, PROVIDE RECESSED CEILING BOX AND 1" CONDUIT TO NEAREST ACCESSIBLE ABOVE-CEILING SPACE. DEVICES, CABLING, EQUIPMENT, ETC. PROVIDED BY OTHERS.

SYMBOL	DESCRIPTION	REMARKS
#D ▽	DATA OUTLET. #D SUBSCRIPT INDICATE NUMBER OF DATA AND TELEPHONE JACKS. IF NO SUBSCRIPTS ARE GIVEN, PROVIDE BLANK COVERPLATE.	MOUNT AT 18" AFF, UNO
#V ▼	TELEPHONE OUTLET. #V SUBSCRIPT INDICATE NUMBER OF DATA AND TELEPHONE JACKS ARE GIVEN, PROVIDE BLANK COVERPLATE.	MOUNT AT 18" AFF, UNO
#D#V ▽▼	TELEPHONE/DATA OUTLET. #D #V SUBSCRIPT INDICATE NUMBER OF DATA AND TELEPHONE JACKS. IF NO SUBSCRIPTS ARE GIVEN, PROVIDE BLANK COVERPLATE.	MOUNT AT 18" AFF, UNO
(W)	WIRELESS ACCESS POINT	
DR	DATA RACK (REFER TO RISER, AND/OR SPECIFICATIONS FOR TYPE)	
TV	CABLE TELEVISION OUTLET	MOUNT AT 18" AFF, UNO
●	PUSHBUTTON (SUBSCRIPT INDICATES TYPE) EPO - EMERGENCY POWER OFF DB - DOOR BELL HC - DOOR OPENER	MOUNT AT 46" AFF, UNO
AD	AUDIBLE/VISUAL DOORBELL CHIME	MOUNTING HEIGHT PER ADA
IC	INTERCOM STATION	
(SP)	SPEAKER	

RACEWAY MATRIX

AREA TYPE	WALL/CEILING TYPE	RACEWAY REQUIREMENT
FINISHED/FRONT-OF-HOUSE/PUBLIC	CMU/CONCRETE	SURFACE - WIREMOLD METAL RACEWAY SHALL BE RUN CONTINUOUSLY FROM FLOOR TO CEILING (FOR WALLS) OR WALL TO WALL (FOR CEILINGS), MOUNT DEVICE BOX ALONG RACEWAY RUN AT ELEVATION/LOCATION REQUIRED. WALL BASEBOARD SHALL WRAP RACEWAY. NO PARTIAL RUNS WILL BE ALLOWED. RACEWAY, BOXES, ETC. SHALL BE PAINTED TO MATCH EXISTING SURFACE.
	DRYWALL	RECESSED - RACEWAYS, BOXES, ETC. SHALL BE RECESSED IN ALL AREAS WITH DRYWALL WALL/CEILING TYPES. SURFACE-MOUNTED RAVEWAYS AND BOXES WILL NOT BE ALLOWED.
UNFINISHED/BACK-OF-HOUSE/SERVICE	CMU/CONCRETE	SURFACE - CONDUIT, RACEWAYS, BOXES, ETC. SHALL BE SURFACE-MOUNT, RUN PARALLEL OR PERPENDICULAR TO WALL/FLOOR/CEILING.
	DRYWALL	RECESSED - RACEWAYS, BOXES, ETC. SHALL BE RECESSED IN ALL AREAS WITH DRYWALL WALL/CEILING TYPES. SURFACE-MOUNTED RAVEWAYS AND BOXES WILL NOT BE ALLOWED.

GENERAL NOTES

1. THE GENERAL NOTES APPLY TO ALL DRAWINGS UNDER THIS CONTRACT. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL NOTES.
2. ALL ELECTRICAL WORK SHOWN SHALL BE PROVIDED AS NEW UNLESS OTHERWISE NOTED.
3. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWING IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS. BRANCH CIRCUIT NUMBERS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE CIRCUIT NUMBERS AND PROVIDE A SCHEDULE IN PANEL IDENTIFYING BRANCH CIRCUITS.
4. JUNCTION AND PULL BOXES SHALL GENERALLY BE LOCATED FOR FLUSH MOUNTING IN FINISHED SPACES. WHERE NECESSARY, CONDUITS SHALL BE REROUTED OR OTHER ARRANGEMENTS MADE FOR CONCEALMENT. PULL BOXES SHALL BE PROVIDED AS INDICATED AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE AND COORDINATE LOCATIONS WITH OTHER TRADES. COVERS OF JUNCTION AND PULL BOXES SHALL BE ACCESSIBLE. FOR EMPTY RACEWAY RUNS, PULL BOXES SHALL BE PROVIDED EVERY 100 FEET AND AS INDICATED OR NECESSARY.
5. BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. WALL AND SWITCH OUTLETS SHALL BE ERECTED IN ADVANCE OF FURRING AND FIREPROOFING. BOXES SHALL BE SECURED TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
6. IN EXISTING BUILDINGS, ALL REQUIRED ACCESS DOORS SHALL BE FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION. ALL ACCESS DOOR LOCATIONS SHALL BE FIELD COORDINATED WITH THE OWNER.
7. NO ELECTRICAL RACEWAYS OR CONDUCTORS SHALL BE INSTALLED WITHIN 3 INCHES OF STEAM OR HOT WATER PIPES, OR APPLIANCES, EXCEPT FOR CROSSING WHERE RACEWAYS SHALL BE AT LEAST 1 INCH FROM PIPE COVER.
8. SUFFICIENTLY LONG WIRE SLACK SHALL BE LEFT IN RUNS TO ALLOW FOR MAKING PROPER FINAL CONNECTIONS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH #12 AWG STEEL DRAG WIRES.
9. ALL WIRING SHALL BE ROUTED IN AN ORGANIZED AND NEAT MANNER.
10. SUBMIT DIMENSIONED LAYOUTS OF ALL ELECTRIC EQUIPMENT WITH EQUIPMENT SUBMITTALS.
11. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL RACEWAYS RUNS WITH EXISTING CONDITIONS AND INCLUDE ALL PULLBOXES, OFFSETS, CUTTING, PATCHING, PAINTING TO MATCH EXISTING, SUPPORTS, ETC. AS REQUIRED.
12. THE ROUTING AND LOCATION OF CONDUIT RUNS ARE GENERALLY NOT DIMENSIONAL ON THE DRAWINGS BUT SHALL BE DETERMINED IN THE FIELD TO SUIT THE LOCATIONS OF EQUIPMENT, TO CONFORM TO STRUCTURAL AND ARCHITECTURAL FEATURES AND TO AVOID INTERFERENCES.
13. ALL CUTTING AND RESTORATION OF SLAB AND FLOOR SHALL BE AS APPROVED BY ENGINEER.
14. ELECTRICAL CONTRACTOR SHALL VERIFY ALL PENETRATIONS, POKE THRUS, AND EXISTING CONDUIT LOCATIONS PRIOR TO MODIFICATION.
15. WHERE CONDUIT OR JUNCTION BOXES ARE RUN IN SLAB, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, AND RESTORATION OF SLAB AND FLOOR.
16. SYMBOLS AND LEGENDS SHOWN ON THIS DRAWING ARE FOR ELECTRICAL DRAWINGS ONLY. SEE OTHER TRADE DRAWINGS FOR RESPECTIVE SYMBOLS AND LEGENDS.
17. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SLAB CUTS, FOUNDATION WALL PENETRATIONS, WALL OPENINGS, CORE DRILLING, ROOF PENETRATIONS, ETC. AND PATCHING AS REQUIRED TO PROVIDE ALL ELECTRICAL WORK. FOR FOUNDATION WALL PENETRATIONS PROVIDE 4"X4"X3/8" WELDED STEEL ANGLE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER AND PROVIDE WATER PROOFING . ALL ROOF, TUNNEL AND FOUNDATION PENETRATIONS SHALL BE WATER PROOFED. COORDINATE WORK SO AS TO MAINTAIN ANY AND ALL WARRANTIES FOR ROOF SYSTEMS, FOUNDATIONS, ETC.
18. HORIZONTAL OR CROSS RUNS IN PARTITIONS OR WALLS ARE NOT PERMITTED.
19. THE ELECTRICAL CONTRACTOR SHALL NOT INSTALL MORE THAN THE NUMBER OF CIRCUITS SHOWN IN ANY HOMERUN CIRCUIT.
20. CONTRACTOR TO PROVIDE FIRE PROOFING AT ALL PENETRATIONS OF RATED PARTITIONS, FLOORS, AND WHERE THE EXISTING FIRE PROOFING WAS REMOVED TO EXPOSE EXISTING STEEL FOR NEW HANGER INSTALLATION. REFER TO SPECIFICATION SECTION FIRE PROOFING.

1 21. ALL RACEWAYS, WIRING, AND ASSOCIATED ELECTRICAL EQUIPMENT SHALL BE ROUTED CONCEALED EXCEPT IN UNFINISHED AREAS. REFER TO RACEWAY MATRIX ON THIS SHEET FOR ADDITIONAL INFORMATION.

22. ALL EQUIPMENT, MATERIALS, ETC. SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL. REFER TO SPECIFICATIONS FOR ADDITIONAL ACTION SUBMITTAL AND SHOP DRAWING REQUIREMENTS.
23. PRIOR TO CONSTRUCTION, COORDINATE WITH LOCAL AHJ THE UL CONDITIONAL LISTING REQUIREMENTS FOR ALL JUNCTIONS BOXES UTILIZED IN RATED WALLS AND CEILINGS.
24. WHERE CONFLICTS EXIST BETWEEN THE INFORMATION INCLUDED IN THESE DRAWINGS OR BETWEEN INFORMATION PROVIDED IN THESE DRAWINGS AND THE PROJECT SPECIFICATIONS OR WITHIN THE PROJECT SPECIFICATIONS, THE MORE STRINGENT AND/OR HIGHEST COST REQUIREMENTS SHALL APPLY. SHOULD THE CONTRACTOR REQUIRE FURTHER CLARIFICATION, AN RFI SHALL BE SUBMITTED FOR CLARIFICATION. WHERE CONFLICTS DO EXIST, THE PROJECT ENGINEER OF RECORD SHALL HAVE THE SOLE DISCRETION AND RIGHT TO PROVIDE INTERPRETATION OF INTENT OF THE CONTRACT DOCUMENTS AS REQUIRED AND THIS INTERPRETATION SHALL SERVE TO DIRECT THE CONTRACTOR IN ACCORDANCE WITH THE IMPLIED INTENT OF THE CONSTRUCTION DOCUMENTS WITHOUT ADDITIONAL COST TO THE PROJECT.
25. THE FIRE ALARM NOTIFICATION AND DETECTION SYSTEM IS A PERFORMANCE-BASED, DEFERRED SUBMITTAL SYSTEM, TO BE FULLY DESIGNED, STAMPED, AND SUBMITTED BY THE LICENSED FIRE ALARM CONTRACTOR IN PERMIT READY FORM TO THE LOCAL AHJ. THE FIRE ALARM DEVICES SHOWN ON THE ELECTRICAL DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS ARE INTENDED TO SHOW MINIMUM SYSTEM PERFORMANCE PARAMETERS AND ARE PROVIDED TO ASSIST THE CONTRACTOR IN THEIR DESIGN PROCESS TO PROVIDE A FIRE ALARM SYSTEM COMPLIANT WITH LOCAL AND NATIONAL CODES.
26. ALL VALUE ENGINEERING OR DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE DESIGN TEAM FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED MODIFICATIONS (AND INCURRED COSTS) RESULTING FROM THIS SUBSTITUTION, INCLUDING THOSE BY OTHER TRADES. PAY SPECIAL ATTENTION TO THE PHYSICAL DIMENSIONS AND WEIGHT OF THE EQUIPMENT, AS WELL AS ALL CLEARANCES REQUIRED FOR INSTALLATION AND SERVICE, REQUIRED PENETRATIONS, AND ALL DUCTWORK, PIPING AND ELECTRICAL CONNECTIONS. COORDINATE WITH ARCHITECT, GENERAL CONTRACTOR, AND WORK OF ALL TRADES. ANY COST INCURRED AS A RESULT OF ANY DEVIATIONS FROM THE BASIS OF DESIGN INDICATED IN THE CONTRACT DOCUMENTS (INCLUDING DESIGN-RELATED EXPENSES FOR REQUIRED DRAWING MODIFICATIONS) SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO INCREASE IN CONTRACT COST WILL BE GRANTED UNLESS BORNE BY AND APPROVED IN WRITING BY THE OWNER. CONTRACT DOCUMENTS ARE DEFINED TO INCLUDE ALL DISCIPLINES AND DIVISIONS OF THE CONTRACT.
27. SURFACE-MOUNTED RACEWAY SHALL BE PAINTED TO MATCH EXISTING SURFACE. COORDINATE WITH CAMPUS PHYSICAL PLANT FOR EXACT PAINT TYPES, COLORS, ETC. TO MATCH EXISTING.

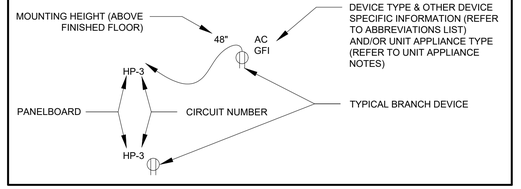
1 28. ALL FIRE ALARM WIRING (ROUTED BOTH CONCEALED AND EXPOSED) SHALL BE ROUTED WITHIN RACEWAY PER CAMPUS STANDARDS. NO FIRE ALARM WIRING WILL BE PERMITTED TO BE ROUTED IN FREE AIR.

29. FOR ALL REMOVED DEVICES AND EQUIPMENT WHERE EXISTING RACEWAY, BOXES, ETC. ARE NOT TO BE REUSED, REMOVE ALL WALL BOXES, JUNCTION BOXES, RACEWAY, ETC. IN ITS ENTIRETY BACK TO SOURCE OR NEAREST ACTIVE JUNCTION BOX. NO ABANDONED RACEWAYS WILL BE ALLOWED. WHERE CUTTING OF WALLS IS REQUIRED TO ACCOMMODATE REMOVAL, WALL SHALL BE PATCHED AND PAINTED TO MATCH EXISTING WALL CONSTRUCTION AND COLOR.
30. PROVIDE OWNER WITH DRYWALL AND PAINT SAMPLES FOR APPROVAL PRIOR TO PERFORMING WORK.

ABBREVIATIONS

A	AMPERE(S)	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KAIC	1000 AMPERE INTERRUPTING CAPACITY
ADA	AMERICANS WITH DISABILITIES ACT		
AFCI	ARC-FAULT CIRCUIT INTERRUPTER	KCMIL	1000 CIRCULAR MIL(S)
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT AMPERE(S)
AFG	ABOVE FINISHED GRADE	KW	KILOWATT(S)
AHJ	AUTHORITY HAVING JURISDICTION	LTG	LIGHTING
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MC	MECHANICAL CONTRACTOR
		MCA	MINIMUM CIRCUIT AMPACITY
ATS	AUTOMATIC TRANSFER SWITCH	MCB	MAIN CIRCUIT BREAKER
AWG	AMERICAN WIRE GUAGE	MIC	MICROWAVE
BLDG	BUILDING	MISC	MISCELLANEOUS
C	CONDUIT	MIN	MINIMUM
CB/CKT BKR	CIRCUIT BREAKER	MFR	MANUFACTURER
CL	CLOSET	MH	MOUNTING HEIGHT
CLG	CEILING	MTD	MOUNTED
CKT	CIRCUIT	N	NEUTRAL
CO	CONDUIT ONLY	NC	NORMALLY CLOSED
CONC	CONCRETE	NEC	NATIONAL ELECTRIC CODE
COND	CONDUCTOR	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CONST	CONSTRUCTION		
CONT	CONTRACT	NL	NIGHT LIGHT
CP	CONTROL PANEL	NO	NORMALLY OPEN
CT	CURRENT TRANSFORMER	NTS	NOT TO SCALE
CU	COPPER	P	POLE
DED	DEDICATED	PB	PULL BOX
DISC	DISCONNECT	PC	PLUMBING CONTRACTOR
DISH	DISHWASHER	PH/Ø	PHASE
DISP	DISPOSAL	PNL	PANEL
DIV	DIVISION	PRI	PRIMARY
DT	DUAL TECHNOLOGY (IR/US)	PWR	POWER
DWG	DRAWING	QTY	QUANTITY
EA	EACH	REC/RECEPT	RECEPTACLE
EC	ELECTRICAL CONTRACTOR	REF	REFRIGERATOR
ELEC	ELECTRIC	SEC	SECONDARY
EM/EMER	EMERGENCY	SPEC	SPECIFICATION
ER	EXISTING TO RELOCATE	SW	SWITCH
EX/EXIST	EXISTING	TEL	TELEPHONE
F	FUSE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
FA	FIRE ALARM		
FBO	FURNISHED BY OTHERS	TYP	TYPICAL
FDR	FEEDER	UG	UNDERGROUND
FL	FLOOR	UL	UNDERWRITER'S LABORATORIES
FLA	FULL LOAD AMPS	UNO	UNLESS NOTED OTHERWISE
FLUOR	FLUORESCENT	UON	UNLESS OTHERWISE NOTED
FT	FEET	UPS	UNINTERRUPTIBLE POWER SUPPLY
G/GND	GROUND	US	ULTRASONIC
GC	GENERAL CONTRACTOR	UV	ULTRAVIOLET
GFI	GROUND FAULT INTERRUPTER	V	VOLT(S)
HC	HUNG CEILING	VA	VOLTAMPERE(S)
HOA	HAND-OFF-AUTO SELECTOR SWITCH	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	W	WATT(S)
IR	INFRARED	WP	WEATHERPROOF

TYPICAL BRANCH DEVICE INFORMATION



BRANCH CIRCUIT NOTES

1. CIRCUIT NUMBERS ARE FOR REFERENCE ONLY AND INDICATE THE DEVICES REQUIRED TO BE CONNECTED TO DESIGNATED CIRCUITS.
2. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING THE ACTUAL NUMBER OF CONDUCTORS REQUIRED FOR ALL BRANCH CIRCUIT WIRING TO SERVE THE INTENDED FUNCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY BALANCING LOADS ON ALL THREE PHASES.
4. ALL BRANCH CIRCUITS SHALL HAVE SEPARATE GROUND WIRE.
5. ALL BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRAL WIRE.
6. ALL BRANCH CIRCUITS SHALL BE SIZED PER OVERCURRENT PROTECTION RATING AND NEC REQUIREMENTS (INCLUDING NEC CONDUCTOR AMPACITY TABLES, ARTICLE 334.80, AND 338.10(B)(4)).
7. PROVIDE ARC-FAULT CIRCUIT PROTECTION PER NEC ARTICLE 210.12.

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GENERAL NOTES & SYMBOLS LIST

1 DRAWING NO.

E0.1

BUILDING FACP SCOPE MATRIX

BUILDING INFORMATION				EXISTING SIMPLEX FACP MODEL	WORK REQUIRED			NEW SIMPLEX FACP MODEL (IF REQUIRED)	REMARKS
FIBER LOOP	BUIDLING NAME	MTSU DESIGNATION	ADDRESS		NETWORK CARD UPGRADE	NETWORK CARD & CPU UPGRADE	REPLACE FACP IN KIND		
1	MAINTENANCE/WAREHOUSE	MAINT WHSE/WH	1672 GREENLAND DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	TENNESSEE LIVESTOCK CENTER	TLC	1720 GREENLAND DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	MILLER EDUCATION CENTER	MEC	503 BELL STREET, MURFREESBORO, TN 37132	4100ES	X				
	JOHN BRAGG MEDIA AND ENTERTAINMENT	BRAGG	1735 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	CONSTRUCTION MANAGEMENT	SCCM	1723 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	PAUL MARTIN HONORS BUILDING	HONORS	1737 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	TELECOMMUNICATIONS BUILDING	TCM	732 CHAMPION WAY, MURFREESBORO, TN 37132	4100ES	X				
	COLLEGE OF EDUCATION BUILDING	COE	1756 MTSU BOULEVARD, MURFREESBORO, TN 37132	4100ES	X				
	STUDENT UNION	STU	1768 MTSU BOULEVARD, MURFREESBORO, TN 37132	4100ES	X				
	STUDENT SERVICE & ADMISSIONS CENTER	SSAC	1860 BLUE RAIDER DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	SCIENCE BUILDING	SCI	440 FRIENDSHIP STREET, MURFREESBORO, TN 37132	4100ES	X				
	ACADEMIC CLASSROOM BUILDING	ACB	1751 MTSU BOULEVARD, MURFREESBORO, TN 37132	4100ES	X				
	KEATHLY UNIVERSITY CENTER	KUC	1524 MILITARY MEMORIAL, MURFREESBORO, TN 37132	4100U		X			
	HAYNES/TURNER	HAYNES/TURNER	1411 E MAIN STREET, MURFREESBORO, TN 37132	4100U		X			
3	DYSLEXIA BUILDING	DYS	200 NORTH BAIRD LANE, MURFREESBORO, TN 37132	4100ES	X				
	JAMES WARNER LIBRARY	LIBRARY	1611 ALUMNI DRIVE, MURFREESBORO, TN 37132	4100ES	X				
	1403 EAST MAIN BUILDING	MAIN BUILDING	1403 EAST MAIN, MURFREESBORO, TN 37132	4100ES	X				
	COPE ADMINISTRATION	COPE/CAB	315 VISITORS CIRCLE, MURFREESBORO, TN 37132	4100ES	X				
	PROJECT HELP	PHLP	206 NORTH BAIRD LANE, MURFREESBORO, TN 37132	4100ES	X				
	PITTARD CAMPUS SCHOOL	PCS	923 EAST LYTLE STREET, MURFREESBORO, TN 37132	4100U		X			
	SATELLITE CHILLER PLANT	CHILLER/SCP	215 COLLEGE HEIGHTS, MURFREESBORO, TN 37132	4100U		X			
	COLLEGE HEIGHTS	CH	1601 EAST MAIN STREET, MURFREESBORO, TN 37132	4100U		X			
	SAM INGRAM BUILDING	ING	2269 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132	4100U		X			

FACP UPGRADE NOTES (ALL WORK)

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT DRAWINGS, SPECIFICATIONS, AND PER EXISTING FIRE ALARM SYSTEM MANUFACTURER'S REQUIREMENTS FOR A COMPLETE AND OPERABLE SYSTEM.
2. EXISTING FIRE ALARM SYSTEMS ARE SIMPLEX TO MATCH CAMPUS FIRE ALARM STANDARDS. ALL FIRE ALARM SYSTEM WORK SHALL BE PERFORMED BY JOHNSON CONTROLS INC (JCI).
3. ALL DEVICES AND COMPONENTS SHALL BE UL LABELED FOR FIRE SERVICE USE.
4. FIRE ALARM SYSTEM SHALL BE LEFT FULLY OPERATIONAL AFTER UPGRADE AS PRIOR TO WORK BEING PERFORMED. PROVIDE TESTING AS REQUIRED BY APPLICABLE CODES AND STANDARDS TO ENSURE PROPER SYSTEM FUNCTION.
5. SYSTEM OUTAGES SHALL BE COORDINATED IN ADVANCE WITH OWNER, AND DURATION SHALL BE LESS THAN EIGHT (8) HOURS. FOR ALL OUTAGES GREATER THAN EIGHT (8) HOURS, PROVIDE FIRE WATCH FOR BUILDING UNTIL SYSTEM IS FULLY RESTORED AND OPERATIONAL.

NETWORK CARD UPGRADE NOTES

1. PERFORM ALL WORK PER MANUFACTURER REQUIREMENTS.
2. SUGGESTED PHASING:
   - 2.1. REMOVE EXISTING NETWORK CARD
   - 2.2. INSTALL NEW NETWORK CARD
   - 2.3. PROGRAM AND TEST FIRE ALARM CONTROL PANEL TO ENSURE FUNCTIONALITY.

NETWORK CARD & CPU UPGRADE NOTES

1. PERFORM ALL WORK PER MANUFACTURER REQUIREMENTS.
2. SUGGESTED PHASING:
   - 2.1. REMOVE EXISTING NETWORK CARD
   - 2.2. INSTALL NEW NETWORK CARD
   - 2.3. REMOVE EXISTING CPU
   - 2.4. INSTALL NEW CPU
   - 2.5. PROGRAM AND TEST FIRE ALARM CONTROL PANEL TO ENSURE FUNCTIONALITY.

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BUILDING FACP UPGRADE SCHEDULES

DRAWING NO.

E1.1(A)

BUILDING FACP SCOPE MATRIX

BUILDING INFORMATION				EXISTING SIMPLEX FACP MODEL	WORK REQUIRED			NEW SIMPLEX FACP MODEL (IF REQUIRED)	REMARKS
FIBER LOOP	BUIDLING NAME	MTSU DESIGNATION	ADDRESS		NETWORK CARD UPGRADE	NETWORK CARD & CPU UPGRADE	REPLACE FACP IN KIND		
1	PRINTING SERVICES	PRINTING SERVICES	1756 GREENLAND DRIVE, MURFREESBORO, TN 37132	4010			X	4100ES	1
3	PRESIDENTS RESIDENCE	PRES RES	2212 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132	4010			X	4100ES	2
	LYTLE BUILDING	LYTL	1114 EAST LYTLE STREET, MURFREESBORO, TN 37132	4010			X	4100ES	3
	ALUMNI OFFICE	ALOF/MT10	2263 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132	4010			X	4100ES	4
	ALUMNI HOUSE	ALUM	2259 MIDDLE TENNESSEE BOULEVARD, MURFREESBORO, TN 37132	4010			X	4100ES	5

REMARKS, EQUIPMENT CONNECTION SCHEDULE

1. NEW FACP WILL BE PROVIDED IN NEW LOCATION. REFER TO PLANS FOR ADDITIONAL INFORMATION.
2. NEW FACP WILL BE PROVIDED IN NEW LOCATION. REFER TO PLANS FOR ADDITIONAL INFORMATION.
3. NEW FACP WILL BE PROVIDED IN SAME LOCATION, RECESSED WITH FURRED-OUT WALL. REFER TO PLANS FOR ADDITIONAL INFORMATION.
4. NEW FACP WILL BE PROVIDED IN SAME LOCATION, RECESSED WITHIN EXISTING WALL. REFER TO PLANS FOR ADDITIONAL INFORMATION.
5. NEW FACP WILL BE PROVIDED IN SAME LOCATION, SURFACE-MOUNTED ON EXISTING WALL.

FACP UPGRADE NOTES (ALL WORK)

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT DRAWINGS, SPECIFICATIONS, AND PER EXISTING FIRE ALARM SYSTEM MANUFACTURER'S REQUIREMENTS FOR A COMPLETE AND OPERABLE SYSTEM.
2. EXISTING FIRE ALARM SYSTEMS ARE SIMPLEX TO MATCH CAMPUS FIRE ALARM STANDARDS. ALL FIRE ALARM SYSTEM WORK SHALL BE PERFORMED BY JOHNSON CONTROLS INC (JCI).
3. ALL DEVICES AND COMPONENTS SHALL BE UL LABELED FOR FIRE SERVICE USE.
4. FIRE ALARM SYSTEM SHALL BE LEFT FULLY OPERATIONAL AFTER UPGRADE AS PRIOR TO WORK BEING PERFORMED. PROVIDE TESTING AS REQUIRED BY APPLICABLE CODES AND STANDARDS TO ENSURE PROPER SYSTEM FUNCTION.
5. SYSTEM OUTAGES SHALL BE COORDINATED IN ADVANCE WITH OWNER, AND DURATION SHALL BE LESS THAN EIGHT (8) HOURS. FOR ALL OUTAGES GREATER THAN EIGHT (8) HOURS, PROVIDE FIRE WATCH FOR BUILDING UNTIL SYSTEM IS FULLY RESTORED AND OPERATIONAL.

FACP REPLACEMENT NOTES

1. PERFORM ALL WORK PER MANUFACTURER REQUIREMENTS.
2. SUGGESTED PHASING
   - 2.1. DISCONNECT ALL EXISTING SYSTEM CABLING. RETAIN FOR EXTENSION/RECONNECTION.
   - 2.2. DISCONNECT POWER BRANCH CIRCUIT. RETAIN FOR EXTENSION/RECONNECTION.
   - 2.3. DISCONNECT FIBER COMMUNICATION CABLING. RETAIN FOR EXTENSION/RECONNECTION.
   - 2.4. REMOVE EXISTING FIRE ALARM CONTROL PANEL.
   - 2.5. PROVIDE NEW FIRE ALARM CONTROL PANEL AT LOCATION INDICATED ON PLANS & SCHEDULE. CONTROL PANEL SHALL BE PRE-PROGRAMMED FOR EXISTING BUILDING/SYSTEM REQUIREMENTS.
   - 2.6. CONNECT POWER BRANCH CIRCUIT TO NEW FIRE ALARM CONTROL PANEL. EXTEND POWER CIRCUIT TO NEW LOCATION AS REQUIRED. PROVIDE CONDUIT AND WIRE TO MATCH EXISTING CIRCUIT RATING.
   - 2.7. CONNECT FIBER COMMUNICATION CABLING TO NEW FIRE ALARM CONTROL PANEL. EXTEND CABLING AS REQUIRED.
   - 2.8. CONNECT FIRE ALARM SYSTEM CABLING TO NEW FIRE ALARM CONTROL PANEL. EXTEND CABLING AS REQUIRED.
   - 2.9. PROGRAM AND TEST FIRE ALARM CONTROL PANEL TO ENSURE FUNCTIONALITY.

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BUILDING FACP REPLACEMENT SCHEDULES

1

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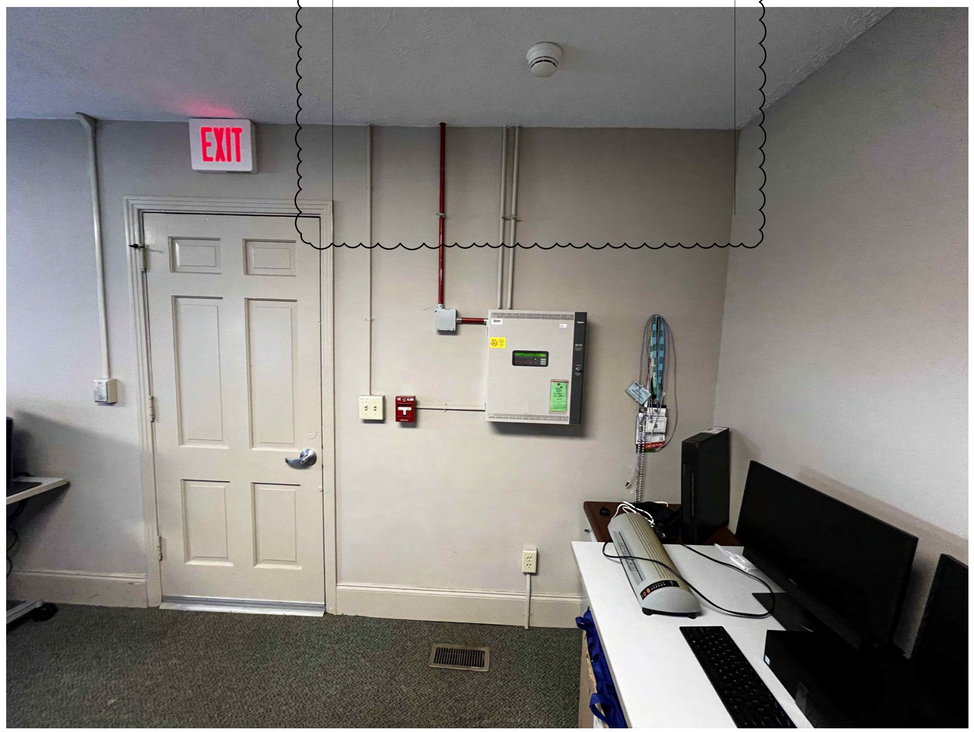


3 LYTLE BUILDING FACP (EXISTING)

NTS

GENERAL NOTES

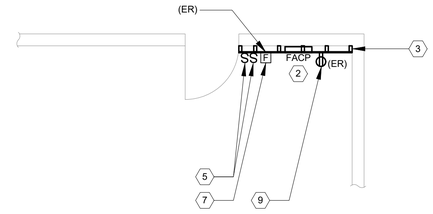
A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. FIRE ALARM WIRING SHALL BE PROVIDED IN RACEWAY, ROUTED CONCEALED. PROVIDE FURRED OUT WALL SECTIONS WHERE REQUIRED TO ACCOMPLISH RACEWAY CONCEALMENT. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

KEYED NOTES

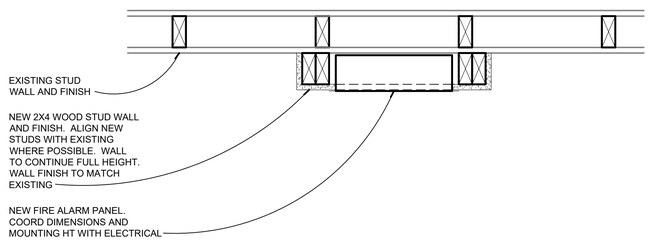
1. DISCONNECT EXISTING FIRE ALARM, COMMUNICATION, AND POWER CIRCUIT(S) TO ALLOW FOR FIRE ALARM CONTROL PANEL (FACP) REMOVAL AND REPLACEMENT. RETAIN CIRCUITS FOR EXTENSION AND RECONNECTION. PROTECT DURING CONSTRUCTION.
2. PROVIDE NEW FIRE ALARM CONTROL PANEL (FACP), RECESSED IN WALL FURR-OUT. EXTEND RETAINED POWER CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED COMMUNICATION CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED FIRE ALARM DEVICE CIRCUITS AND RECONNECT TO NEW FACP.
3. PROVIDE 2X4 STUD WALL FURR-OUT AT EXISTING WALL TO ALLOW FOR NEW FIRE ALARM CONTROL PANEL TO BE RECESSED MOUNTED. REFER TO DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.
4. DISCONNECT AND REMOVE EXISTING LIGHT SWITCH IN TWO-SECTION WALL BOX, AND SURFACE RACEWAY TO ABOVE-CEILING. RETAIN SWITCHED LIGHTING CIRCUIT CONDUCTORS FOR EXTENSION AND RELOCATION.
5. PROVIDE RECESSED TWO-SECTION WALL BOX AND ROUTE RETAINED SWITCHED LIGHTING CIRCUIT CONDUCTORS FROM ABOVE-CEILING SPACE TO NEW WALL BOX. PROVIDE TWO (2) SINGLE-POLE LIGHT SWITCHES AND RECONNECT TO EXTENDED LIGHTING CIRCUIT.
6. DISCONNECT FIRE ALARM PULL STATION AND RETAIN DEVICE AND CIRCUIT FOR EXTENSION AND RECONNECTION.
7. PROVIDE RECESSED WALL-BOX AND RELOCATE RETAINED FIRE ALARM PULL STATION, CONNECT TO RETAINED FIRE ALARM CIRCUIT.
8. DISCONNECT AND REMOVE DUPLEX RECEPTACLE, SURFACE WALL-BOX, AND SURFACE RACEWAY TO BELOW FLOOR SPACE. RETAIN RECEPTACLE CIRCUIT CONDUCTORS FOR EXTENSION AND RECONNECTION.
9. PROVIDE RECESSED WALL BOX AND DUPLEX RECEPTACLE AT LOCATION SHOWN. EXTEND RETAINED RECEPTACLE CIRCUIT CONDUCTORS AND CONNECT TO NEW DEVICE.



2 PARTIAL LYTLE BUILDING PLAN

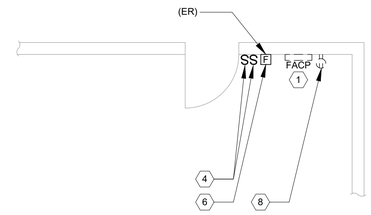
1/4" = 1'-0"

0' 2' 4' 8'



4 STUD WALL FURR-OUT

1-1/2" = 1'-0"



1 PARTIAL LYTLE BUILDING DEMOLITION PLAN

1/4" = 1'-0"

0' 2' 4' 8'

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9/5/25

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PARTIAL LYTLE BUILDING PLANS

1
DRAWING NO.
E1.2(B)

3 ALUMNI OFFICE FACP (EXISTING)

NTS

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

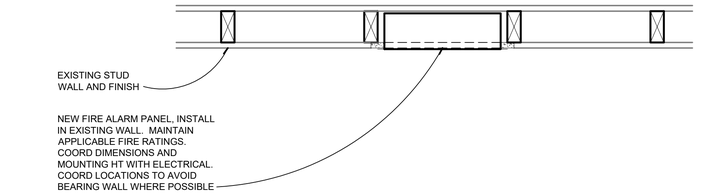
B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. FIRE ALARM WIRING SHALL BE PROVIDED IN RACEWAY, ROUTED CONCEALED. PROVIDE FURRED OUT WALL SECTIONS WHERE REQUIRED TO ACCOMPLISH RACEWAY CONCEALMENT. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

KEYED NOTES

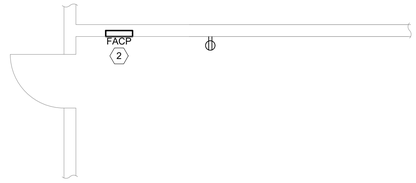
1. DISCONNECT EXISTING FIRE ALARM, COMMUNICATION, AND POWER CIRCUIT(S) TO ALLOW FOR FIRE ALARM CONTROL PANEL (FACP) REMOVAL AND REPLACEMENT. RETAIN CIRCUITS FOR EXTENSION AND RECONNECTION. PROTECT DURING CONSTRUCTION.

2. PROVIDE NEW FIRE ALARM CONTROL PANEL (FACP), AND RECESS IN EXISTING WALL. EXTEND RETAINED POWER CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED COMMUNICATION CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED FIRE ALARM DEVICE CIRCUITS AND RECONNECT TO NEW FACP. REFER TO DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.



4 NEW PANEL IN EXISTING WALL

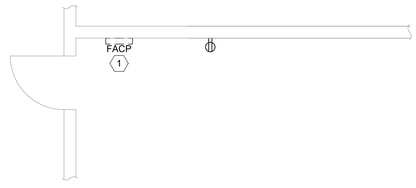
1-1/2" = 1'-0"

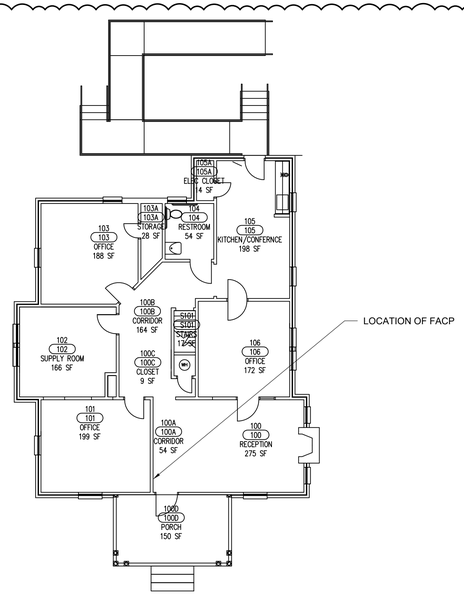


2 PARTIAL ALUMNI OFFICE PLAN

1/4" = 1'-0"

0' 2' 4' 8'





5 OVERALL PLAN (FOR REFERENCE)

NTS

1 PARTIAL ALUMNI OFFICE DEMOLITION PLAN

1/4" = 1'-0"

0' 2' 4' 8'

genesis engineering group, llc.
134 fourth avenue north
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project #24-121-TN
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SEAL:

DANIEL M. SCHAFFAR
REGISTERED ENGINEER
NO. 119550
STATE OF TENNESSEE
9/5/25

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE:	07/25/2025
JOB NUMBER:	24-121-TN
FILE NAME:	
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	PARTIAL ALUMNI OFFICE PLANS

DRAWING NO.

E1.3(B)

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

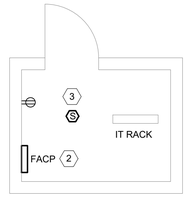
B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. FIRE ALARM WIRING SHALL BE PROVIDED IN RACEWAY, ROUTED CONCEALED. PROVIDE FURRED OUT WALL SECTIONS WHERE REQUIRED TO ACCOMPLISH RACEWAY CONCEALMENT. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

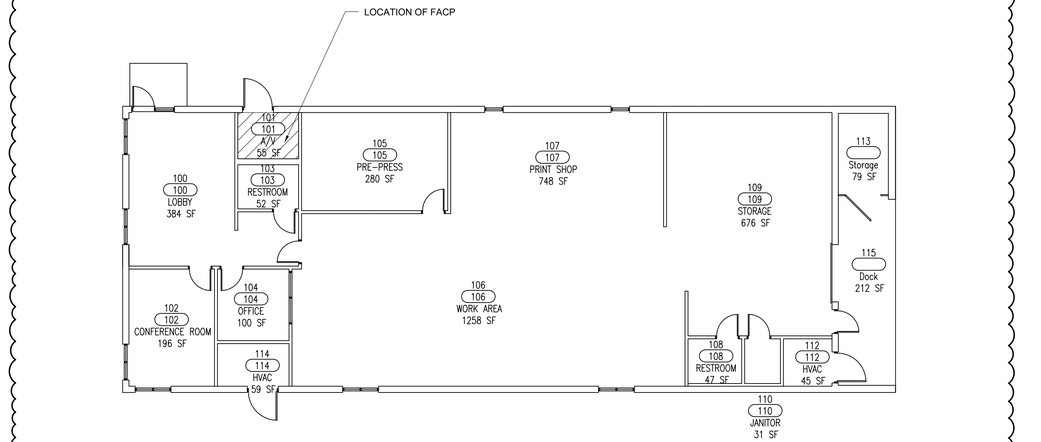
KEYED NOTES

1. DISCONNECT EXISTING FIRE ALARM, COMMUNICATION, AND POWER CIRCUIT(S) TO ALLOW FOR FIRE ALARM CONTROL PANEL (FACP) REMOVAL AND REPLACEMENT. RETAIN CIRCUITS FOR EXTENSION AND RECONNECTION. PROTECT DURING CONSTRUCTION.
2. PROVIDE NEW FIRE ALARM CONTROL PANEL (FACP), AND SURFACE-MOUNT ON EXISTING WALL. EXTEND RETAINED POWER CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED COMMUNICATION CIRCUIT AND RECONNECT TO NEW FACP. EXTEND RETAINED FIRE ALARM DEVICE CIRCUITS AND RECONNECT TO NEW FACP.
3. PROVIDE NEW SYSTEM SMOKE DETECTOR.

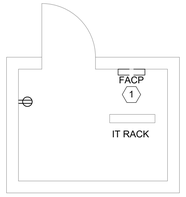
3 PRINTING SERVICES FACP (EXISTING)
NTS



2 PARTIAL PRINTING SERVICES PLAN
1/4" = 1'-0"
0' 2' 4' 8'



4 OVERALL PLAN (FOR REFERENCE)
NTS



1 PARTIAL PRINTING SERVICES DEMOLITION PLAN
1/4" = 1'-0"
0' 2' 4' 8'

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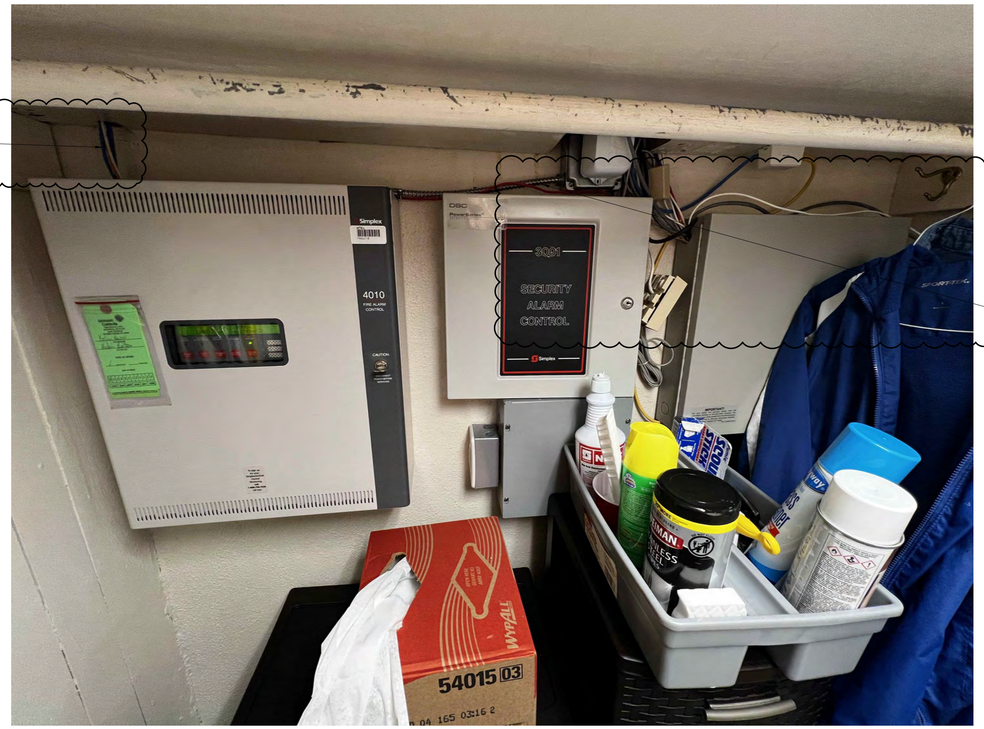
CHECKED BY:
DRAWING TITLE:
PARTIAL PRINTING SERVICE PLANS

DRAWING NO.
E1.4(B)



3 PRESIDENT'S RESIDENCE FACP (EXISTING)

NTS

GENERAL NOTES

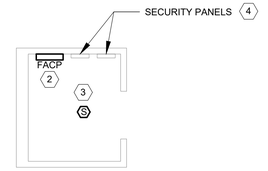
A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. FIRE ALARM WIRING SHALL BE PROVIDED IN RACEWAY, ROUTED CONCEALED. PROVIDE FURRED OUT WALL SECTIONS WHERE REQUIRED TO ACCOMPLISH RACEWAY CONCEALMENT. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

KEYED NOTES

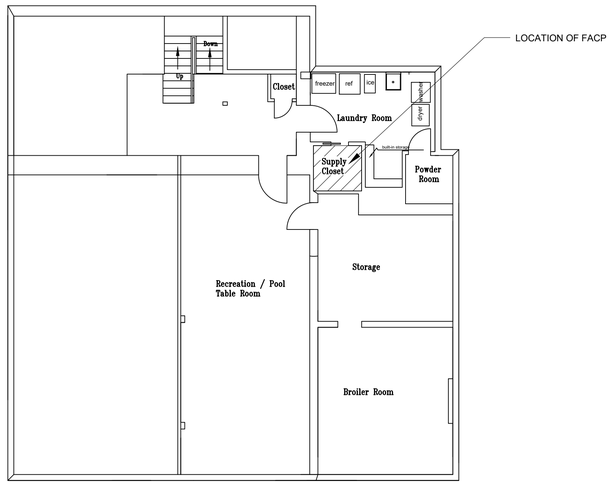
1. DISCONNECT EXISTING FIRE ALARM, COMMUNICATION, AND POWER CIRCUIT(S) TO ALLOW FOR FIRE ALARM CONTROL PANEL (FACP) REMOVAL AND REPLACEMENT. RETAIN CIRCUITS FOR EXTENSION AND RECONNECTION. PROTECT DURING CONSTRUCTION.
2. PROVIDE NEW FIRE ALARM CONTROL PANEL (FACP), AND SURFACE-MOUNT ON EXISTING WALL AT SAME LOCATION AS REMOVED PANEL. RECONNECT RETAINED CIRCUITS TO NEW PANEL. ADJUST EXISTING SECURITY PANELS AS REQUIRED TO ACCOMMODATE NEW FIRE ALARM CONTROL PANEL INSTALLATION.
3. PROVIDE NEW SYSTEM SMOKE DETECTOR.
4. RELOCATE EXISTING SECURITY PANELS AS REQUIRED TO ACCOMMODATE NEW FACP INSTALLATION.
5. REMOVE EXISTING SHELF AND CLOTHES HANGER ROD TO ALLOW FOR CODE-REQUIRED CLEARANCE AND WORKING SPACE.
6. REPLACE EXISTING MC-CABLE POWER CONNECTION FROM JUNCTION BOX WITH NEW WIRE IN CONDUIT CONNECTION TO NEW FIRE ALARM CONTROL PANEL.
7. ROUTE EXISTING FIRE ALARM CABLES IN CONDUIT FROM NEW FIRE ALARM CONTROL PANEL TO ABOVE-CEILING SPACE.



2 PARTIAL PRESIDENT'S RESIDENCE PLAN

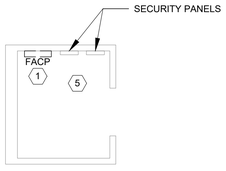
1/4" = 1'-0"

0' 2' 4' 8'



4 OVERALL BASEMENT PLAN (FOR REFERENCE)

NTS



1 PARTIAL PRESIDENT'S RESIDENCE DEMOLITION PLAN

1/4" = 1'-0"

0' 2' 4' 8'

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DRAWN BY:	
CHECKED BY:	

DRAWING TITLE:

PARTIAL PRESIDENT'S RESIDENCE PLANS

DRAWING NO.

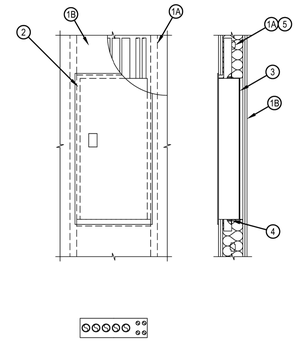
E1.5(B)

System No. W-L-7277

WL 7277

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1, and 2 Hr (See Item 1)	FT Rating - 1, and 2 Hr (See Item 1)
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Ratings - 1, and 2 Hr (See Item 1)



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. August 06, 2018

System No. W-L-7277

WL 7277

1. Wall Assembly — The 1 or 2 hr fire rated framed gypsum board wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of steel channel studs. Steel studs to be min 6 in. (152 mm) wide and spaced max 24 in. (610 mm) OC. Vertical wall framing member to be located within 3/4 in. (19 mm) to each side of steel box (Item 2). An additional framing member shall be used below the steel box to form a shelf within the wall cavity to support the steel box.
   B. Gypsum Board* — The gypsum board type, thickness, number of layers and orientation shall be, as specified in the individual Wall and Partition Design. Size of cutout made to accommodate steel box (Item 2) is to be max 1 in. (25 mm) wider and 1/2 in. (13 mm) higher than the width and height of the steel box such that the annular space between box and cut edge of gypsum is max 1/2 in. (13 mm) at sides and top of opening and joint contact at bottom of opening.
   The hourly F, T, FT, FH and FTH Ratings are equal to the hourly rating of the wall assembly.
2. Steel Box — Min 18 gauge steel. Max 20-1/8 in. (511 mm) wide by max 42 in. (1067 mm) high by max 5-3/4 in. (146 mm) deep with integral steel hinged door. Box to be installed flush with one side of wall and provided with min 4 in. (102 mm) by 18 gauge steel mounting flange (trim) overlapping gypsum board around periphery of opening. Steel box secured to steel studs at two sides of opening with steel toggle bolts after application of FIR. Void or Cavity material (Item 3) on exterior surfaces of steel box. A min of four toggle bolts shall be used at each side of box, with two toggle bolts located within 12 in. (305 mm) of top of box and two within 12 in. (305 mm) of bottom of box. Bottom of box to rest directly on steel shelf. Bottom and/or top of steel box may be penetrated by max five 2 in. (51 mm) diam steel conduit and four 1 in. (25 mm) diam flexible steel conduit, or by up to nine 1 in. (25 mm) diam flexible steel conduit. A conduit fitting shall be used at each connection of conduit to the box.
3. Fill, Void or Cavity Materials* - Putty Pads — One layer of min 0.2 in. (5 mm) thick moldable putty pads is to be installed to completely cover the exterior surfaces of the steel box (except for the bottom). For 2 hr F, T, FT and FTH Ratings, an additional layer (two total layers) of the putty pads shall be applied to the back of the box. A min 1/2 in. (13 mm) bead of the putty shall be applied around the periphery of each conduit fittings/connectors. At all mating edges, the putty pads shall be press applied to butt tightly so that the box is fully covered with the required number of layers of putty.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-P PA Firestop Putty Pads
4. Fill, Void or Cavity Material*— Sealant or Putty — Min 1/2 in. (13 mm) depth of sealant or putty shall be applied within the open ends of the conduits which terminate within the box.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant or CP 618 Putty
5. Insulation* — The entire wall stud cavity with the steel box (Item 2) and the immediately adjacent stud cavity to each side shall be fully insulated with min R19 glass fiber batt insulation or mineral wool insulation. Additional pieces of insulation shall be installed as needed to completely fill the voids around the steel box and any penetrants (Item 3) to the full depth of the stud cavity. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance may be used.
   See Batts and Blankets* (BZJZ) Category or Forming Materials* (XHKU) Category for names of Classified companies.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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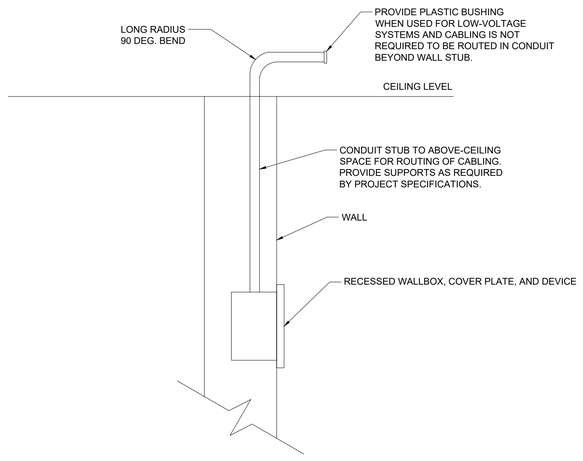
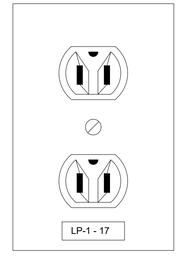


2 TYPICAL RECESSED DEVICE BOX

NTS



DETAIL GENERAL NOTES

1. PROVIDE GREEN GROUND WIRE IN ALL RECEPTACLE CIRCUITS. CONNECT TO GROUND BUS IN PANEL.
2. DO NOT INSTALL RECEPTACLES BACK TO BACK. INSTALL IN ADJACENT STUD CAVITIES TO REDUCE SOUND TRANSMISSION.

1 RECEPTACLE IDENTIFICATION

NTS

genesis engineering group, llc.
134 fourth avenue north
franklin, tn 37064
project #24-121-TN
genesis
www.geneng.net

SEAL:

1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

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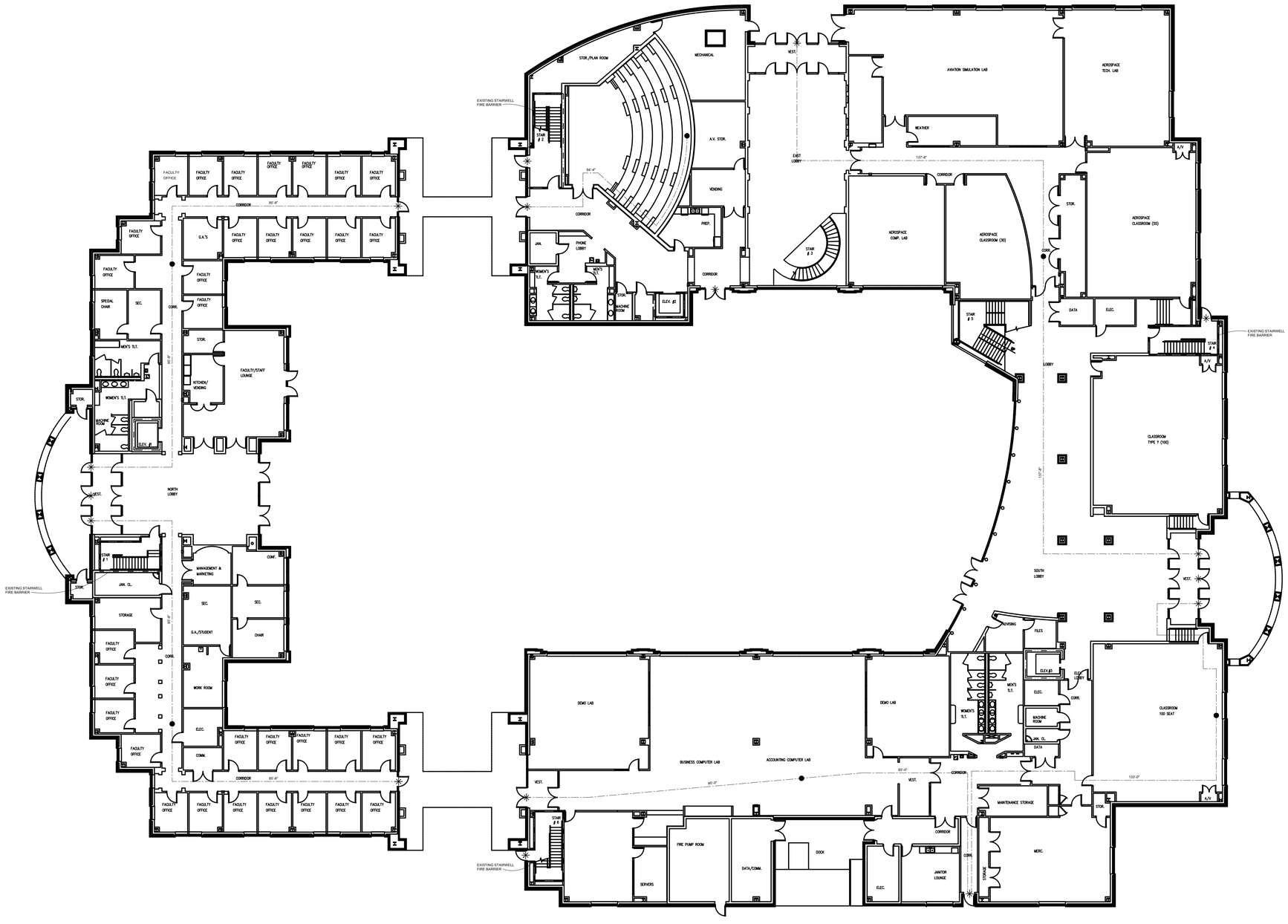
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	DETAILS

1 DRAWING NO.

E5.1(B)



1 FIRST FLOOR LIFE SAFETY PLAN

1/16" = 1'-0"

0' 8' 16' 32'

LIFE SAFETY LEGEND

POINT OF EXIT DISCHARGE

POINT OF FARTHEST TRAVEL DISTANCE

NOTE: ALL EXISTING FIRE BARRIER AND FIRE PARTITION RATINGS TO BE MAINTAINED

APPLICABLE CODES

City of Murfreesboro Adopted Codes

2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL FUEL GAS CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL PROPERTY MAINTENANCE CODE
2009 ICC ANSI A117.1 ACCESSIBLE AND USABLE BUILDING CODE

State of Tennessee - Fire Marshal's Office

2021 INTERNATIONAL BUILDING CODE (EXCEPT CHAPTER 11 ACCESSIBILITY)
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FUEL GAS CODE
2017 NATIONAL ELECTRICAL CODE
2021 INTERNATIONAL FIRE CODE
2021 LIFE SAFETY CODE (NFPA 101)
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL PROPERTY MAINTENANCE CODE

CODES ANALYSIS

BUILDING DATA:

Type of Construction: TYPE IIA
NFPA 13 Sprinkler System

Use and Occupancy Classification: Business (B)
(No change to existing occupancy classification)

Existing Building Height: 4 Story

SQUARE FOOTAGE

1st Floor - 50,715 sf
2nd Floor - 53,200 sf
3rd Floor - 57,000 sf
4th Floor - 16,315 sf

MAX TRAVEL DISTANCE

Allowed - 250'-0"
Actual - 173'-4"

sgs
Smith Gee Studio, LLC
602 Taylor Street, Suite 201
Nashville, TN 37208

genesis engineering group, llc.
134 fourth avenue north
franklin, tn 37064
project #24-121-TN
genesis
www.genenig.net

SEAL:

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DRAWN BY:
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DRAWING TITLE:

FIRST FLOOR LIFE SAFETY AND CODE ANALYSIS

DRAWING NO.

1 **A0.1(C)**

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RAMON ANDREW HERIN
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
No. 102993
07/25/2025
STATE OF TENNESSEE

MIDDLE TENNESSEE STATE UNIVERSITY CAMPUS LIFE SAFETY SYSTEM UPDATES PHASE 1

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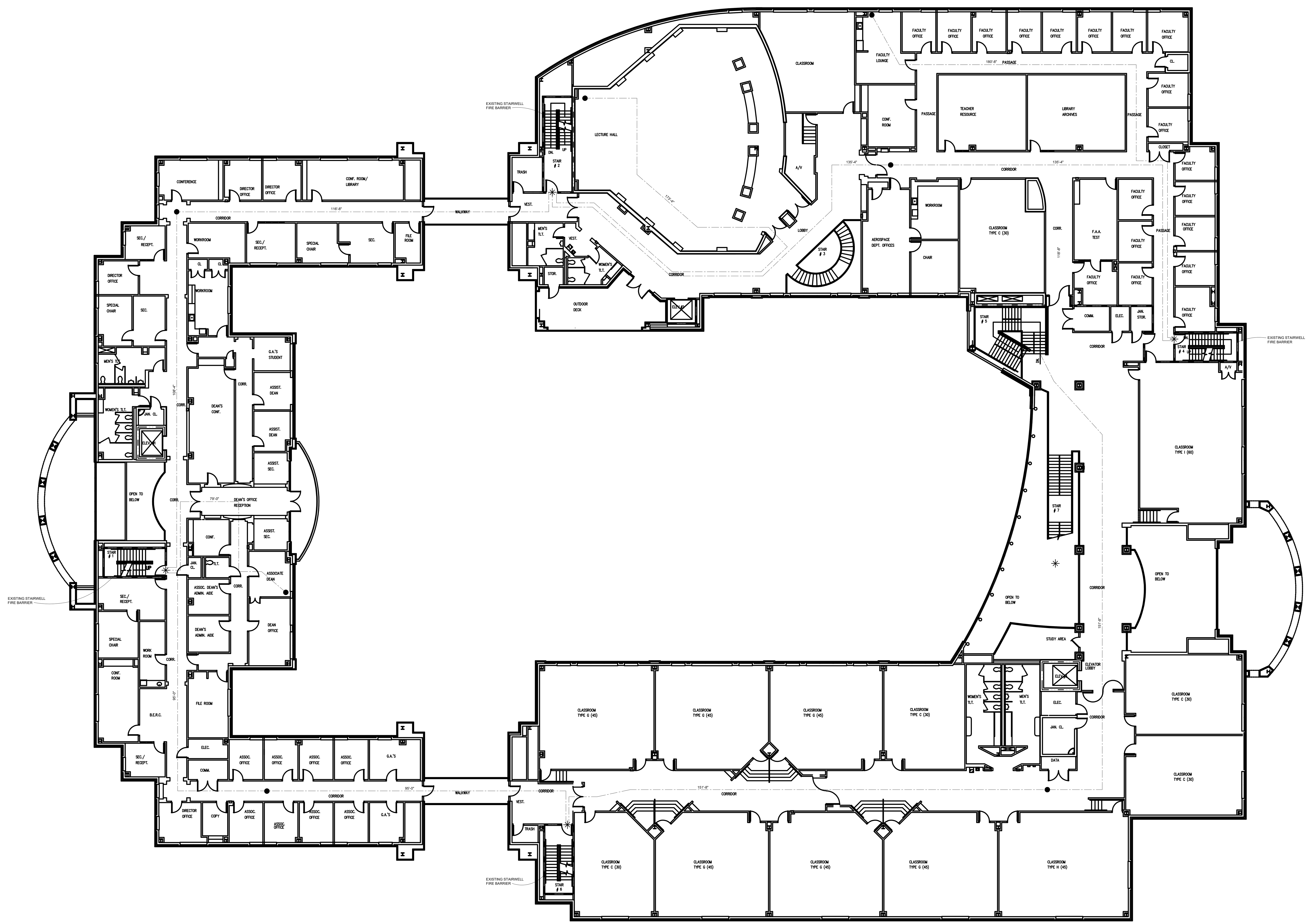
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	

SECOND FLOOR LIFE SAFETY AND CODE ANALYSIS

DRAWING NO.

A0.2(C)



1 SECOND FLOOR LIFE SAFETY PLAN

1/16" = 1'-0"

0' 8' 16' 32'

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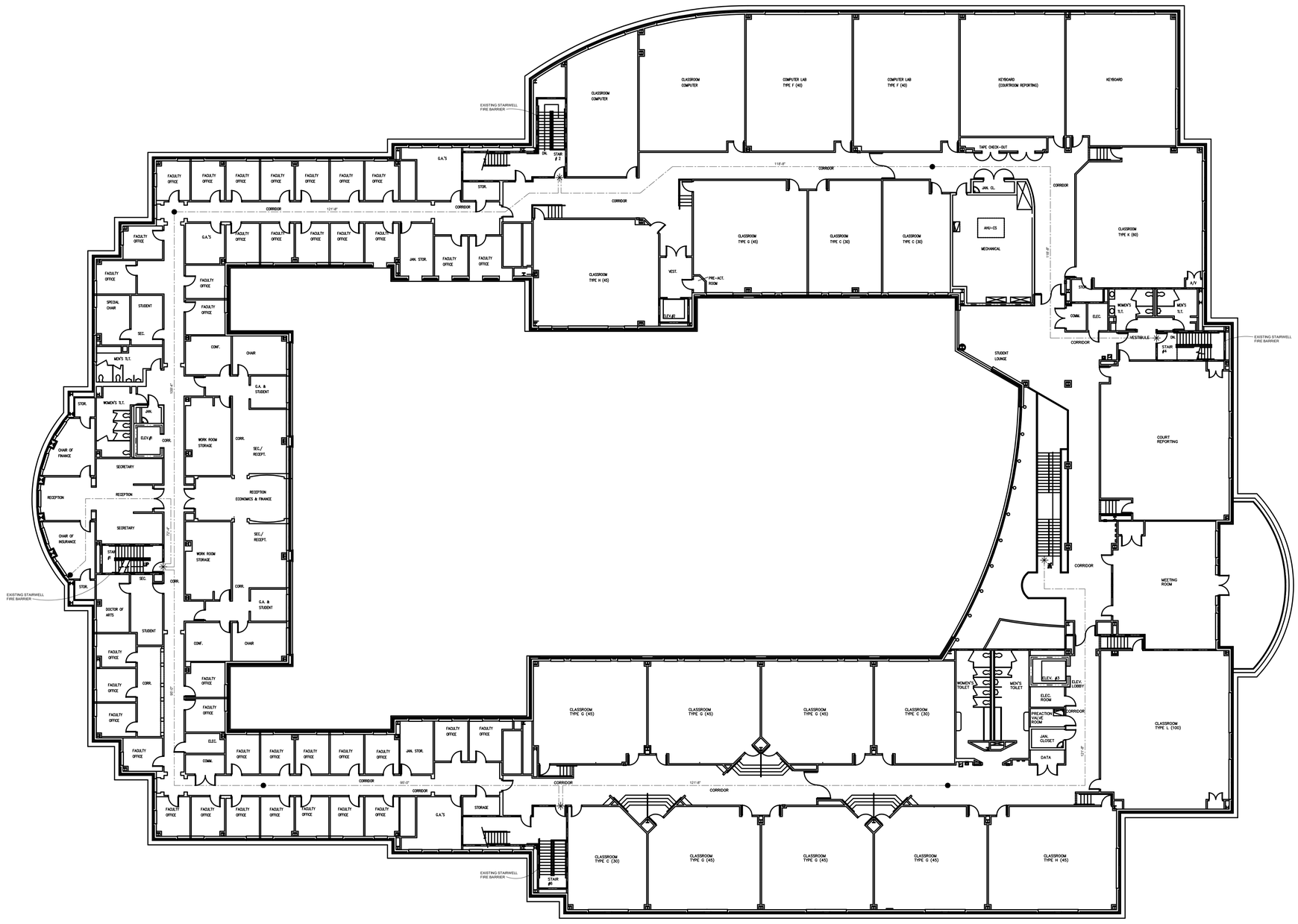
FILE NAME:	
DRAWN BY:	
CHECKED BY:	

DRAWING TITLE:

THIRD FLOOR LIFE SAFETY AND CODE ANALYSIS

DRAWING NO.

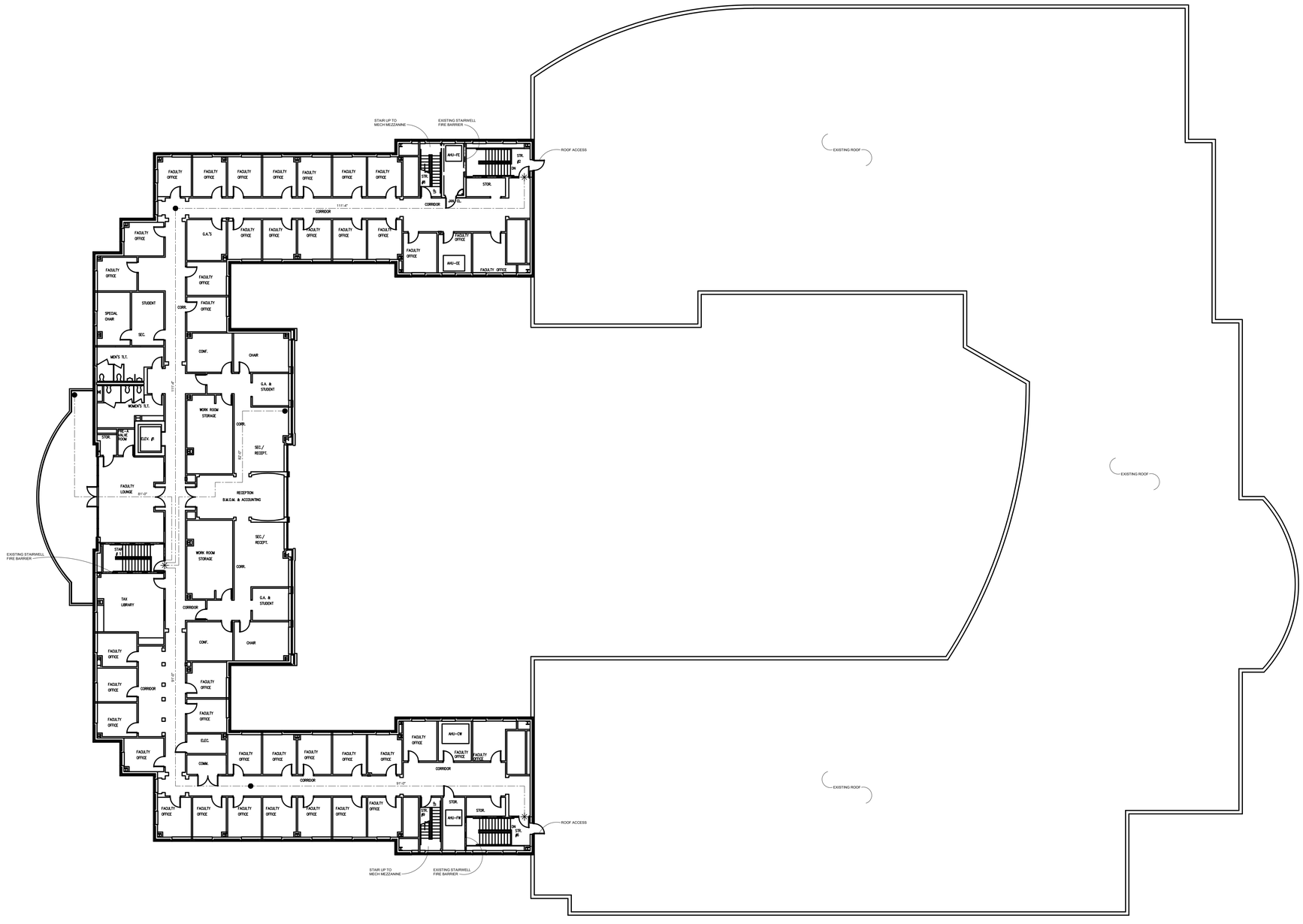
1 **A0.3(C)**



1 THIRD FLOOR LIFE SAFETY PLAN

1/16" = 1'-0"

0' 8' 16' 32'



1 FOURTH FLOOR LIFE SAFETY PLAN

1/16" = 1'-0"

0' 8' 16' 32'

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Nashville, TN 37208

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FILE NAME:
DRAWN BY:
CHECKED BY:
DRAWING TITLE:

FOURTH FLOOR LIFE SAFETY AND CODE ANALYSIS

1

DRAWING NO.

A0.4(C)

GENERAL NOTES

A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

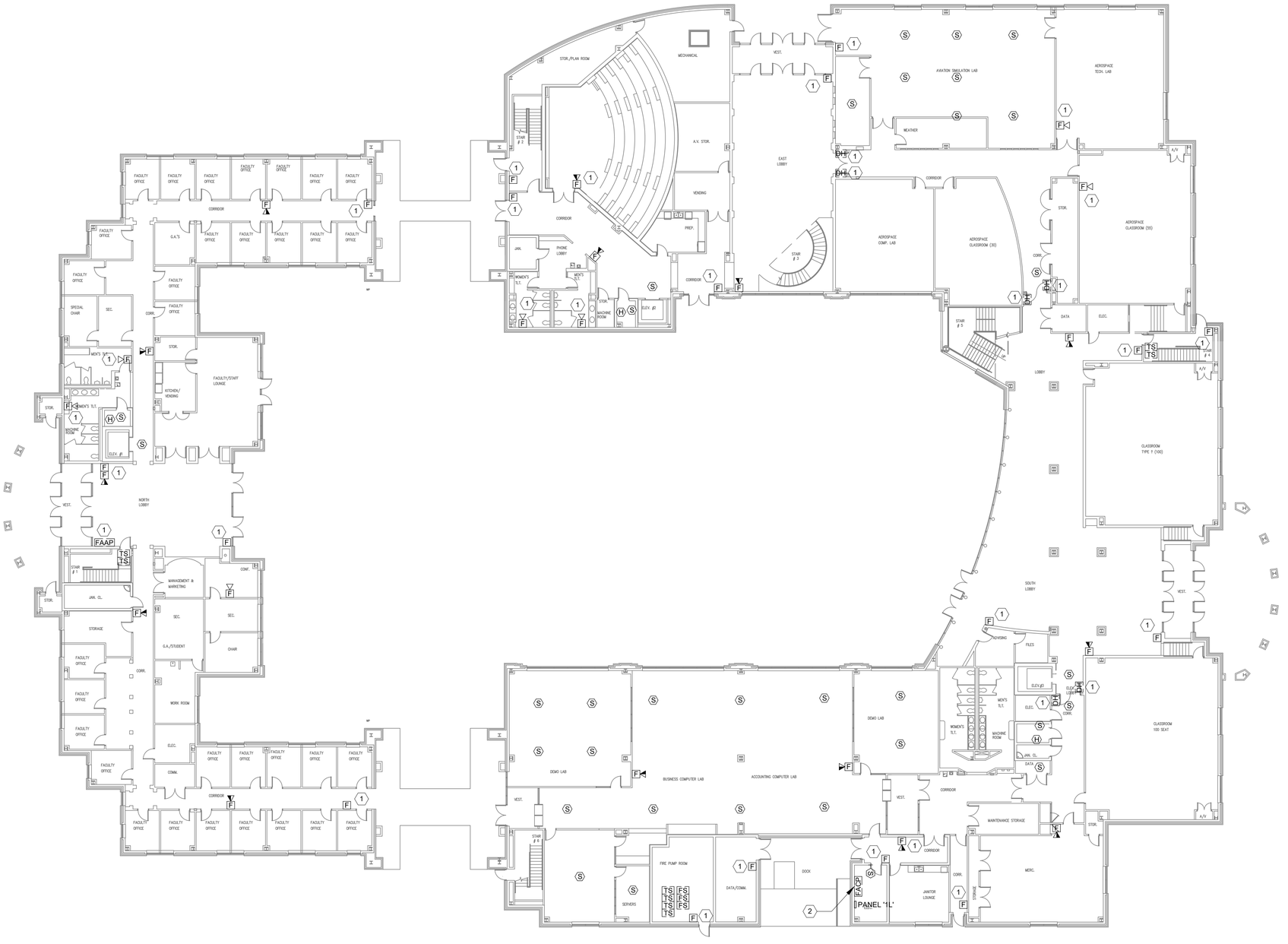
B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

C. COORDINATE ANY REQUIRED SHUTDOWNS OF EXISTING FIRE ALARM SYSTEM WITH OWNER'S REPRESENTATIVE MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE. PROVIDE FIRE WATCH DURING ALL TIMES EXISTING FIRE ALARM SYSTEM IS INOPERABLE DURING CONSTRUCTION.

(#) KEYED NOTES

1. REMOVE DEVICE AND ASSOCIATED SYSTEM CABLING IN ITS ENTIRETY. RETAIN RECESSED WALL BOX AND CONDUIT STUB AND RACEWAY FOR REUSE.

2. DISCONNECT EXISTING FIRE ALARM CONTROL PANEL FROM FIBER COMMUNICATION CABLES TO ALLOW FOR PANEL REPLACEMENT. RETAIN FIBER CABLES FOR RECONNECTION. COORDINATE WITH OWNER'S IT DEPARTMENT.



1 FIRST FLOOR DEMOLITION PLAN

1/16" = 1'-0"

0' 8' 16' 32'

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DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	FIRST FLOOR DEMOLITION PLAN

1 DRAWING NO.

ED1.1(C)

GENERAL NOTES

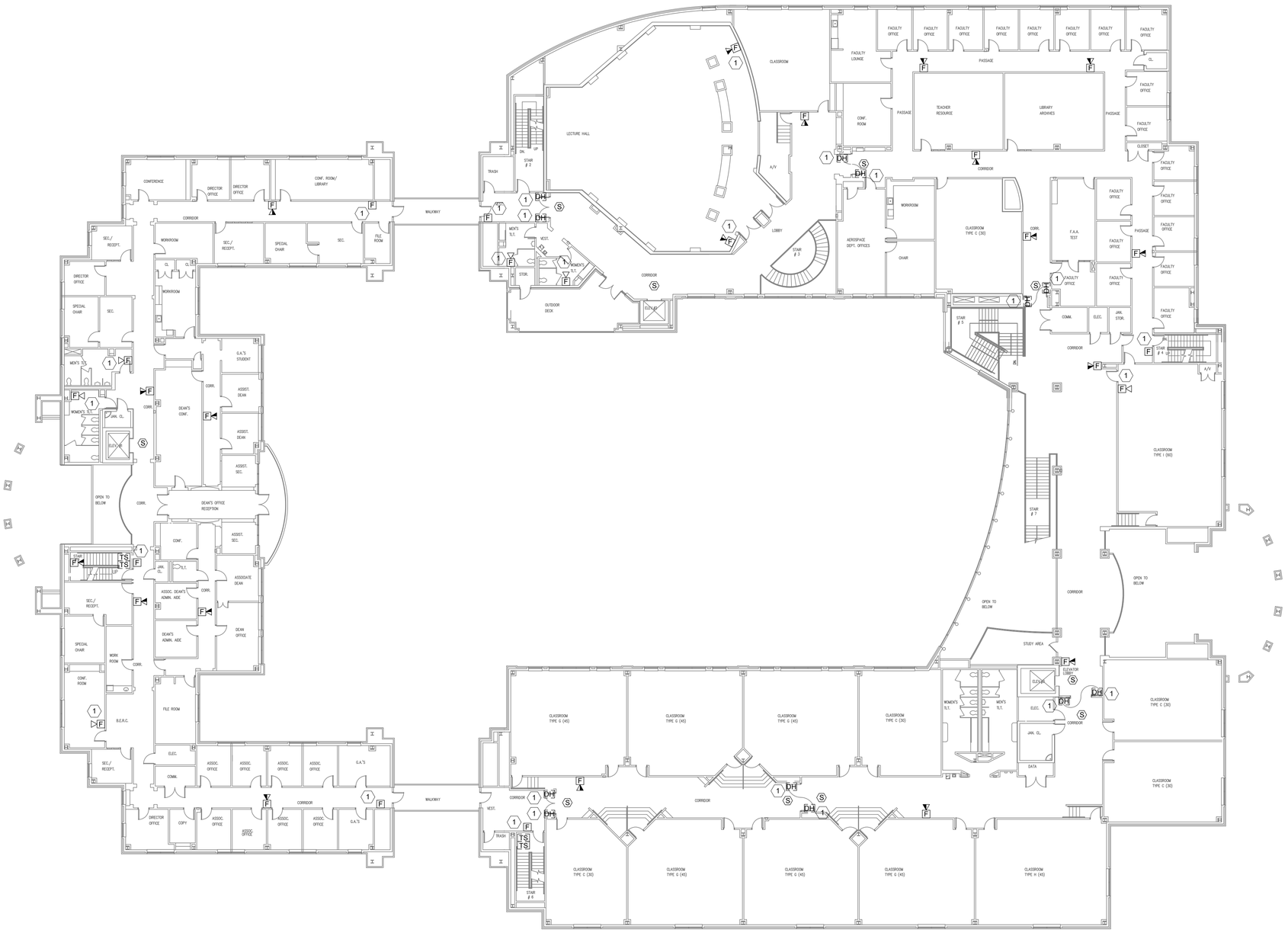
A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

C. COORDINATE ANY REQUIRED SHUTDOWNS OF EXISTING FIRE ALARM SYSTEM WITH OWNER'S REPRESENTATIVE MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE. PROVIDE FIRE WATCH DURING ALL TIMES EXISTING FIRE ALARM SYSTEM IS INOPERABLE DURING CONSTRUCTION.

KEYED NOTES

1. REMOVE DEVICE AND ASSOCIATED SYSTEM CABLING IN ITS ENTIRETY. RETAIN RECESSED WALL BOX AND CONDUIT STUB AND RACEWAY FOR REUSE.



1 SECOND FLOOR DEMOLITION PLAN

1/16" = 1'-0"

0' 8' 16' 32'

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9/5/25

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MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

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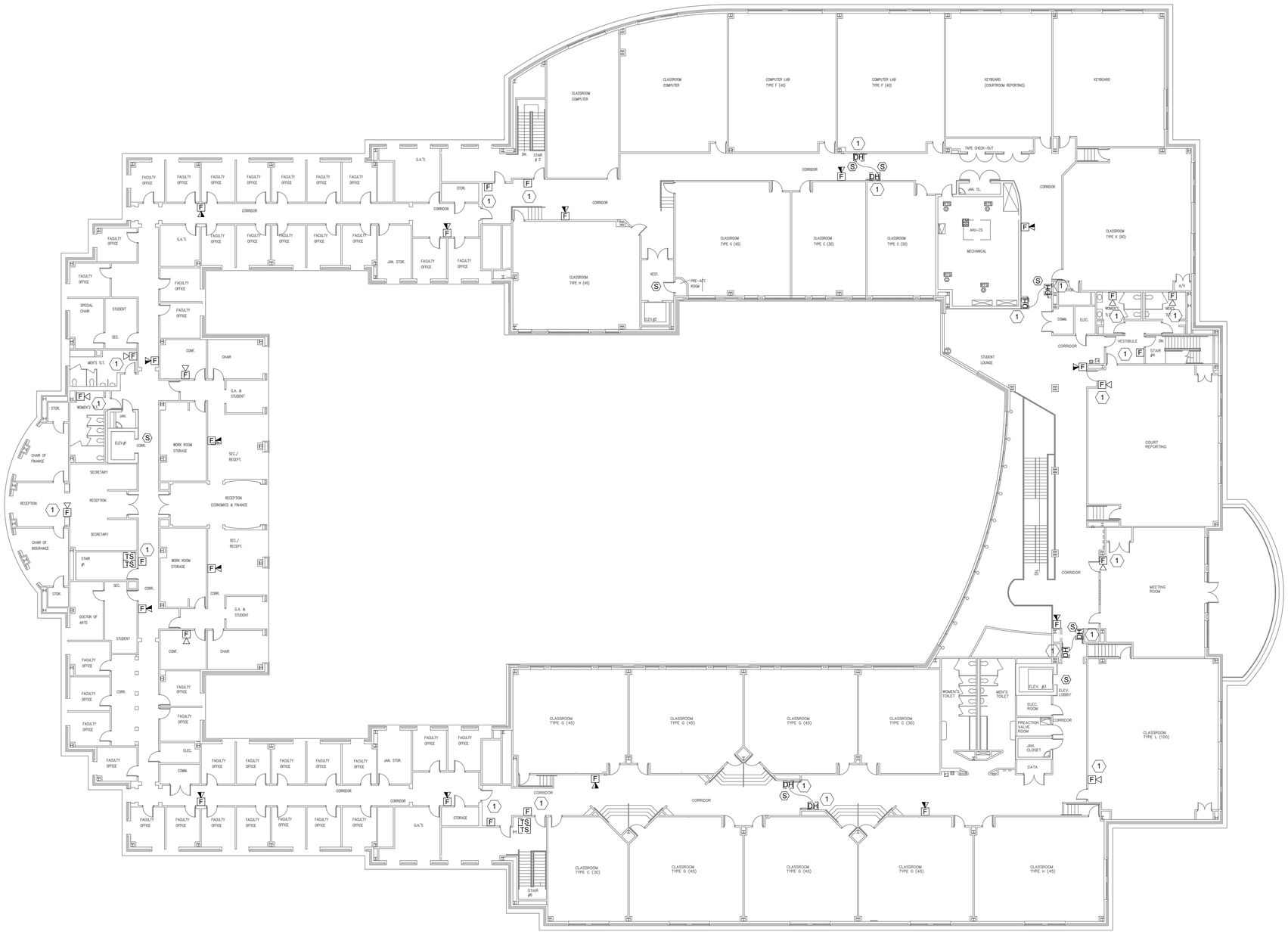
FILE NAME:	
DRAWN BY:	
CHECKED BY:	

DRAWING TITLE:

SECOND FLOOR DEMOLITION PLAN

1 DRAWING NO.

ED1.2(C)



1 THIRD FLOOR DEMOLITION PLAN

1/16" = 1'-0"

0' 8' 16' 32'

GENERAL NOTES

A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

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DRAWING TITLE:

THIRD FLOOR DEMOLITION PLAN

1 DRAWING NO.

ED1.3(C)

GENERAL NOTES

A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

C. COORDINATE ANY REQUIRED SHUTDOWNS OF EXISTING FIRE ALARM SYSTEM WITH OWNER'S REPRESENTATIVE MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE. PROVIDE FIRE WATCH DURING ALL TIMES EXISTING FIRE ALARM SYSTEM IS INOPERABLE DURING CONSTRUCTION.

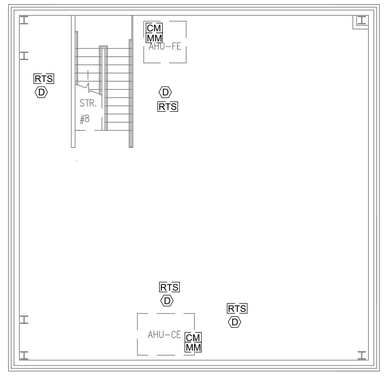
KEYED NOTES

1. REMOVE DEVICE AND ASSOCIATED SYSTEM CABLING IN ITS ENTIRETY. RETAIN RECESSED WALL BOX AND CONDUIT STUB AND RACEWAY FOR REUSE.

1 FOURTH FLOOR DEMOLITION PLAN

1/16" = 1'-0"

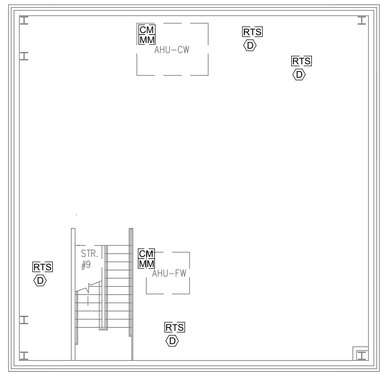
0' 8' 16' 32'



3 MEZZANINE DEMOLITION PLAN

1/8" = 1'-0"

0' 4' 8' 16'



2 MEZZANINE DEMOLITION PLAN

1/8" = 1'-0"

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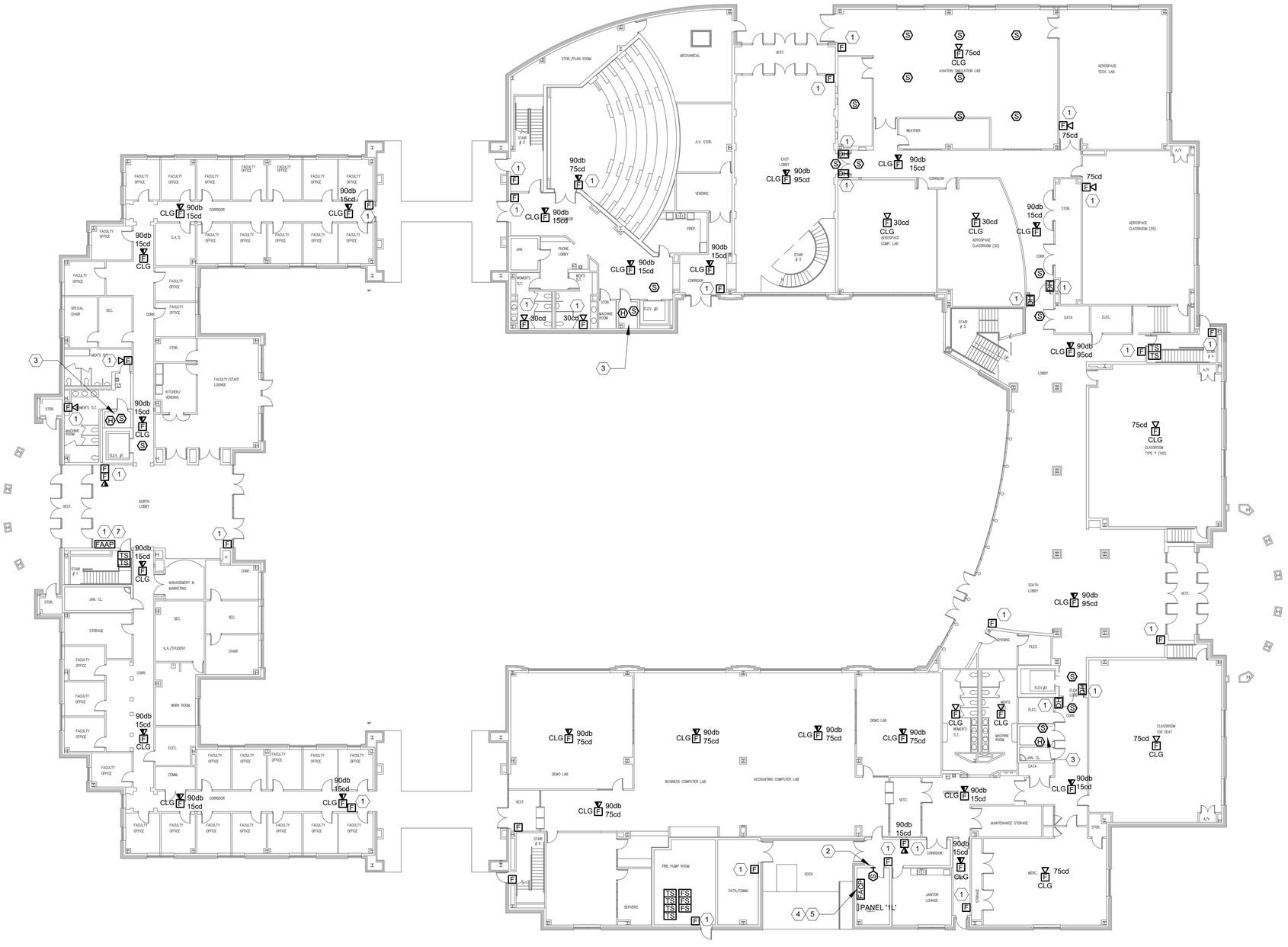
DRAWING TITLE:

FOURTH FLOOR DEMOLITION PLAN

1 DRAWING NO.

ED1.4(C)



1 FIRST FLOOR FIRE ALARM PLAN

1/16" = 1'-0"

0' 8' 16' 32'

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. ROUTE CONDUIT AND RACEWAY CONCEALED ABOVE CEILINGS AND IN UNFINISHED SPACES AS MUCH AS POSSIBLE. WHERE NOT POSSIBLE, RACEWAY SHALL BE CONCEALED IN EXISTING WALLS/CEILINGS OR IN FURRED OUT WALL SECTIONS. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

D. WHERE DEVICES ARE MOUNTED ON EXISTING CONCRETE BLOCK WALLS WHERE NO EXISTING BOX AND RACEWAY ARE AVAILABLE, FUR OUT SHALL BE CONSTRUCTED TO ALLOW FOR CONCEALED ROUTING AND INSTALLATION OF BOXES AND RACEWAYS. REFER TO DETAILS FOR ADDITIONAL INFORMATION.

E. CANDELA RATINGS NOTED ON PLANS INDICATE MINIMUM VISUAL INTENSITY SETTINGS REQUIRED FOR EACH DEVICE. PROVIDE ADJUSTABLE VISUAL INTENSITY OUTPUT PER SPECIFICAITONS.

F. DECIBEL RATINGS INDICATE MINIMUM DECIBEL RATING OF AUDIBLE NOTIFICATION DEVICE MEASURED AT 10' FROM UNIT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

KEYED NOTES

1. MOUNT DEVICE IN RETAINED RECESSED WALL BOX. UTILIZE RETAINED CONDUIT STUB AND RACEWAY AS REQUIRED.
2. PROVIDE SIGNAGE AT ENTRANCE TO ROOM WHERE FIRE ALARM CONTROL PANEL IS TO BE LOCATED. SIGN PARAMETERS SHALL MATCH EXISTING CAMPUS SIGNAGE (FONT, SIZE, COLOR, ETC.). COORDINATE WITH OWNER'S REPRESENTATIVE FOR ALL SIGN REQUIREMENTS.
3. PROVIDE FIRE ALARM INTEGRATION INTO EXISTING ELEVATOR CONTROL SYSTEM TO INITIATE ELEVATOR RECALL UPON FIRE ALARM ACTIVATION. REFER TO DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH EXISTING ELEVATOR MANUFACTURER FOR INTERFACE REQUIREMENTS WITH EXISTING ELEVATOR CONTROL SYSTEM.
4. CONNECT NEW FIRE ALARM CONTROL PANEL TO RETAINED FIBER COMMUNICATION CABLES. COORDINATE WITH OWNER'S IT DEPARTMENT.
5. TEMPORARILY REPLACE ONE (1) EXISTING 20A-1P CIRCUIT BREAKER IN PANELBOARD 1L WITH TANDEM 20A-1P CIRCUIT BREAKER. TANDEM BREAKER SHALL BE CONNECTED TO EXISTING 20A-1P CIRCUIT AND NEW FIRE ALARM SYSTEM DURING CONSTRUCTION. AT END OF CONSTRUCTION (WHEN NEW FIRE ALARM SYSTEM IS IN USE AND EXISTING FIRE ALARM SYSTEM IS REMOVED) REPLACE EXISTING 20A-1P CIRCUIT BREAKER SERVING EXISTING FIRE ALARM SYSTEM WITH A RED-COLORED, LOCK ON/LOCK OFF 20A-1P CIRCUIT BREAKER AND CONNECT TO NEW FIRE ALARM CONTROL PANEL UTILIZING (2)#12, (1)#12G, 3/4"C. REPLACE TEMPORARY TANDEM CIRCUIT BREAKER WITH RETAINED CIRCUIT BREAKER TO FEED EXISTING 20A-1P CIRCUIT. LABEL FIRE ALARM CIRCUIT BREAKER AS "FIRE ALARM CIRCUIT." PROVIDE PERMANENT LABEL ON FACP INDICATING PANELBOARD AND CIRCUIT NUMBER THAT FEEDS UNIT.
6. COORDINATE EXACT MOUNTING LOCATION WITH EXISTING FDC NOTIFICATION DEVICE AND MOUNT ADJACENT TO EXISTING.
7. COORDINATE WITH LOCAL FIRE CHIEF FOR EXACT LOCATION OF FIRE ALARM ANNUNCIATOR PANEL. LOCATE PER FIRE CHIEF'S DIRECTION.

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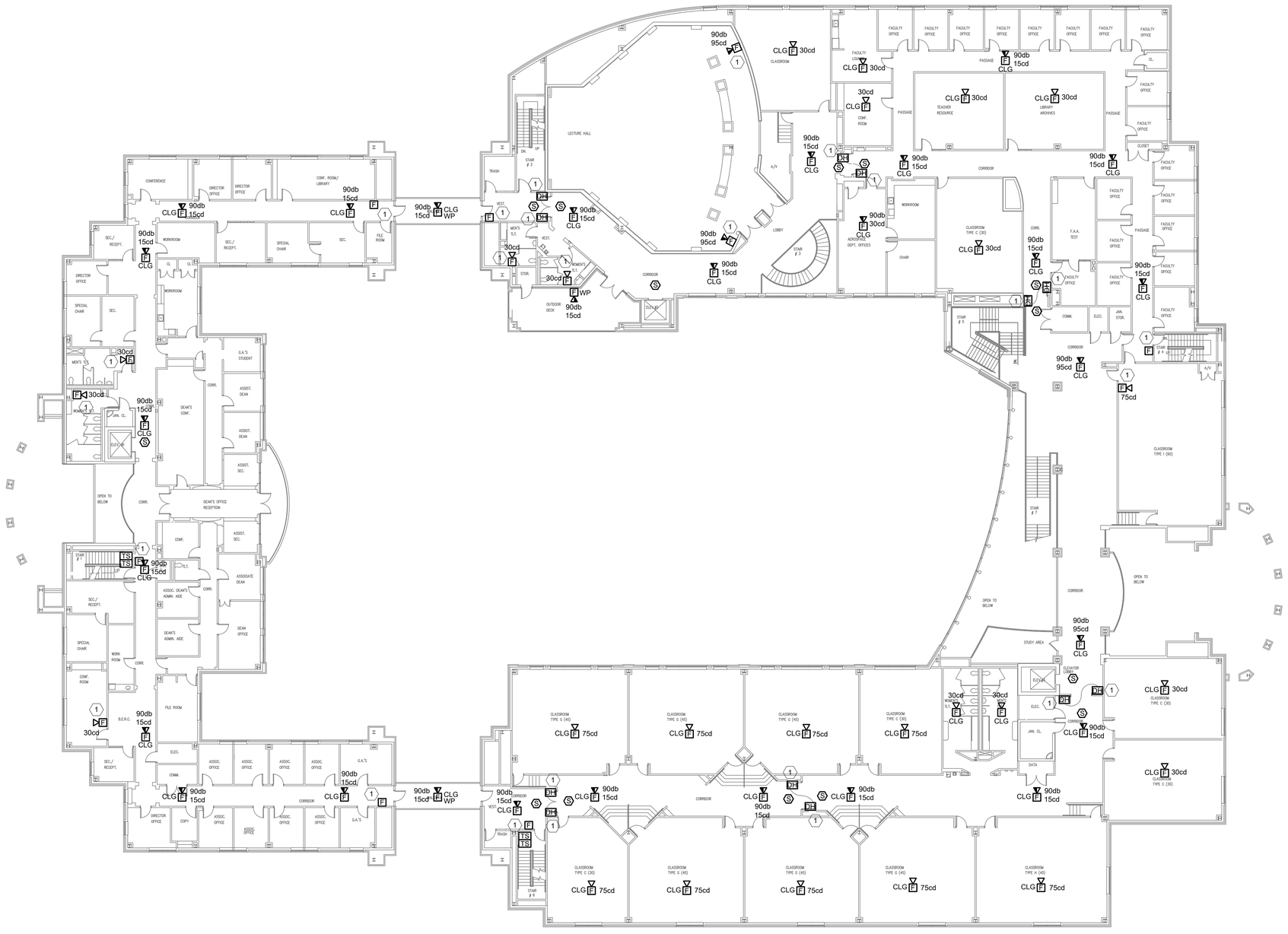
CHECKED BY:	
DRAWING TITLE:	FIRST FLOOR FIRE ALARM PLAN

1 DRAWING NO.

E1.1(C)



1 SECOND FLOOR FIRE ALARM PLAN

1/16" = 1'-0"

0' 8' 16' 32'

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. ROUTE CONDUIT AND RACEWAY CONCEALED ABOVE CEILINGS AND IN UNFINISHED SPACES AS MUCH AS POSSIBLE. WHERE NOT POSSIBLE, RACEWAY SHALL BE CONCEALED IN EXISTING WALLS/CEILINGS OR IN FURRED OUT WALL SECTIONS. EXPOSED RACEWAY SHALL NOT BE PERMITTED. PROVIDE PATCHING AND PAINTING TO MATCH EXISTING AS REQUIRED.

D. WHERE DEVICES ARE MOUNTED ON EXISTING CONCRETE BLOCK WALLS WHERE NO EXISTING BOX AND RACEWAY ARE AVAILABLE, FUR OUT SHALL BE CONSTRUCTED TO ALLOW FOR CONCEALED ROUTING AND INSTALLATION OF BOXES AND RACEWAYS. REFER TO DETAILS FOR ADDITIONAL INFORMATION.

E. CANDELA RATINGS NOTED ON PLANS INDICATE MINIMUM VISUAL INTENSITY SETTINGS REQUIRED FOR EACH DEVICE. PROVIDE ADJUSTABLE VISUAL INTENSITY OUTPUT PER SPECIFICAITONS.

F. DECIBEL RATINGS INDICATE MINIMUM DECIBEL RATING OF AUDIBLE NOTIFICATION DEVICE MEASURED AT 10' FROM UNIT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

KEYED NOTES

1. MOUNT DEVICE IN RETAINED RECESSED WALL BOX. UTILIZE RETAINED CONDUIT STUB AND RACEWAY AS REQUIRED.

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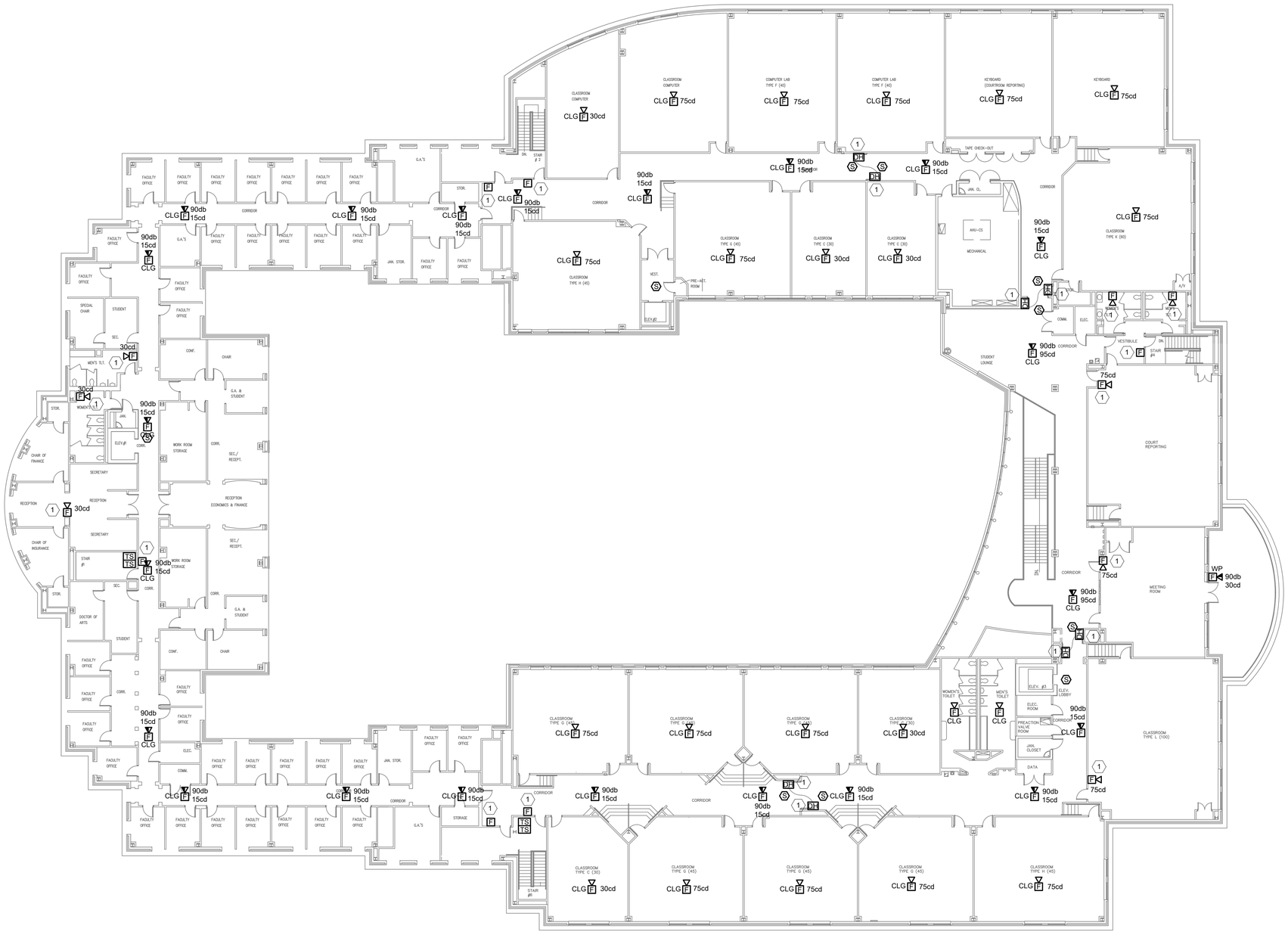
SECOND FLOOR FIRE ALARM PLAN

1 DRAWING NO.

E1.2(C)



1 THIRD FLOOR FIRE ALARM PLAN

1/16" = 1'-0"

0' 8' 16' 32'

GENERAL NOTES

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THIRD FLOOR FIRE ALARM PLAN

1 DRAWING NO.

E1.3(C)

GENERAL NOTES

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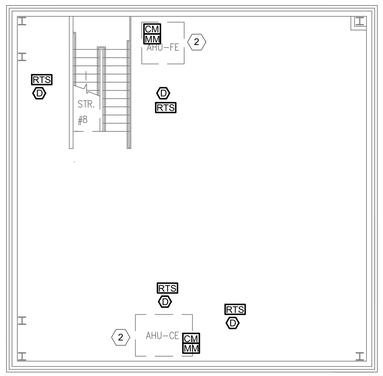
KEYED NOTES

1. MOUNT DEVICE IN RETAINED RECESSED WALL BOX. UTILIZE RETAINED CONDUIT STUB AND RACEWAY AS REQUIRED.
2. REPLACE EXISTING SUPPLY AND RETURN DUCT SMOKE DETECTORS. COORDINATE EXACT LOCATION AT UNIT IN FIELD WITH EXISTING DUCT LAYOUT. CONNECT TO NEW FIRE ALARM SYSTEM.

1 FOURTH FLOOR FIRE ALARM PLAN

1/16" = 1'-0"

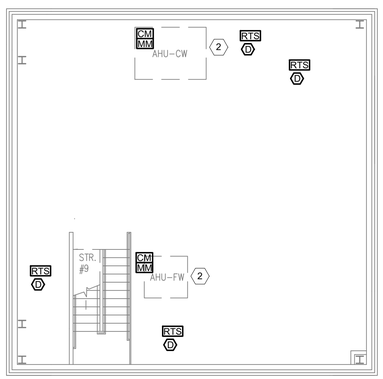
0' 8' 16' 32'



3 MEZZANINE FIRE ALARM PLAN

1/8" = 1'-0"

0' 4' 8' 16'



2 MEZZANINE FIRE ALARM PLAN

1/8" = 1'-0"

0' 4' 8' 16'

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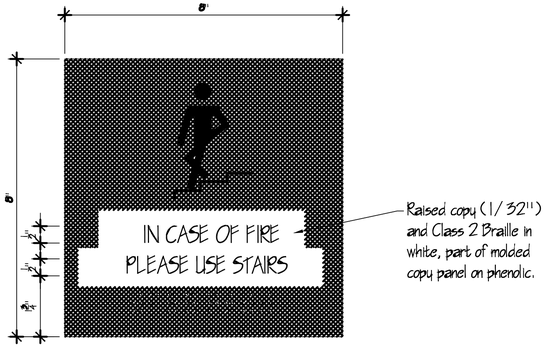
1 DRAWING NO.

E1.4(C)

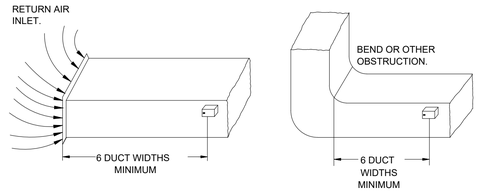


DETAIL NOTES

1. SIGN DETAIL IS PROVIDED FOR GENERAL SIGN CONSTRUCTION AND REQUIREMENTS. MODIFY DIMENSIONS AND LETTERING AS REQUIRED FOR EACH SIGN LOCATION.
2. SUBMIT PROPOSED SIGNAGE TO OWNER FOR APPROVAL PRIOR TO ORDERING.
3. MOLDED ADA PROCESS, ONE-PIECE CONSTRUCTION, FABRICATION PROCESS TWO-PART URETHANE MOLDED, RAISED COPY AND CLASS 2 BRAILLE, COPY AND BRAILLE COLOR WHITE

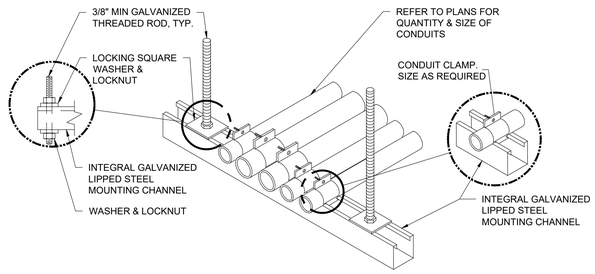
9 TYPICAL SIGN

NOT TO SCALE



6 TYPICAL DUCT DETECTOR PLACEMENT

NOT TO SCALE

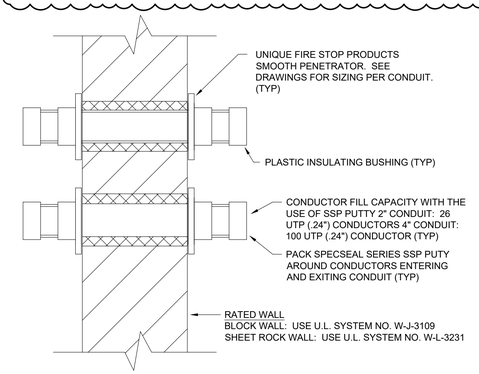


DETAIL NOTES

1. METAL CHANNEL STRUT SUPPORT LONGER THAN THAN 36" SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD. FIELD VERIFY EXACT CONDITIONS.
3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO APPROVED METHODS.

5 CONDUIT TRAPEZE SUPPORT

NOT TO SCALE

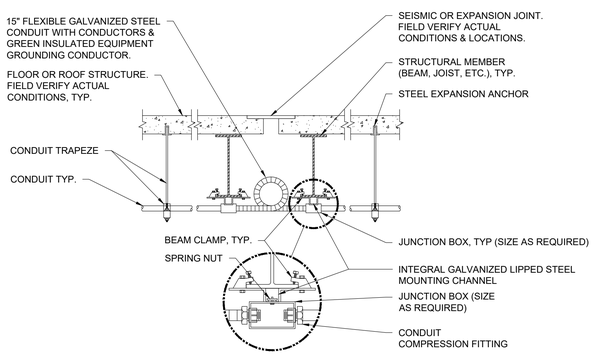


DETAIL NOTES

1. PENETRATIONS SHALL BE NO MORE THAN 2'-0" ABOVE CEILING. TYPICAL AT ALL PENETRATION LOCATIONS.

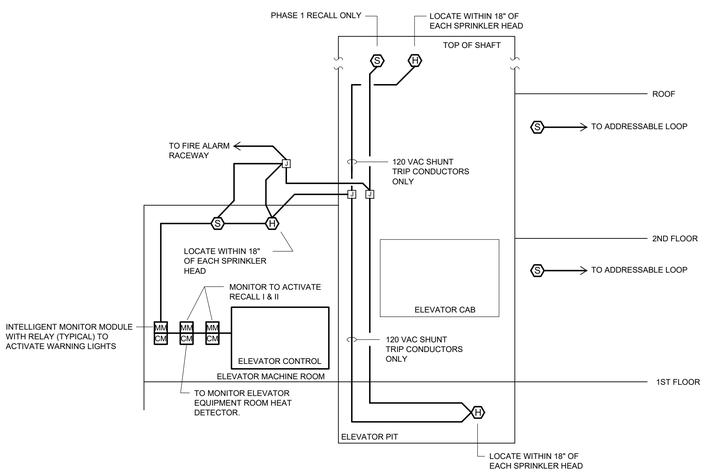
8 PENETRATION OF RATED WALL

NOT TO SCALE



7 CONDUIT JOINT CROSSING

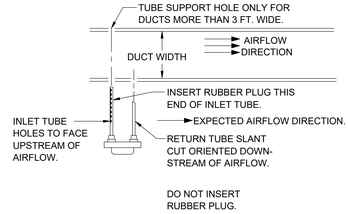
NOT TO SCALE



FOR MACHINE ROOM-LESS ELEVATOR APPLICATION, PROVIDE INDICATED CONNECTIONS TO ELEVATOR CONTROLLERS LOCATED WITHIN ELEVATOR CAB AND SHAFT. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER.

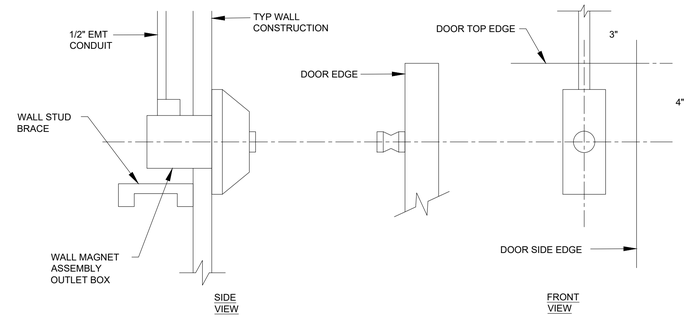
4 TYPICAL ELEVATOR FIRE ALARM REQUIREMENTS

NOT TO SCALE



3 INLET TUBE ORIENTATION

NOT TO SCALE

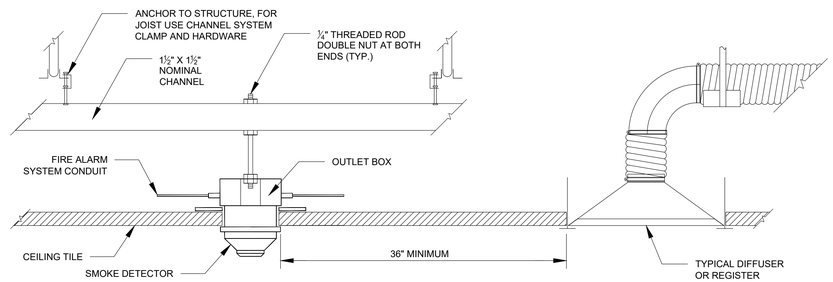


DETAIL GENERAL NOTES

1. SUPPORT OUTLET BOX SECURELY TO WALL CONSTRUCTION. USE HORIZONTAL STUD MEMBERS BOLTED TO VERTICAL MEMBERS.
2. CHECK EXACT ALIGNMENT PRIOR TO MOUNTING DOOR ARMATURE.

2 TYPICAL RECESSED FIRE ALARM DOOR HOLD-OPEN DEVICES

NOT TO SCALE



DETAIL GENERAL NOTES

1. IN SPACES SERVED BY AIR-HANDLING SYSTEMS, DETECTORS SHALL NOT BE LOCATED WHERE AIR-FLOW PREVENTS THE OPERATION OF THE DETECTORS.
2. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIRFLOW OR CLOSER THAN 36 IN. FROM AN AIR SUPPLY DIFFUSER OR RETURN OPENING.
3. INSTALL ALL DETECTORS IN ACCORDANCE WITH NFPA 72.

1 TYPICAL DROP-CEILING SMOKE DETECTOR INSTALLATION

NOT TO SCALE

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9/5/25

1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE:	07/25/2025
JOB NUMBER:	24-121-TN
FILE NAME:	
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	DETAILS

1

DRAWING NO.

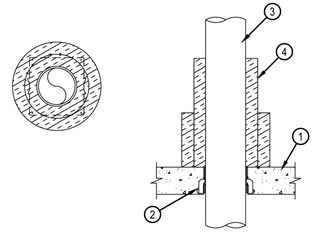
E5.1(C)

System No. F-A-1106

FA 1106

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 2 Hr	FT Rating - 2 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Rating - 2 Hr
W Rating — Class 1 (See Item 2A)	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. As an alternate, any min 2 hr fire rated D700, D800 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory having a min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete topping over the steel deck may be used.
2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions. Device sized to nom diam of penetrant. Device is to be trimmed flush with the top surface of the floor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6" Cast-In Firestop Device. CP 680-PX 2", CP 680-PX 3"
2A. Firestop Device* — Water Barrier Module — (Optional, Not Shown) - Used in combination with the CP 680-P(X) device to achieve a W Rating. Module is threaded onto top of device. W Rating applies only when water barrier module is used and pipe is installed from bottom of device.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

Hilti Firestop Systems

System No. F-A-1106

FA 1106

3. Through-Penetrant — One metallic pipe installed concentrically or eccentrically within opening. Penetrant to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
4. Duct Wrap Material* — Encapsulated duct wrap tightly wrapped around penetrant to extend 24 in. (610 mm) above the floor for penetrants of nom 4 in. (102 mm) diam or smaller, and 36 in. (914 mm) above floor for penetrants greater than a nom 4 in. (102 mm) diam. An additional layer of encapsulated duct wrap tightly wrapped around the first layer of duct wrap to extend 12 in. (305 mm) (914 mm) above floor. All longitudinal seams of both layers of duct wrap and joints between layers of duct wrap are sealed with foil tape. One of the following types and thicknesses of duct wrap material shall be used.
   A. Nom 2 in. (51 mm)) or 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      UNIFRAX I, L, C — FyreWrap 2.0 Duct Insulation or FyreWrap 1.5 Duct Insulation
   B. Nom 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      THERMAL CERAMICS INC — FireMaster FastWrap XL Duct Insulation

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

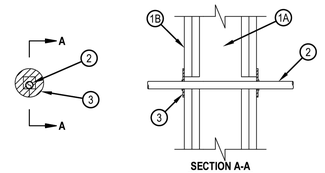
Hilti Firestop Systems

System No. W-L-1506

WL 1506

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (See Item 1)
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 1 and 2 Hr (See Item 1)
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 cm) wide with square or tappered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   The hourly F, FH, FT and FTH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight, Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

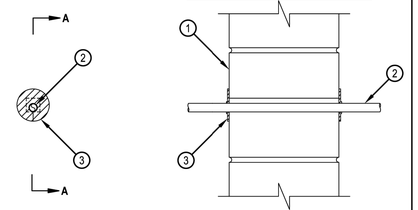
Hilti Firestop Systems

System No. W-J-1248

WJ 1248

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 Hr	F Ratings — 2 Hr
T Ratings — 2 Hr	FT Ratings — 2 Hr
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 2 Hr
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 2 Hr
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — Min 6 in. (152 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight, Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

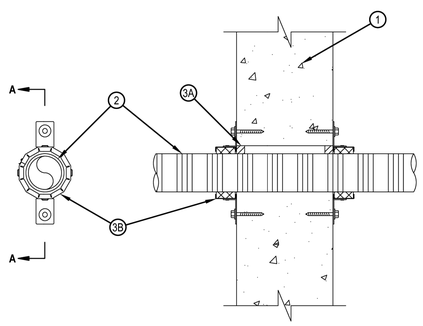
Hilti Firestop Systems

System No. W-J-2331

WJ 2331

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1-1/2 Hr	FT Rating — 1-1/2 Hr
	FH Rating — 2 Hr
	FTH Rating — 1-1/2 Hr



SECTION A-A

Hilti Firestop Systems

System No. W-J-2331

WJ 2331

— System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 2-7/8 in. (73 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT). Annular space between periphery of opening to be min 0 in. (point contact) to max 1/2 in. (13 mm). ENT to be installed as specified in the National Electric Code. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
   B. Firestop Device* - Firestop Collar — Firestop collar sized to diam of penetrant shall be wrapped around the outer circumference of the pipe and installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of wall with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion type masonry fasteners, 1-1/4 in. (32 mm) long concrete screw anchors or 0.145 in. (3.5 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a nom 9/16 in. (15 mm) diam steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor or Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor, or Hilti X-DNI 27 P8S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam steel washer may be used.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 63/2"N, CP 643 63/1.5"N

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

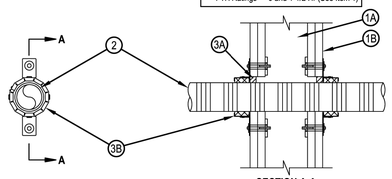
Hilti Firestop Systems

System No. W-L-2676

WL 2676

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0 Hr and 1-1/2 Hr (See Item 1)	FT Ratings — 0 and 1-1/2 Hr (See Item 1)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 0 and 1-1/2 Hr (See Item 1)



SECTION A-A

System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features noted below:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 2-7/8 in. (73 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The T, FT and FTH Ratings are 0 and 1-1/2 Hr for 1 and 2 Hr rated assemblies, respectively.
2. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT). Annular space between periphery of opening to be min 0 in. (point contact) to max 1/2 in. (13 mm). ENT to be installed as specified in the National Electric Code. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
   B. Firestop Device* - Firestop Collar — Firestop collar sized to diam of penetrant shall be wrapped around the outer circumference of the pipe and installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of wall with min 3/16 in. (4.8 mm) diam by min 2-1/2 in. (64 mm) long steel toggle bolts or nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with min 3/4 in. (19 mm) diam steel fender washers.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 63/2"N, CP 643 63/1.5"N

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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SEAL:

DANIEL M. SCHAFFAR
REGISTERED ENGINEER
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STATE OF TENNESSEE
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1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
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DRAWING TITLE:
DETAILS

1

DRAWING NO.
E5.2(C)

GENERAL NOTES

A. RISER DIAGRAM IS DIAGRAMMATIC ONLY, AND IS INTENDED TO ILLUSTRATE SCOPE OF WORK. REFER TO FLOOR PLANS FOR QUANTITIES AND LOCATIONS OF EQUIPMENT, FEEDER RUN LENGTHS, ETC.

B. CONTRACTOR SHALL PROVIDE FULL SYSTEM RISER DIAGRAM FOR REVIEW WITH SHOP DRAWING SUBMITTAL.

C. PROVIDE ALL WORK IN ACCORDANCE TO TIA/EIA 569.

D. FIRE ALARM SYSTEM SHALL BE CAPABLE OF PROVIDING CARBON MONOXIDE (CO) DETECTION PER PLANS, SPECIFICATIONS, AND ALL NFPA 72 AND 720 REQUIREMENTS.

E. FIRE ALARM SYSTEM SHALL BE CAPABLE OF EXPANSION TO INCLUDE 25% FUTURE EXPANSION.

F. REFER TO THE EQUIPMENT AND CONNECTION SCHEDULE FOR EQUIPMENT REQUIRED TO BE SHUT DOWN UPON SYSTEM ACTIVATION.

G. PROVIDE GROUNDING PER NEC AND MANUFACTURER'S REQUIREMENTS.

H. PROVIDE ALL ADDRESSABLE INTERFACE MODULES, RELAY EXPANSION MODULES, AND HARDWARE REQUIRED TO ACCOMMODATE DEVICES SHOWN.

I. WIRING SHALL BE PROVIDED IN CONDUIT OR ROUTED IN "FREE AIR." WHERE ROUTED IN CONDUIT, CONDUIT SHALL BE 'EMT' TYPE CONDUIT PAINTED RED, 3/4" MINIMUM SIZE. WHERE ROUTED IN "FREE AIR," WIRING SHALL BE PLENUM-RATED AND SUITABLE FOR ROUTING IN FREE AIR, SUPPORTED PER SPECIFICATIONS AND DETAILS.

J. PROVIDE FIRE-RATED CAULK AROUND CONDUITS WHERE THEY PENETRATE FLOORS AND RATED WALLS.

K. PROVIDE BREAKER HANDLE LOCK FOR ALL FIRE ALARM SYSTEM CIRCUIT BREAKERS.

L. PROVIDE NYLON BUSHINGS ON BOTH ENDS OF ALL CONDUITS.

M. COORDINATE EXACT FIRE ALARM SYSTEM WIRING, INCLUDING SIZES, QUANTITIES, AND ROUTING WITH FIRE ALARM MANUFACTURER AND SITE CONDITIONS.

N. WIRING INDICATED ON THE RISER DIAGRAM IS DIAGRAMMATIC ONLY AND IS NOT INTENDED TO INDICATE ROUTING OR QUANTITIES OF WIRES REQUIRED. PROVIDE WIRING FOR A COMPLETE SYSTEM AS REQUIRED BY SYSTEM MANUFACTURER. ALL WIRING CIRCUITS SHALL BE 'CLASS B' TYPE.

KEYED NOTES

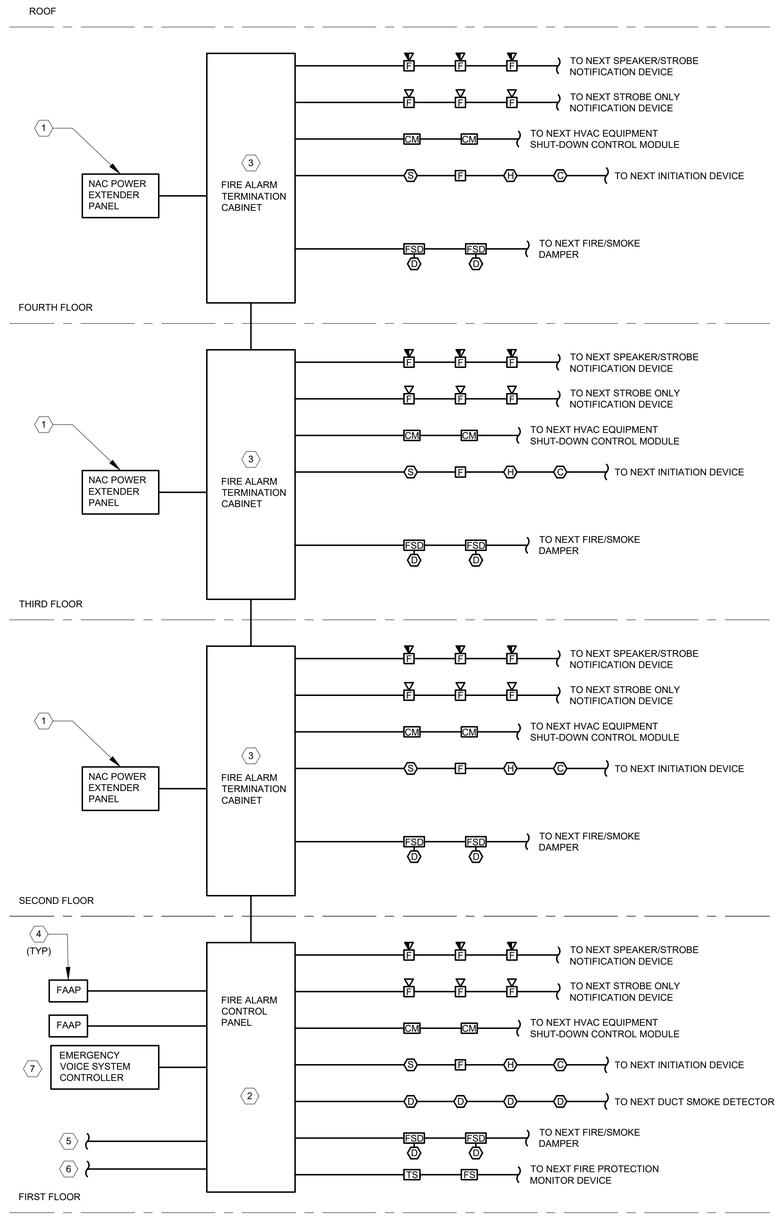
1. PROVIDE NAC POWER EXTENDER PANEL AS REQUIRED BY MANUFACTURER. CONNECT TO A 20A-1P CIRCUIT BREAKER IN NEAREST PANEL. PROVIDE WITH MINIMUM 90 MINUTE BATTERY BACK-UP.
2. PROVIDE A NEW FIRE ALARM CONTROL PANEL AS REQUIRED BY SPECIFICATIONS AND FOR A COMPLETE AND OPERABLE FIRE ALARM SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
3. PROVIDE FIRE ALARM TERMINATION CABINET FOR ROUTING OF FIRE ALARM CONDUCTORS AS REQUIRED BY MANUFACTURER. IF NO TERMINATION CABINET IS REQUIRED BY MANUFACTURER ROUTE CONDUCTORS DIRECTLY TO FIRE ALARM CONTROL PANEL.
4. PROVIDE FIRE ALARM ANNUNCIATOR PANEL AS INDICATED ON DRAWINGS.
5. PROVIDE 1" RISER-GARD ORANGE COMMUNICATION RACEWAY WITH PULLWIRE AND SINGLE-MODE FIBER FROM FIRE ALARM CONTROL PANEL TO DATA RACK FIBER DISTRIBUTION EQUIPMENT. COORDINATE EXACT FIBER CHARACTERISTICS, CONNECTION CONFIGURATIONS, AND TERMINATION OF FIBER ON EQUIPMENT WITH OWNER'S IT DEPARTMENT AND SIMPLEX REPRESENTATIVE PRIOR TO PERFORMING WORK.
6. PROVIDE 3/4" CONDUIT AND LOW-VOLTAGE CABLING TO ACCESS CONTROL PANEL FOR ROUTING OF ACCESS CONTROL CABLING. PROVIDE LOW-VOLTAGE CABLING AS REQUIRED BY ACCESS CONTROL MANUFACTURER.
7. PROVIDE EMERGENCY VOICE SYSTEM CONTROLLER FOR ISSUANCE OF EMERGENCY VOICE COMMUNICATION OVER FIRE ALARM SPEAKERS UPON FIRE ALARM ACTIVATION. PROVIDE MANUAL OVERRIDE/INPUT FOR MANUAL VOICE COMMUNICATION.

DOCUMENTATION

1. ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM.

FIRE ALARM MATRIX

FUNCTIONAL AREA OF OPERATION	INPUTS		OUTPUTS	O1 ACTUATE COMMON ALARM SIGNAL LAMP	O2 ACTUATE COMMON SUPERVISORY SIGNAL LAMP	O3 ACTUATE COMMON TROUBLE SIGNAL LAMP	O4 ACTUATE PIEZO - FACP/ANNUNCIATOR	O5 ACTUATE SPEAKERS	O6 ACTUATE STROBES	O7 ACTUATE FIRE/SMOKE DAMPERS WITH ASSOCIATED SWITCH	O8 DE-ACTUATE FIRE/SMOKE DAMPERS WITH ASSOCIATED SWITCH	O9 SHUTDOWN AIR HANDLER EQUIPMENT WITH ASSOCIATED DUCT DETECTOR	O10 UNLOCK ACCESS CONTROLLED DOORS	O11 RELEASE ELECTROMAGNETICALLY HELD DOORS	O12 RECALL ELEVATOR TO PRIMARY RECALL FLOOR	O13 RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	O14 ACTIVATE ELEVATOR WARNING LIGHTS	O15 ACTIVATE ELEVATOR SHUNT TRIP	O17 TRANSMIT SIGNAL TO CENTRAL STATION	O18 TRANSMIT SIGNAL TO OTHER BUILDING FACPS	O19 SILENCE TROUBLE	O20 RESET SYSTEM	O21 ILLUMINATE ANNUNCIATOR LIGHTS	
				O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15	O17	O18	O19	O20	O21	
COMMON AREA	MANUAL PULL BOX	I1		●			●	●	●				●	●					●	●				I1
	SMOKE DETECTOR	I2		●			●	●	●				●	●					●	●				I2
	HEAT DETECTOR	I3		●			●	●	●				●	●					●	●				I3
	DUCT DETECTOR	I4			●		●					●							●	●				I4
ELEVATOR	ELEVATOR LOBBY SMOKE - NOT FLOOR 1	I5		●			●	●	●				●	●	●				●	●				I5
	ELEVATOR LOBBY SMOKE - FLOOR 1	I6		●			●	●	●				●	●		●			●	●				I6
	SMOKE DETECTOR ELEVATOR MACHINE ROOM	I7		●			●	●	●				●	●	●		●		●	●				I7
	HEAT DETECTOR ELEVATOR MACHINE ROOM	I8		●			●	●	●				●	●				●	●	●				I8
	SMOKE DETECTOR ELEVATOR PIT	I9		●			●	●	●				●	●		●	●		●	●				I9
	HEAT DETECTOR ELEVATOR PIT	I10		●			●	●	●				●	●				●	●	●				I10
	SMOKE DETECTOR ELEVATOR TOP OF SHAFT	I11		●			●	●	●				●	●	●		●		●	●				I11
	HEAT DETECTOR ELEVATOR TOP OF SHAFT	I12		●			●	●	●				●	●				●	●	●				I12
FIRE SPRINKLER	FLOW SWITCH	I16		●			●	●	●				●	●					●	●				I16
	TAMPER SWITCH	I17					●												●	●				I17
	DRY SYSTEM LOW HI/LOW	I18			●		●												●	●				I18
SYSTEM	SYSTEM ALARM	I19		●			●	●	●				●	●					●	●				I19
	SYSTEM SUPERVISORY	I20			●		●												●	●				I20
	SYSTEM TROUBLE	I21				●	●												●	●				I21
	OTHER BUILDING FACP ALARM	I22			●																			I22
	OTHER BUILDING FACP SUPERVISORY	I23			●																			I23
	OTHER BUILDING FACP TROUBLE	I24			●																			I24
	GROUND FAULT	I25				●	●												●	●				I25
	FIRE ALARM SYSTEM LOW BATTERY	I26				●	●												●	●				I26
	FIRE ALARM AC POWER FAILURE	I27				●	●												●	●				I27
	NOTIFICATION APPLIANCE CIRCUIT SHORT	I28				●	●												●	●				I28
	OPEN CIRCUIT	I29				●	●												●	●				I29
ANNUNCIATOR	FAN ON SWITCH	I30																						I30
	FAN OFF SWITCH	I31																						I31
	DAMPER OPEN SWITCH	I32									●													I32
	DAMPER CLOSE SWITCH	I33								●														I33
	LAMP TEST	I36																					●	I36
	RESET SWITCH	I37																				●		I37
	TROUBLE SILENCE	I38																			●			I38
	DOOR UNLOCK LOCK SWITCH	I39											●											I39
				O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15	O17	O18	O19	O20	O21	



1 FIRE ALARM RISER DIAGRAM

NOT TO SCALE

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1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-09-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

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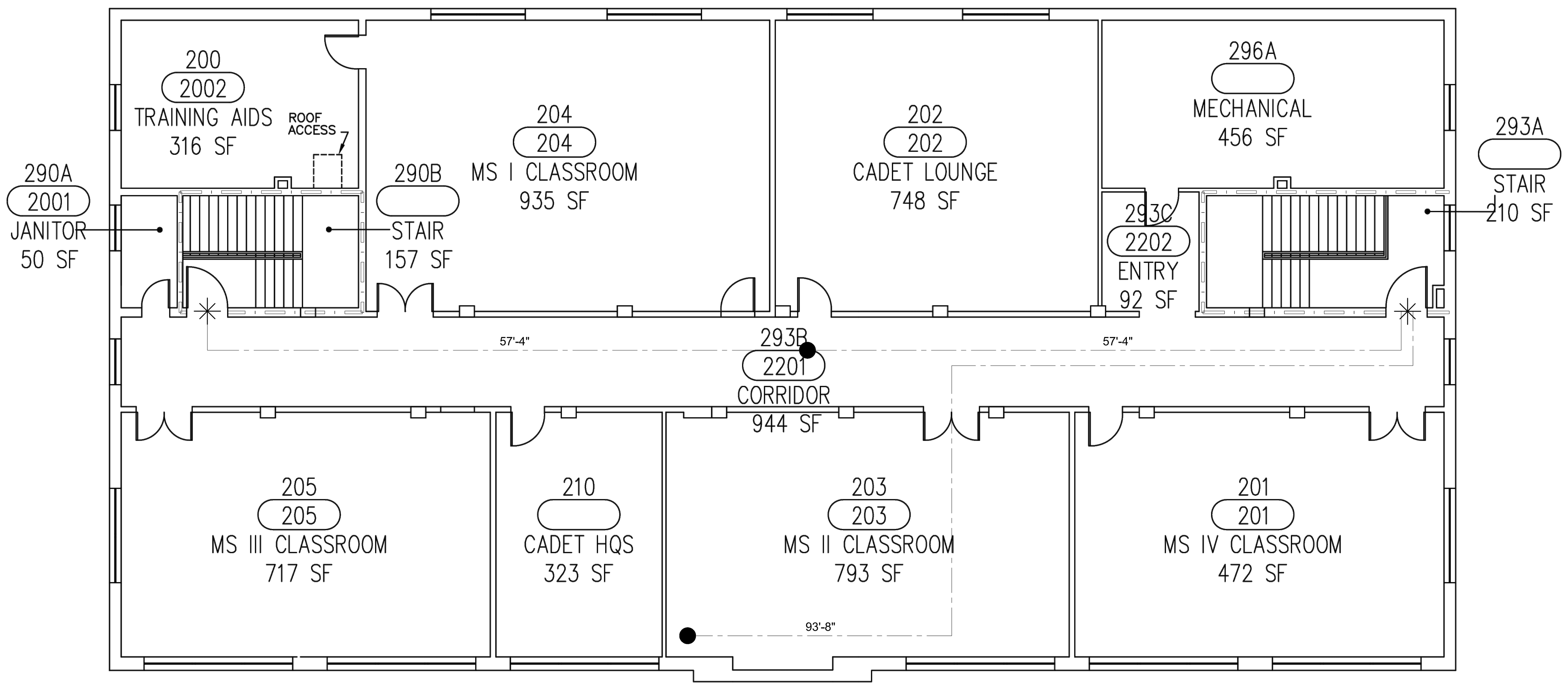
FILE NAME:	
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	DIAGRAMS & SCHEDULES

1 DRAWING NO.

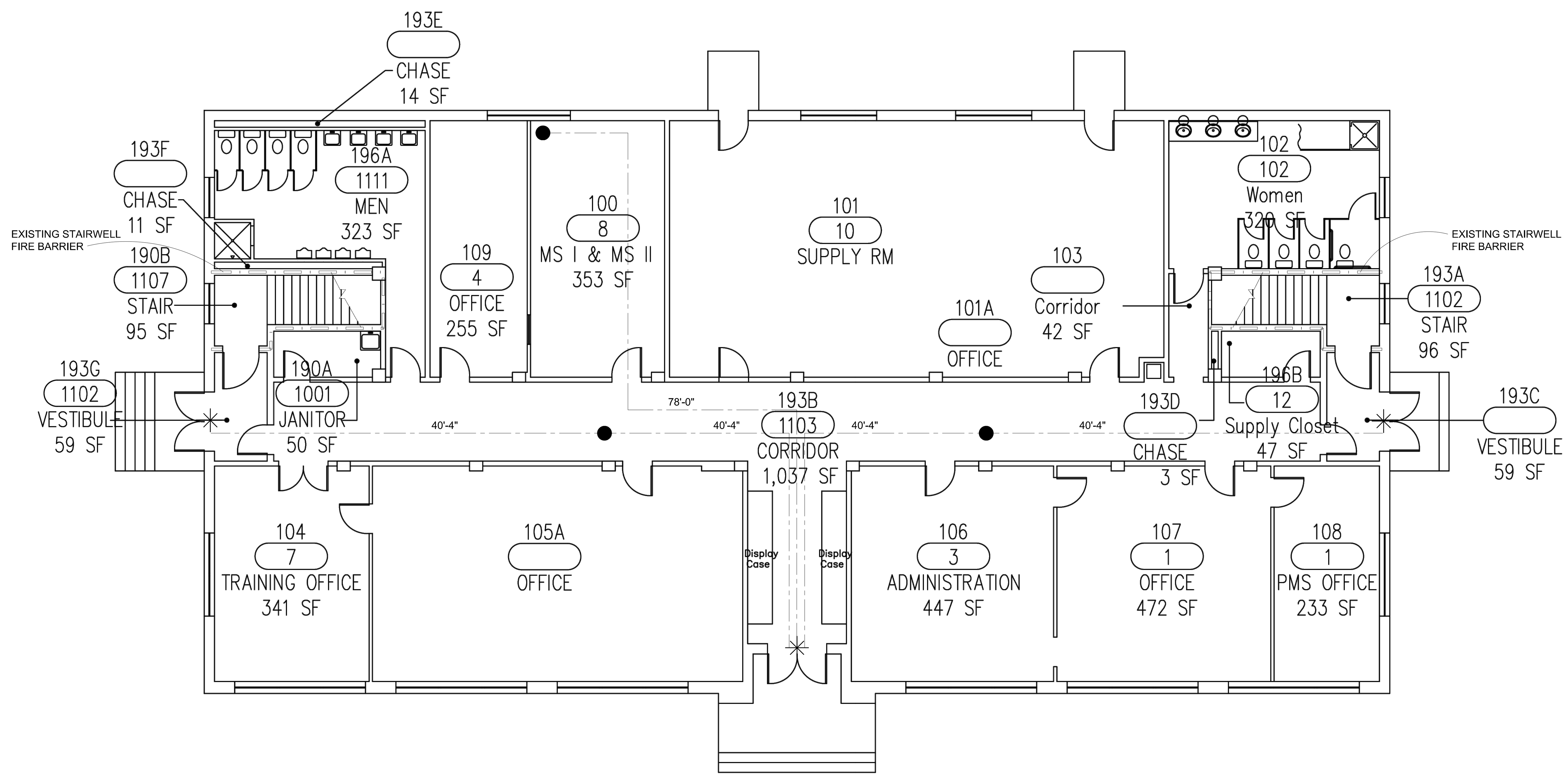
E6.1(C)



2 SECOND FLOOR LIFE SAFETY PLAN

1/8" = 1'-0"

0' 4' 8' 16'



1 FIRST FLOOR LIFE SAFETY PLAN

1/8" = 1'-0"

0' 4' 8' 16'

sgs

Smith Gee Studio, LLC
602 Taylor Street, Suite 201
Nashville, TN 37208

LIFE SAFETY LEGEND

POINT OF EXIT DISCHARGE

POINT OF FARTHEST TRAVEL DISTANCE

NOTE: ALL EXISTING FIRE BARRIER AND FIRE PARTITION RATINGS TO BE MAINTAINED

APPLICABLE CODES

City of Murfreesboro Adopted Codes

2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL FUEL GAS CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL PROPERTY MAINTENANCE CODE
2009 ICC ANSI A117.1 ACCESSIBLE AND USABLE BUILDING CODE

State of Tennessee - Fire Marshal's Office

2021 INTERNATIONAL BUILDING CODE (EXCEPT CHAPTER 11 ACCESSIBILITY)
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FUEL GAS CODE
2017 NATIONAL ELECTRICAL CODE
2021 INTERNATIONAL FIRE CODE
2021 LIFE SAFETY CODE (NFPA 101)
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL PROPERTY MAINTENANCE CODE

CODES ANALYSIS

BUILDING DATA:

Type of Construction: TYPE VB
Not Sprinkled

Use and Occupancy Classification: Business (B)
(No change to existing occupancy classification)

Existing Building Height: 2 Story

SQUARE FOOTAGE

1st Floor - 7,066 sf
2nd Floor - 7,111 sf

OCCUPANT LOAD

1st Floor -	Office	4,370 sf / 100 sf per occ = 44 occ
	Storage	1,350 sf / 300 sf per occ = 5 occ
2nd Floor -	Classroom	4,100 sf / 20 sf per occ = 205 occ
	Office	475 sf / 100 sf per occ = 5 occ
	Storage	850 sf / 300 sf per occ = 3 occ
	Assembly	730 sf / 15 sf per occ = 49 occ

Total Occupant Load = 311 occ

MAX TRAVEL DISTANCE

Allowed - 200'-0"
Actual - 93'-8"

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No. 102922
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07/25/2025

MIDDLE TENNESSEE STATE UNIVERSITY CAMPUS LIFE SAFETY SYSTEM UPDATES PHASE 1

1301 E. MAIN ST, MURFREESBORO, TN 37132

SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE: 5/14/2025

JOB NUMBER: SGS 25025.00

FILE NAME:

DRAWN BY:

CHECKED BY:

DRAWING TITLE:

FORREST HALL LIFE SAFETY AND CODE ANALYSIS

DRAWING NO.

A0.1(D)

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SEAL:

LIFE SAFETY LEGEND

POINT OF EXIT DISCHARGE

POINT OF FARTHEST TRAVEL DISTANCE

NOTE: ALL EXISTING FIRE BARRIER AND FIRE PARTITION RATINGS TO BE MAINTAINED

APPLICABLE CODES

City of Murfreesboro Adopted Codes

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2018 INTERNATIONAL PLUMBING CODE WITH LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS
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2018 INTERNATIONAL ENERGY CONSERVATION CODE
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State of Tennessee - Fire Marshal's Office

2021 INTERNATIONAL BUILDING CODE (EXCEPT CHAPTER 11 ACCESSIBILITY)
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2021 INTERNATIONAL FUEL GAS CODE
2017 NATIONAL ELECTRICAL CODE
2021 INTERNATIONAL FIRE CODE
2021 LIFE SAFETY CODE (NFPA 101)
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL PROPERTY MAINTENANCE CODE

CODES ANALYSIS

BUILDING DATA:

Type of Construction: TYPE VA
Not Sprinkled

Use and Occupancy Classification: Business (B)
(No change to existing occupancy classification)

Existing Building Height: 1 Story

SQUARE FOOTAGE

1st Floor - 10,143 sf (12,600 sf allowed per Frontage Calculation)

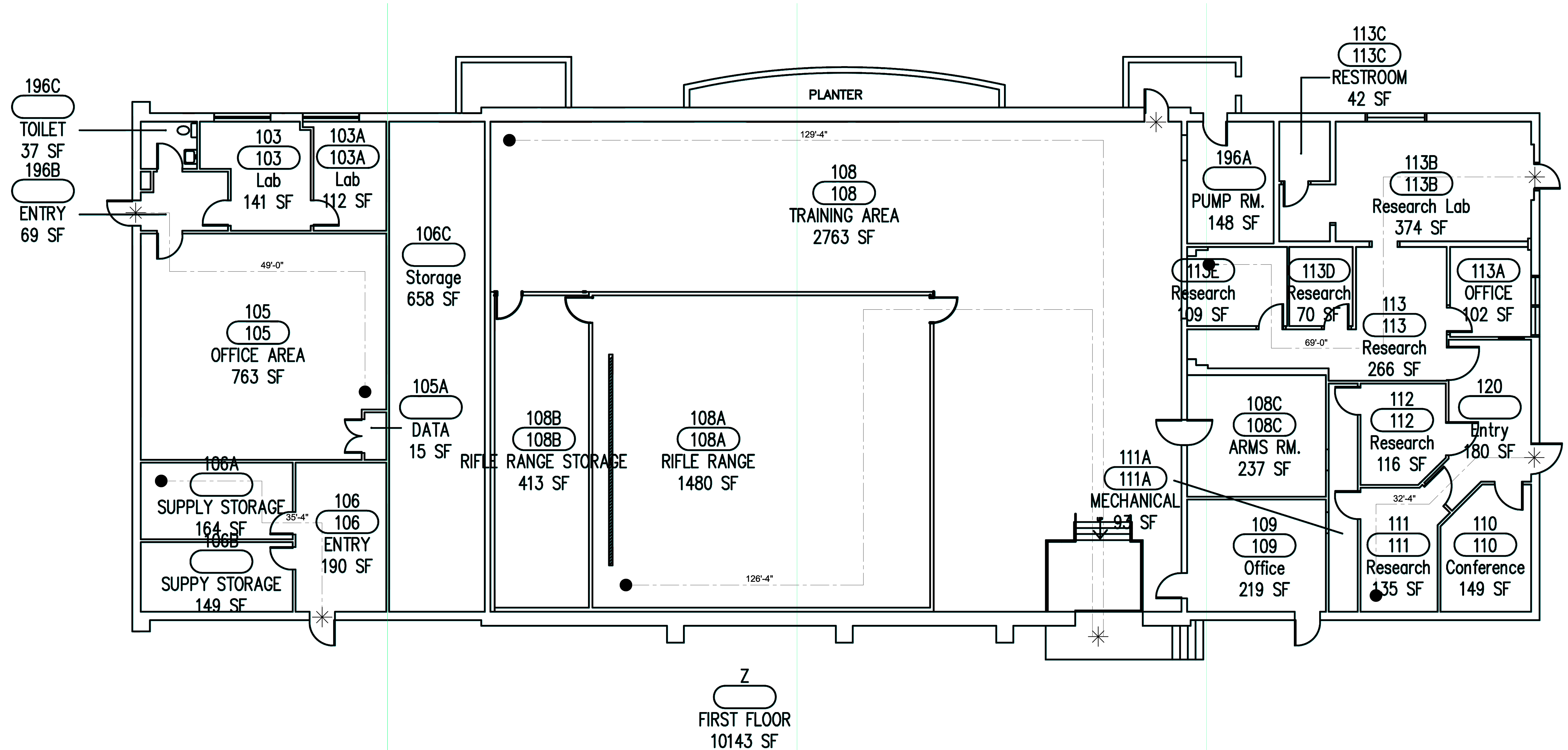
OCCUPANT LOAD

1st Floor - Training/Shooting Range 4,850 sf/ 20 sf per occ = 245 occ
Office 3,710 sf/ 100 sf per occ = 37 occ
Storage 1,249 sf/ 300 sf per occ = 4 occ

Total Occupant Load = 286 occ

MAX TRAVEL DISTANCE

Allowed - 300'-0"
Actual - 129'-4"



1 FIRST FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"

0' 4' 8' 16'

MIDDLE TENNESSEE STATE UNIVERSITY CAMPUS LIFE SAFETY SYSTEM UPDATES PHASE 1

1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

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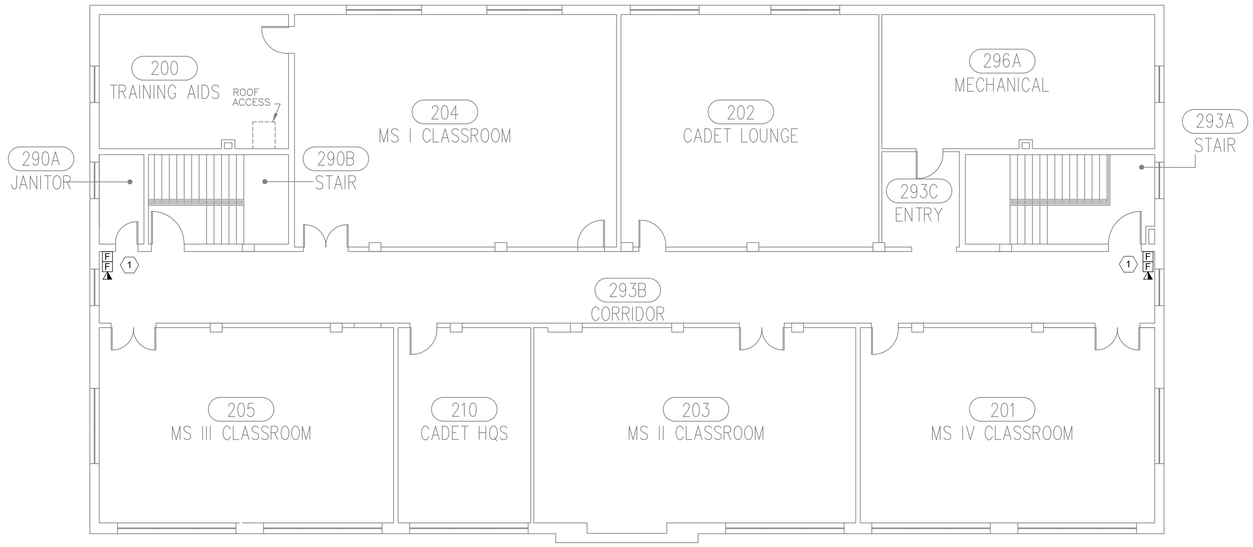
FILE NAME:
DRAWN BY:
CHECKED BY:
DRAWING TITLE:

ANNEX BUILDING LIFE SAFETY AND CODE ANALYSIS

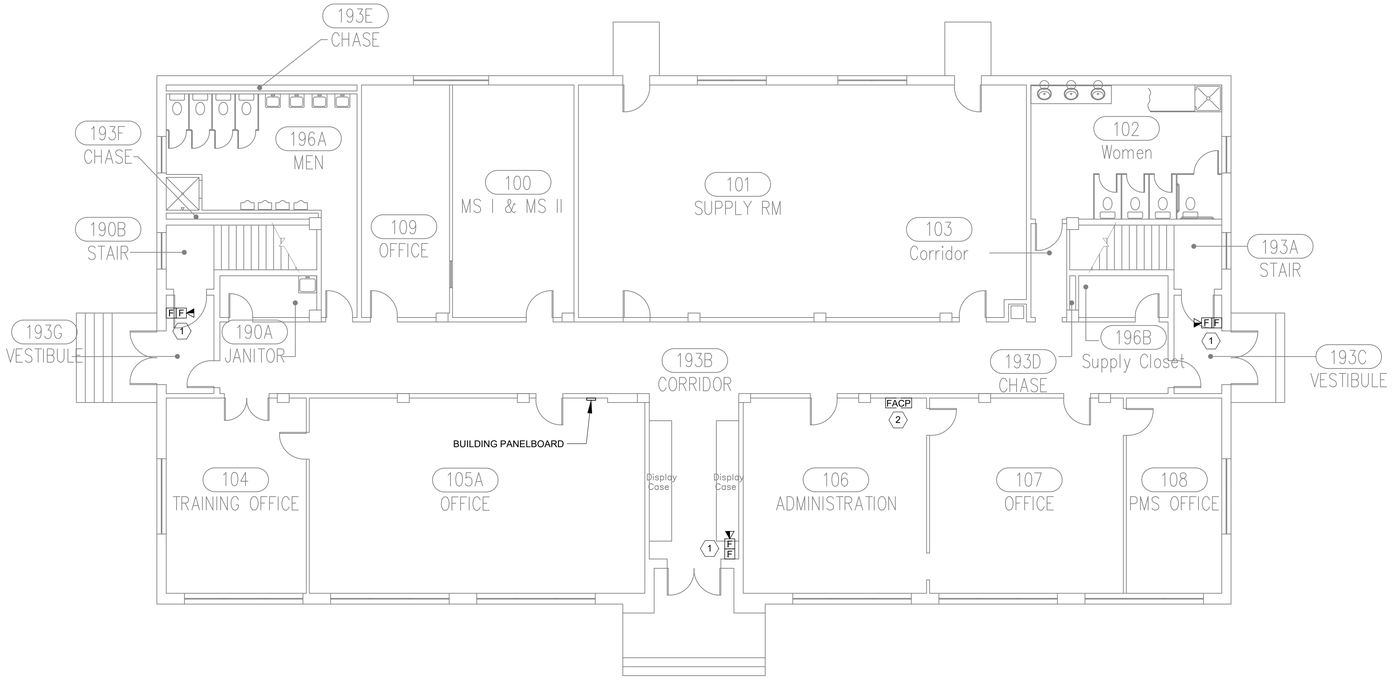
DRAWING NO.
A0.2(D)



2 SECOND FLOOR DEMOLITION PLAN

1/8" = 1'-0"

0' 4' 8 16'



1 FIRST FLOOR DEMOLITION PLAN

1/8" = 1'-0"

0' 4' 8 16'

GENERAL NOTES

A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

C. COORDINATE ANY REQUIRED SHUTDOWNS OF EXISTING FIRE ALARM SYSTEM WITH OWNER'S REPRESENTATIVE MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE. PROVIDE FIRE WATCH DURING ALL TIMES EXISTING FIRE ALARM SYSTEM IS INOPERABLE DURING CONSTRUCTION.

D. UPON COMPLETION OF INSTALLATION, APPROVAL, AND ACTIVATION OF NEW FIRE ALARM SYSTEM, REMOVE OLD FIRE ALARM SYSTEM IN ITS ENTIRETY.

KEYED NOTES

1. REMOVE DEVICE AND ASSOCIATED SYSTEM CABLING IN ITS ENTIRETY. RETAIN RECESSED WALL BOX AND CONDUIT STUB AND RACEWAY FOR REUSE.
2. DISCONNECT EXISTING FIRE ALARM CONTROL PANEL AND REMOVE IN ITS ENTIRETY.

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9/5/25

MIDDLE TENNESSEE STATE UNIVERSITY
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DRAWN BY:	
CHECKED BY:	

DRAWING TITLE:

FORREST HALL DEMOLITION PLANS

DRAWING NO.

ED1.1(D)

GENERAL NOTES

A. COORDINATE ALL DEMOLITION WORK WITH PROJECT'S PHASING REQUIREMENTS.

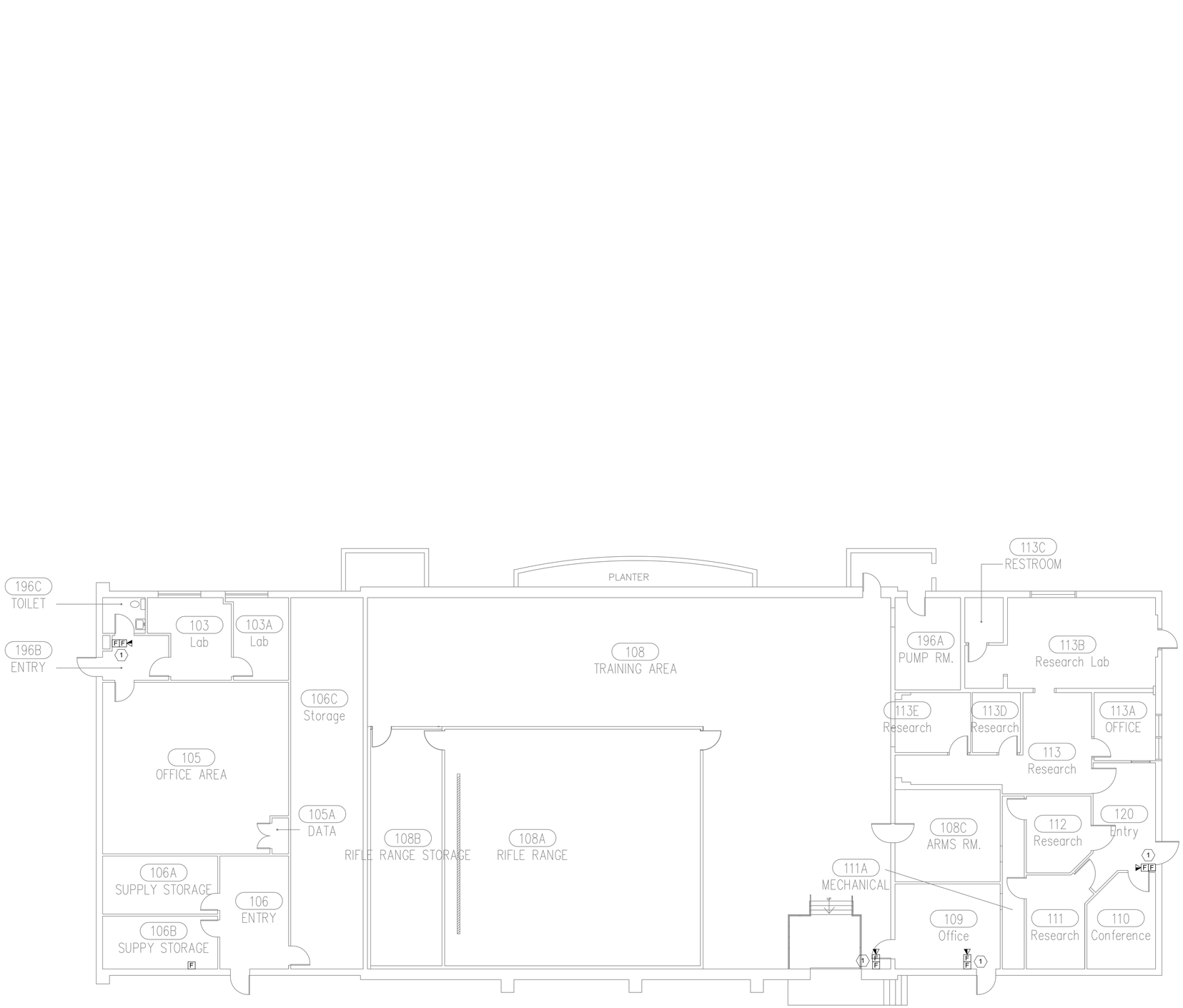
B. EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION IN ITS ENTIRETY UNTIL FINAL APPROVAL AND ACTIVATION OF NEW FIRE ALARM SYSTEM.

C. COORDINATE ANY REQUIRED SHUTDOWNS OF EXISTING FIRE ALARM SYSTEM WITH OWNER'S REPRESENTATIVE MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE. PROVIDE FIRE WATCH DURING ALL TIMES EXISTING FIRE ALARM SYSTEM IS INOPERABLE DURING CONSTRUCTION.

D. UPON COMPLETION OF INSTALLATION, APPROVAL, AND ACTIVATION OF NEW FIRE ALARM SYSTEM, REMOVE OLD FIRE ALARM SYSTEM IN ITS ENTIRETY.

KEYED NOTES

1. REMOVE DEVICE AND ASSOCIATED SYSTEM CABLING IN ITS ENTIRETY. RETAIN RECESSED WALL BOX AND CONDUIT STUB AND RACEWAY FOR REUSE.



1 FIRST FLOOR DEMOLITION PLAN

1/8" = 1'-0"

0' 4' 8 16'

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ANNEX BUILDING DEMOLITION PLANS

DRAWING NO.

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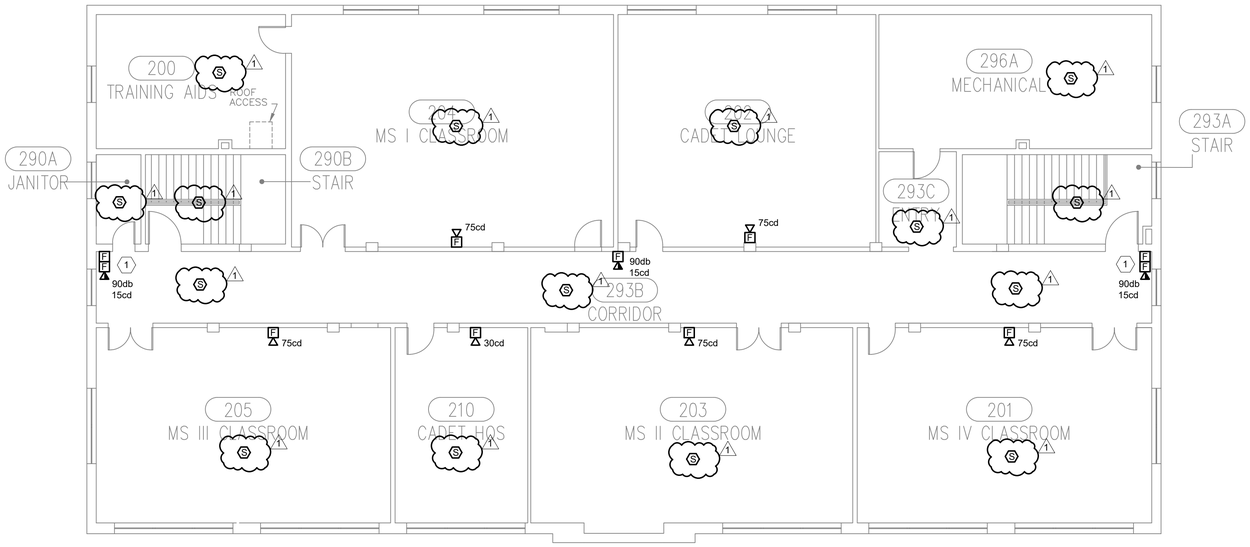
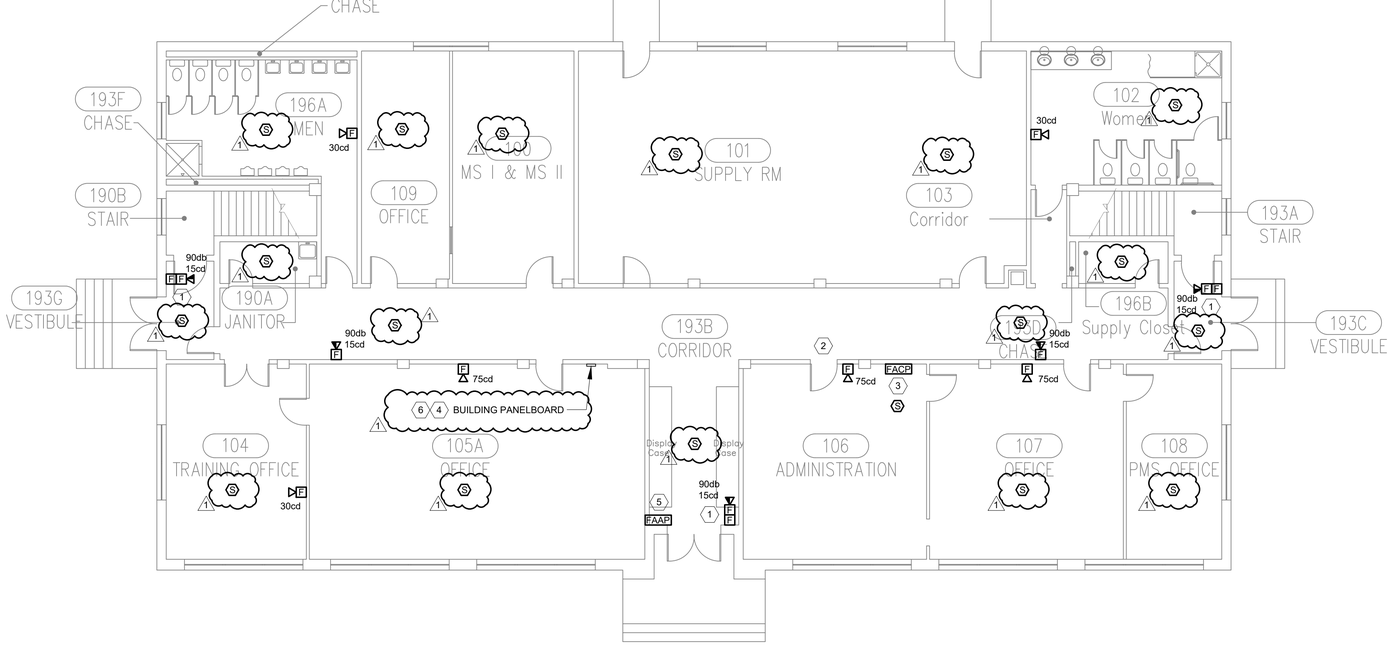


2 SECOND FLOOR FIRE ALARM PLAN

1/8" = 1'-0"

0' 4' 8 16'



1 FIRST FLOOR FIRE ALARM PLAN

1/8" = 1'-0"

0' 4' 8 16'

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. ROUTE CONDUIT AND RACEWAY CONCEALED ABOVE CEILINGS AND IN UNFINISHED SPACES AS MUCH AS POSSIBLE. WHERE NOT POSSIBLE, RACEWAY SHALL BE MOUNTED EXPOSED ON EXISTING SURFACES, PAINTED TO MATCH.

D. CANDELA RATINGS NOTED ON PLANS INDICATE MINIMUM VISUAL INTENSITY SETTINGS REQUIRED FOR EACH DEVICE. PROVIDE ADJUSTABLE VISUAL INTENSITY OUTPUT PER SPECIFICAITONS.

E. DECIBEL RATINGS INDICATE MINIMUM DECIBEL RATING OF AUDIBLE NOTIFICATION DEVICE MEASURED AT 10' FROM UNIT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

1 F. VINYL FLOOR TILE AND MASTIC IN THE FOLLOWING AREAS HAVE BEEN DETERMINED TO CONTAIN ASBESTOS. DO NOT DISTURB THESE MATERIALS. OFFICE 109, MS1&MS2 100, VESTIBULE 193C, PMS OFFICE 108, OFFICE 107, ADMINISTRATION 106, OFFICE 105A, TRAINING OFFICE 104, CORRIDOR 293B, MS1 CLASSROOM 204, CADET LOUNGE 202, MS4 CLASSROOM 201, MS2 CLASSROOM 203, CADET HQS 210.

KEYED NOTES

1. MOUNT DEVICE IN RETAINED RECESSED WALL BOX. UTILIZE RETAINED CONDUIT STUB AND RACEWAY AS REQUIRED.
2. PROVIDE SIGNAGE AT ENTRANCE TO ROOM WHERE FIRE ALARM CONTROL PANEL IS TO BE LOCATED. SIGN PARAMETERS SHALL MATCH EXISTING CAMPUS SIGNAGE (FONT, SIZE, COLOR, ETC.). COORDINATE WITH OWNER'S REPRESENTATIVE FOR ALL SIGN REQUIREMENTS.
3. CONNECT NEW FIRE ALARM CONTROL PANEL TO EXISTINGI BUILDING FIBER COMMUNICATION NETWORK EQUIPMENT. COORDINATE WITH OWNER'S IT DEPARTMENT.
4. TEMPORARILY REPLACE ONE (1) EXISTING 20A-1P CIRCUIT BREAKER IN PANELBOARD 1L WITH TANDEM 20A-1P CIRCUIT BREAKER. TANDEM BREAKER SHALL BE CONNECTED TO EXISTING 20A-1P CIRCUIT AND NEW FIRE ALARM SYSTEM DURING CONSTRUCTION. AT END OF CONSTRUCTION (WHEN NEW FIRE ALARM SYSTEM IS IN USE AND EXISTING FIRE ALARM SYSTEM IS REMOVED) REPLACE EXISTING 20A-1P CIRCUIT BREAKER SERVING EXISTING FIRE ALARM SYSTEM WITH A RED-COLORED, LOCK ON/LOCK OFF 20A-1P CIRCUIT BREAKER AND CONNECT TO NEW FIRE ALARM CONTROL PANEL UTILIZING (2)#12, (1)#12G, 3/4"C. REPLACE TEMPORARY TANDEM CIRCUIT BREAKER WITH RETAINED CIRCUIT BREAKER TO FEED EXISTING 20A-1P CIRCUIT. LABEL FIRE ALARM CIRCUIT BREAKER AS "FIRE ALARM CIRCUIT." PROVIDE PERMANENT LABEL ON FACP INDICATING PANELBOARD AND CIRCUIT NUMBER THAT FEEDS UNIT.
5. COORDINATE WITH LOCAL FIRE CHIEF FOR EXACT LOCATION OF FIRE ALARM ANNUNCIATOR PANEL. LOCATE PER FIRE CHIEF'S DIRECTION.

1 6. ROUTE FIRE ALARM CABLING FOR CONNECTION TO ANNEX BUILDING SLAVE PANEL IN EXISTING RACEWAY THAT IS ROUTED BETWEEN BUILDINGS. FIELD VERIFY LOCATION AND ROUTING OF EXISTING RACEWAY PRIOR TO PERFORMING WORK.

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1 **MIDDLE TENNESSEE STATE UNIVERSITY**
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DRAWN BY:	
CHECKED BY:	

DRAWING TITLE:

FORREST HALL FIRE ALARM PLANS

1 DRAWING NO.

E1.1(D)

GENERAL NOTES

A. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

B. LOCATIONS OF DEVICES SHOWN ARE APPROXIMATE AND SHOWN TO MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS. PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT EQUIPMENT IN GENERAL LOCATIONS SHOWN. FINAL INSTALLED LOCATIONS SHALL MEET IFC AND NFPA 72 DEVICE SPACING REQUIREMENTS FOR TYPES OF DEVICES AND SETTINGS SHOWN.

C. ROUTE CONDUIT AND RACEWAY CONCEALED ABOVE CEILINGS AND IN UNFINISHED SPACES AS MUCH AS POSSIBLE. WHERE NOT POSSIBLE, RACEWAY SHALL BE MOUNTED EXPOSED ON EXISTING SURFACES, PAINTED TO MATCH.

D. CANDELA RATINGS NOTED ON PLANS INDICATE MINIMUM VISUAL INTENSITY SETTINGS REQUIRED FOR EACH DEVICE. PROVIDE ADJUSTABLE VISUAL INTENSITY OUTPUT PER SPECIFICAITONS.

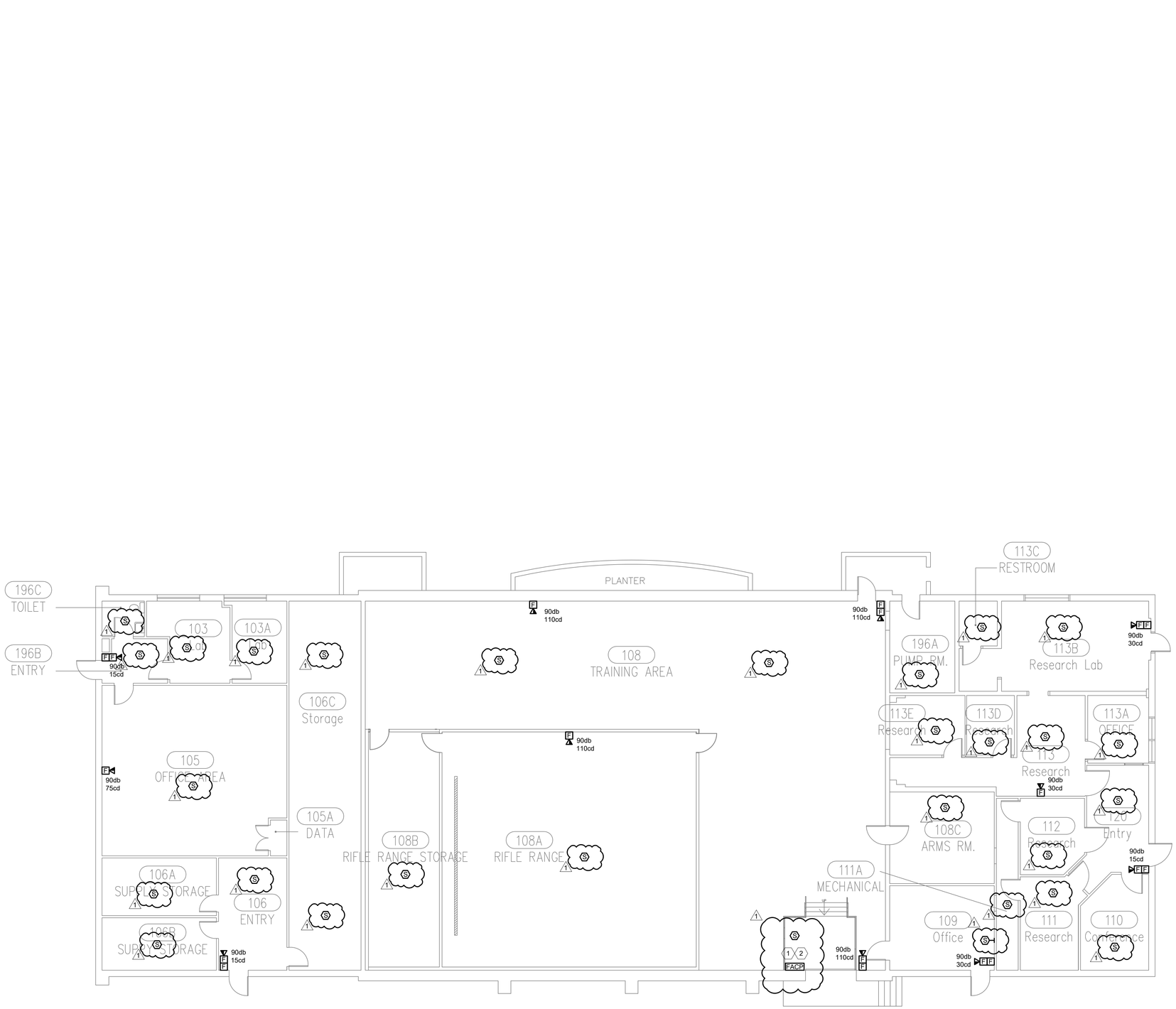
E. DECIBEL RATINGS INDICATE MINIMUM DECIBEL RATING OF AUDIBLE NOTIFICATION DEVICE MEASURED AT 10' FROM UNIT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

1 F. EXISTING PIPE INSULATION IN BUILDING AS WELL AS CEILING MATERIAL IN OFFICE 109 HAS BEEN DETERMINED TO BE AESBESTOS-CONTAINING MATERIALS. DO NOT DISTURB OR PENETRATE THESE MATERIALS.

KEYED NOTES

1. PROVIDE FIRE ALARM CONTROL PANEL TO SERVE ANNEX BUILDING DEVICES. CONNECT PANEL BACK TO FORREST HALL MASTER CONTROL PANEL FOR SUPERVISING AND REPORTING OF SYSTEM STATUS. PROVIDE A 20A-1P CIRCUIT BREAKER IN AVAILABLE SPACE IN BUILDING PANELBOARD AND CONNECT TO FACP. BREAKER SHALL BE RED IN COLOR, LOCKABLE, AND LABELED PER NEC REQUIREMENTS. BREAKER SHALL MATCH EXISTING PANELBOARD CONSTRUCTION AND INTERRUPTING RATING.

1 2. ROUTE FIRE ALARM CABLING FOR CONNECTION TO FORREST HALL MASTER PANEL IN EXISTING RACEWAY THAT IS ROUTED BETWEEN BUILDINGS. FIELD VERIFY LOCATION AND ROUTING OF EXISTING RACEWAY PRIOR TO PERFORMING WORK.



1 FIRST FLOOR FIRE ALARM PLAN

1/8" = 1'-0"

0' 4' 8 16'

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DRAWN BY:
CHECKED BY:
DRAWING TITLE:

ANNEX BUILDING FIRE ALARM PLANS

1 DRAWING NO.

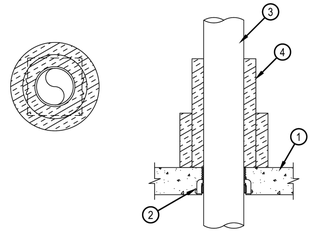
E1.2(D)

FA 1106

System No. F-A-1106

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 2 Hr	FT Rating - 2 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Rating - 2 Hr
W Rating — Class 1 (See Item 2A)	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. As an alternate, any min 2 hr fire rated D700, D800 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory having a min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete topping over the steel deck may be used.
2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions. Device sized to nom diam of penetrant. Device is to be trimmed flush with the top surface of the floor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6" Cast-In Firestop Device. CP 680-PX 2", CP 680-PX 3"
2A. Firestop Device* — Water Barrier Module — (Optional, Not Shown) - Used in combination with the CP 680-P(X) device to achieve a W Rating. Module is threaded onto top of device. W Rating applies only when water barrier module is used and pipe is installed from bottom of device.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

FA 1106

System No. F-A-1106

3. Through-Penetrant — One metallic pipe installed concentrically or eccentrically within opening. Penetrant to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
4. Duct Wrap Material* — Encapsulated duct wrap tightly wrapped around penetrant to extend 24 in. (610 mm) above the floor for penetrants of nom 4 in. (102 mm) diam or smaller, and 36 in. (914 mm) above floor for penetrants greater than a nom 4 in. (102 mm) diam. An additional layer of encapsulated duct wrap tightly wrapped around the first layer of duct wrap to extend 12 in. (305 mm) (914 mm) above floor. All longitudinal seams of both layers of duct wrap and joints between layers of duct wrap are sealed with foil tape. One of the following types and thicknesses of duct wrap material shall be used.
   A. Nom 2 in. (51 mm)) or 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      UNIFRAX I L L C — FyreWrap 2.0 Duct Insulation or FyreWrap 1.5 Duct Insulation
   B. Nom 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      THERMAL CERAMICS INC — FireMaster FastWrap XL Duct Insulation

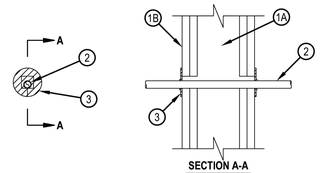
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

WL 1506

System No. W-L-1506

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (See Item 1)
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 1 and 2 Hr (See Item 1)
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 cm) wide with square or tappered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   The hourly F, FH, FT and FTH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
   3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight, Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

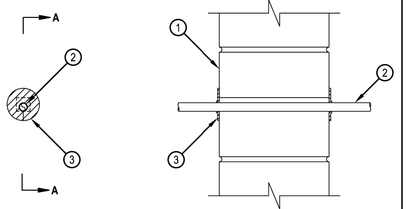
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

WJ 1248

System No. W-J-1248

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 Hr	F Ratings — 2 Hr
T Ratings — 2 Hr	FT Ratings — 2 Hr
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 2 Hr
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 2 Hr
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — Min 6 in. (152 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight, Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

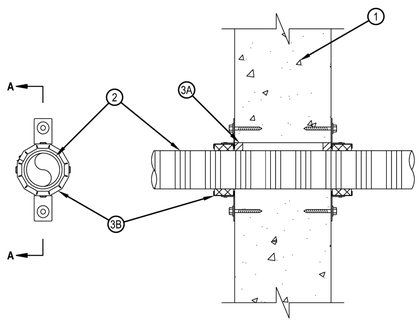
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

WJ 2331

System No. W-J-2331

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1-1/2 Hr	FT Rating — 1-1/2 Hr
	FH Rating — 2 Hr
	FTH Rating — 1-1/2 Hr



SECTION A-A

WJ 2331

System No. W-J-2331

— System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 2-7/8 in. (73 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT). Annular space between periphery of opening to be min 0 in. (point contact) to max 1/2 in. (13 mm). ENT to be installed as specified in the National Electric Code. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
   B. Firestop Device* - Firestop Collar — Firestop collar sized to diam of penetrant shall be wrapped around the outer circumference of the pipe and installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of wall with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion type masonry fasteners, 1-1/4 in. (32 mm) long concrete screw anchors or 0.145 in. (3.5 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a nom 9/16 in. (15 mm) diam steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor or Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor, or Hilti X-DNI 27 P8S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam steel washer may be used.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 63/2"N, CP 643 63/1.5"N

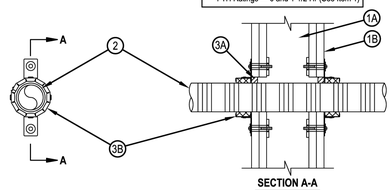
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

WL 2676

System No. W-L-2676

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0 Hr and 1-1/2 Hr (See Item 1)	FT Ratings — 0 and 1-1/2 Hr (See Item 1)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 0 and 1-1/2 Hr (See Item 1)



SECTION A-A

System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features noted below:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 2-7/8 in. (73 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The T, FT and FTH Ratings are 0 and 1-1/2 Hr for 1 and 2 Hr rated assemblies, respectively.
2. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT). Annular space between periphery of opening to be min 0 in. (point contact) to max 1/2 in. (13 mm). ENT to be installed as specified in the National Electric Code. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
   B. Firestop Device* - Firestop Collar — Firestop collar sized to diam of penetrant shall be wrapped around the outer circumference of the pipe and installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of wall with min 3/16 in. (4.8 mm) diam by min 2-1/2 in. (64 mm) long steel toggle bolts or nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with min 3/4 in. (19 mm) diam steel fender washers.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 63/2"N, CP 643 63/1.5"N

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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DANIEL M. SCHAFFAR
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STATE OF TENNESSEE
7/25/25

1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE: 07/25/2025
JOB NUMBER: 24-121-TN
FILE NAME:
DRAWN BY:
CHECKED BY:
DRAWING TITLE:

DETAILS

1

DRAWING NO.

E5.2(D)

FIRE ALARM MATRIX

FUNCTIONAL AREA OF OPERATION	INPUTS		OUTPUTS	O1 ACTUATE COMMON ALARM SIGNAL LAMP	O2 ACTUATE COMMON SUPERVISORY SIGNAL LAMP	O3 ACTUATE COMMON TROUBLE SIGNAL LAMP	O4 ACTUATE PIEZO - FACP/ANNUNCIATOR	O5 ACTUATE SPEAKERS	O6 ACTUATE STROBES	O7 ACTUATE FIRE/SMOKE DAMPERS WITH ASSOCIATED SWITCH	O8 DE-ACTUATE FIRE/SMOKE DAMPERS WITH ASSOCIATED SWITCH	O9 SHUTDOWN AIR HANDLER EQUIPMENT WITH ASSOCIATED DUCT DETECTOR	O10 UNLOCK ACCESS CONTROLLED DOORS	O11 RELEASE ELECTROMAGNETICALLY HELD DOORS	O12 RECALL ELEVATOR TO PRIMARY RECALL FLOOR	O13 RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	O14 ACTIVATE ELEVATOR WARNING LIGHTS	O15 ACTIVATE ELEVATOR SHUNT TRIP	O17 TRANSMIT SIGNAL TO CENTRAL STATION	O18 TRANSMIT SIGNAL TO FORREST HALL MASTER FACP	O19 SILENCE TROUBLE	O20 RESET SYSTEM	O21 ILLUMINATE ANNUNCIATOR LIGHTS	
FORREST COMMON AREA	MANUAL PULL BOX	I1					●	●	●				●	●					●					I1
	SMOKE DETECTOR	I2	●				●	●	●				●	●					●					I2
	HEAT DETECTOR	I3	●				●	●	●				●	●					●					I3
	DUCT DETECTOR	I4		●			●					●							●					I4
ANNEX COMMON AREA	MANUAL PULL BOX	I1	●				●	●	●				●	●						●				I5
	SMOKE DETECTOR	I2	●				●	●	●				●	●						●				I6
	HEAT DETECTOR	I3	●				●	●	●				●	●						●				I7
	DUCT DETECTOR	I4		●			●					●								●				I8
FORREST SYSTEM	SYSTEM ALARM	I19	●				●	●	●				●	●					●					I9
	SYSTEM SUPERVISORY	I20		●			●												●					I10
	SYSTEM TROUBLE	I21			●		●												●					I11
	OTHER BUILDING FACP ALARM	I22		●																				I12
	OTHER BUILDING FACP SUPERVISORY	I23		●																				I13
	OTHER BUILDING FACP TROUBLE	I24		●																				I14
	GROUND FAULT	I25			●		●												●					I15
	FIRE ALARM SYSTEM LOW BATTERY	I26			●		●												●					I16
	FIRE ALARM AC POWER FAILURE	I27			●		●												●					I17
	NOTIFICATION APPLIANCE CIRCUIT SHORT	I28			●		●												●					I18
	OPEN CIRCUIT	I29			●		●												●					I19
ANNEX SYSTEM	SYSTEM ALARM	I19	●				●	●	●				●	●						●				I20
	SYSTEM SUPERVISORY	I20		●			●													●				I21
	SYSTEM TROUBLE	I21			●		●													●				I22
	OTHER BUILDING FACP ALARM	I22		●																				I23
	OTHER BUILDING FACP SUPERVISORY	I23		●																				I24
	OTHER BUILDING FACP TROUBLE	I24		●																				I25
	GROUND FAULT	I25			●		●													●				I26
	FIRE ALARM SYSTEM LOW BATTERY	I26			●		●													●				I27
	FIRE ALARM AC POWER FAILURE	I27			●		●													●				I28
	NOTIFICATION APPLIANCE CIRCUIT SHORT	I28			●		●													●				I29
	OPEN CIRCUIT	I29			●		●													●				I30
FORREST ANNUNCIATOR	FAN ON SWITCH	I30																						I31
	FAN OFF SWITCH	I31																						I32
	DAMPER OPEN SWITCH	I32									●													I33
	DAMPER CLOSE SWITCH	I33								●														I34
	LAMP TEST	I36																					●	I35
	RESET SWITCH	I37																				●		I36
	TROUBLE SILENCE	I38																			●			I37
	DOOR UNLOCK LOCK SWITCH	I39										●												I38
ANNEX ANNUNCIATOR	FAN ON SWITCH	I30																						I39
	FAN OFF SWITCH	I31																						I40
	DAMPER OPEN SWITCH	I32									●													I41
	DAMPER CLOSE SWITCH	I33								●														I42
	LAMP TEST	I36																					●	I43
	RESET SWITCH	I37																				●		I44
	TROUBLE SILENCE	I38																			●			I45
	DOOR UNLOCK LOCK SWITCH	I39										●												I46
				O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15	O17	O18	O19	O20	O21	

GENERAL NOTES

A. RISER DIAGRAM IS DIAGRAMMATIC ONLY, AND IS INTENDED TO ILLUSTRATE SCOPE OF WORK. REFER TO FLOOR PLANS FOR QUANTITIES AND LOCATIONS OF EQUIPMENT, FEEDER RUN LENGTHS, ETC.

B. CONTRACTOR SHALL PROVIDE FULL SYSTEM RISER DIAGRAM FOR REVIEW WITH SHOP DRAWING SUBMITTAL.

C. PROVIDE ALL WORK IN ACCORDANCE TO TIA/EIA 569.

D. FIRE ALARM SYSTEM SHALL BE CAPABLE OF PROVIDING CARBON MONOXIDE (CO) DETECTION PER PLANS, SPECIFICATIONS, AND ALL NFPA 72 AND 720 REQUIREMENTS.

E. FIRE ALARM SYSTEM SHALL BE CAPABLE OF EXPANSION TO INCLUDE 25% FUTURE EXPANSION.

F. REFER TO THE EQUIPMENT AND CONNECTION SCHEDULE FOR EQUIPMENT REQUIRED TO BE SHUT DOWN UPON SYSTEM ACTIVATION.

G. PROVIDE GROUNDING PER NEC AND MANUFACTURER'S REQUIREMENTS.

H. PROVIDE ALL ADDRESSABLE INTERFACE MODULES, RELAY EXPANSION MODULES, AND HARDWARE REQUIRED TO ACCOMMODATE DEVICES SHOWN.

I. WIRING SHALL BE PROVIDED IN CONDUIT OR ROUTED IN "FREE AIR." WHERE ROUTED IN CONDUIT, CONDUIT SHALL BE 'EMT' TYPE CONDUIT PAINTED RED, 3/4" MINIMUM SIZE. WHERE ROUTED IN "FREE AIR," WIRING SHALL BE PLENUM-RATED AND SUITABLE FOR ROUTING IN FREE AIR, SUPPORTED PER SPECIFICATIONS AND DETAILS.

J. PROVIDE FIRE-RATED CAULK AROUND CONDUITS WHERE THEY PENETRATE FLOORS AND RATED WALLS.

K. PROVIDE BREAKER HANDLE LOCK FOR ALL FIRE ALARM SYSTEM CIRCUIT BREAKERS.

L. PROVIDE NYLON BUSHINGS ON BOTH ENDS OF ALL CONDUITS.

M. COORDINATE EXACT FIRE ALARM SYSTEM WIRING, INCLUDING SIZES, QUANTITIES, AND ROUTING WITH FIRE ALARM MANUFACTURER AND SITE CONDITIONS.

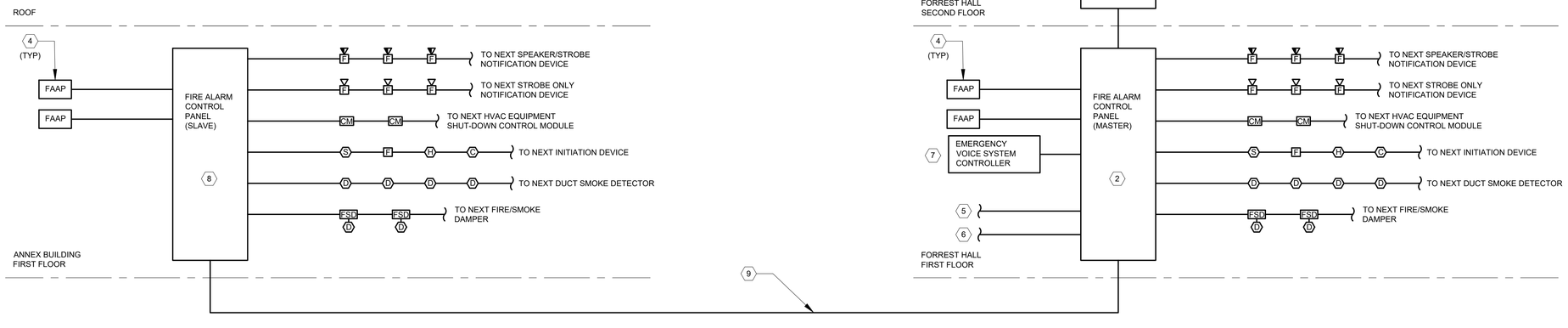
N. WIRING INDICATED ON THE RISER DIAGRAM IS DIAGRAMMATIC ONLY AND IS NOT INTENDED TO INDICATE ROUTING OR QUANTITIES OF WIRES REQUIRED. PROVIDE WIRING FOR A COMPLETE SYSTEM AS REQUIRED BY SYSTEM MANUFACTURER. ALL WIRING CIRCUITS SHALL BE 'CLASS B' TYPE.

DOCUMENTATION

1. ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM.

KEYED NOTES

1. PROVIDE NAC POWER EXTENDER PANEL AS REQUIRED BY MANUFACTURER. CONNECT TO A 20A-1P CIRCUIT BREAKER IN NEAREST PANEL. PROVIDE WITH MINIMUM 90 MINUTE BATTERY BACK-UP.
2. PROVIDE A NEW FIRE ALARM CONTROL PANEL AS REQUIRED BY SPECIFICATIONS AND FOR A COMPLETE AND OPERABLE FIRE ALARM SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. FIRE ALARM CONTROL PANEL SHALL SERVE AS MASTER CONTROL PANEL FOR BOTH FORREST HALL AND THE ANNEX BUILDING.
3. PROVIDE FIRE ALARM TERMINATION CABINET FOR ROUTING OF FIRE ALARM CONDUCTORS AS REQUIRED BY MANUFACTURER. IF NO TERMINATION CABINET IS REQUIRED BY MANUFACTURER ROUTE CONDUCTORS DIRECTLY TO FIRE ALARM CONTROL PANEL.
4. PROVIDE FIRE ALARM ANNUNCIATOR PANEL AS INDICATED ON DRAWINGS.
5. PROVIDE 1" RISER-GARD ORANGE COMMUNICATION RACEWAY WITH PULLWIRE AND SINGLE-MODE FIBER FROM FIRE ALARM CONTROL PANEL TO DATA RACK FIBER DISTRIBUTION EQUIPMENT. COORDINATE EXACT FIBER CHARACTERISTICS, CONNECTION CONFIGURATIONS, AND TERMINATION OF FIBER ON EQUIPMENT WITH OWNER'S IT DEPARTMENT AND SIMPLEX REPRESENTATIVE PRIOR TO PERFORMING WORK.
6. PROVIDE 3/4" CONDUIT AND LOW-VOLTAGE CABLING TO ACCESS CONTROL PANEL FOR ROUTING OF ACCESS CONTROL CABLING. PROVIDE LOW-VOLTAGE CABLING AS REQUIRED BY ACCESS CONTROL MANUFACTURER.
7. PROVIDE EMERGENCY VOICE SYSTEM CONTROLLER FOR ISSUANCE OF EMERGENCY VOICE COMMUNICATION OVER FIRE ALARM SPEAKERS UPON FIRE ALARM ACTIVATION. PROVIDE MANUAL OVERRIDE/INPUT FOR MANUAL VOICE COMMUNICATION.
8. PROVIDE A NEW FIRE ALARM CONTROL PANEL AS REQUIRED BY SPECIFICATIONS AND FOR A COMPLETE AND OPERABLE FIRE ALARM SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. FIRE ALARM CONTROL PANEL SHALL SERVE AS SLAVE CONTROL PANEL FOR THE ANNEX BUILDING AND SHALL REPORT TO FORREST HALL MASTER CONTROL PANEL.
9. PROVIDE MANUFACTURER'S REQUIRED CABLING IN EXISTING CONDUIT PATHWAY FROM FORREST HALL TO ANNEX BUILDING. CONTRACTOR TO DETERMINE EXISTING PATHWAY LOCATION IN FIELD.



1 FIRE ALARM RISER DIAGRAM

NOT TO SCALE

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SEAL:

1

MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE:	07/25/2025
JOB NUMBER:	24-121-TN
FILE NAME:	
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	DIAGRAMS & SCHEDULES

1 DRAWING NO.

E6.1(D)

FIRE PROTECTION DEMOLITION NOTES

1. ALL EXISTING UTILITY SIZES AND LOCATIONS INDICATED ARE TO BE FIELD VERIFIED BY THE FIRE PROTECTION CONTRACTOR. THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING UTILITIES NOTED FOR REUSE OR CONNECTION TO PRIOR TO FABRICATION OR START OF DEMOLITION.
2. IF ANY OF THE EXISTING UTILITIES NOTED FOR REUSE ARE FOUND TO BE INADEQUATE DUE TO DIFFERENCE IN LOCATION OR SIZES INDICATED, THE CONTRACTOR SHALL SUBMIT A BRIEF DESCRIPTION OR SKETCH OF THE EXISTING INSTALLATION TO THE ARCHITECT FOR REVIEW.
3. DEMOLISH ALL PIPE, FITTINGS, INSULATION, SUPPORTS, ETC., WHERE INDICATED. REFER TO ARCHITECTURAL DRAWINGS FOR DEMOLITION PLANS AND ADDITIONAL INFORMATION. ITEMS DEMOLISHED ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF BY THIS CONTRACTOR.
4. DEMOLISH EXISTING SPRINKLERS WHERE INDICATED. CONTRACTOR SHALL CAREFULLY REMOVE ALL EXISTING FIXTURES AND ASSOCIATED TRIM AND TURN OVER TO OWNER FOR EVALUATION OF FUTURE REUSE. CONTRACTOR'S BID SHALL ASSUME ALL NEW SPRINKLERS THROUGHOUT THE BUILDING AND GARAGE. ALL FIXTURES AND TRIM NOT DESIRED FOR FUTURE REUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. CONTRACTOR SHALL COORDINATE FINAL DISPOSITION OF FIXTURES AND TRIM WITH OWNER'S FIELD REPRESENTATIVE PRIOR TO START OF WORK.
5. ANY DEFECTIVE PIPING OR OTHER PLUMBING OR FIRE PROTECTION RELATED EQUIPMENT OR MATERIALS DISCOVERED OR OBSERVED DURING DEMOLITION AND INSTALLATION OF NEW WORK, WHETHER DIRECTLY RELATED TO THE SCOPE SHOWN IN THESE DOCUMENTS OR NOT, SHALL BE REPORTED TO THE OWNER'S FIELD REPRESENTATIVE.

FIRE PUMP SCHEDULE

PUMP NO.	MANUFACTURER	MODEL NO.	GPM	HEAD (FT)	ELECTRICAL REQUIREMENTS		REMARKS
					H.P.	VOLTAGE	
FP-1	BELL & GOSSETT	8100 6x4x12F-M	500	115	25	460/3 PHASE	(1) (2) (3) (4)
FP-2	BELL & GOSSETT	8100 6x6x9F	750	208	50	460/3 PHASE	(1) (2) (3) (4)
JP-1	BELL & GOSSETT	SVT-3SV-07	5	175	1	460/3 PHASE	
JP-2	BELL & GOSSETT	SVT-3SV-07	7.5	250	1.5	460/3 PHASE	

(1) DOUBLE SUCTION SPLIT CASE
(2) SERVICE RATED CONTROLLER - WYE DELTA CLOSED TRANSITION
(3) REMOTE ALARM PANEL
(4) OSHA APPROVED GUARD

GENERAL NOTE: ALL PUMP REPLACEMENTS ARE CONSIDERED ONE FOR ONE. DUTY POINTS AND SPECIFICATIONS ARE REMAINING AS DESIGNED UNDER PREVIOUS/EXISTING VOLUMES AND PRESSURES. PIPE FLANGES AND CONNECTS MAY BE MODIFIED AS NEEDED TO INSTALL REPLACEMENT EQUIPMENT. EXISTING PIPE SIZES AND LAYOUTS ARE TO REMAIN. REFER TO FP1.01 AND FP1.02 FOR DEMOLITION AND NEW PLANS. REFER TO MANUFACTURER O&M FOR INSTALLATION DETAILS AND INSTRUCTIONS.

FIRE PROTECTION DESIGN CRITERIA

THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR DESIGN OF THE FIRE SUPPRESSION SYSTEM(S) ON THIS PROJECT.

1. INTERNATIONAL FIRE CODE - 2018
2. NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS
3. NFPA 14, INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
4. NFPA 20, INSTALLATION OF STATIONARY FIRE PUMPS FOR FIRE PROTECTION SYSTEMS
5. NFPA 24, PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
6. NFPA 101, LIFE SAFETY CODE

SYSTEM TYPE: NFPA 13 - SEE ARCHITECTURAL LIFE SAFETY INFORMATION

EDUCATIONAL SPACES, OFFICES, AUDITORIUMS, LIBRARIES:

OCCUPANCY CLASSIFICATION:	LIGHT HAZARD
SYSTEM TYPE:	WET PIPE
DESIGN DENSITY:	0.10 GPM/SQ. FT.
HYDRAULIC REMOTE AREA:	1,500 SQ. FT.
SPRINKLER ORIFICE SIZE:	1/2"
DURATION OF SUPPLY:	30 MIN.
MAXIMUM COVERAGE/SPRINKLER HEAD:	225 SQ. FT.
HOSE STREAM ALLOWANCE:	100 GPM

STORAGE, MECHANICAL, ELECTRICAL ROOMS AND SIMILAR AREAS:

OCCUPANCY CLASSIFICATION:	ORDINARY HAZARD GROUP I
SYSTEM TYPE:	WET PIPE
DESIGN DENSITY:	0.15 GPM/SQ. FT.
HYDRAULIC REMOTE AREA:	1,500 SQ. FT.
SPRINKLER ORIFICE SIZE:	1/2"
DURATION OF SUPPLY:	60 - 90 MIN.
MAXIMUM COVERAGE/SPRINKLER HEAD:	130 SQ. FT.
HOSE STREAM ALLOWANCE:	250 GPM

MERCANTILE AREAS:

OCCUPANCY CLASSIFICATION:	ORDINARY HAZARD GROUP II
SYSTEM TYPE:	WET PIPE
DESIGN DENSITY:	0.20 GPM/SQ. FT.
HYDRAULIC REMOTE AREA:	1,500 SQ. FT.
SPRINKLER ORIFICE SIZE:	1/2"
DURATION OF SUPPLY:	60 - 90 MIN.
MAXIMUM COVERAGE/SPRINKLER HEAD:	130 SQ. FT.
HOSE STREAM ALLOWANCE:	250 GPM

STANDPIPE:

SYSTEM DESCRIPTION: AUTOMATIC WET (CLASS I - COMBINED)

HYDRAULIC DESIGN CRITERIA: HYDRAULIC CALCULATIONS AND PIPE SIZES FOR EACH STANDPIPE SHALL BE BASED ON PROVIDING 250 GPM AT THE HYDRAULICALY MOST REMOTE TWO HOSE CONNECTIONS ON THE MOST REMOTE STANDPIPE AND 250 GPM FROM THE MOST REMOTE HOSE CONNECTION ON EACH ADDITIONAL STANDPIPE AT A MINIMUM RESIDUAL PRESSURE OF 100 PSI AT THE HOSE VALVE OUTLET. ASSUME A FIXED PRESSURE LOSS OF 5 PSI ACROSS THE HOSE VALVE, WHICH EQUATES TO AN INLET RESIDUAL PRESSURE TO THE HOSE VALVE OF 105 PSI.

FLOW TEST DATA

TEST DATA:	FLOW HYDRANT	MONITORING HYDRANT
HYDRANT #:	UNKNOWN	UNKNOWN
STATIC PRESSURE:		60 PSI
RESIDUAL PRESSURE:	NOT STATED	52 PSI
FLOW:	1210 GPM	
TEST CONDUCTED BY:	MFRD	
DATE:	04-15-2025	

WATER SUPPLY NOTES:

1. THERE HAVE BEEN NO REPORTED CASES OF M.I.C.

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
OR	- CONTROL VALVE W/TAMPER SWITCH
	- CHECK VALVE
	- FLOW SWITCH
FDC	- FIRE DEPARTMENT CONNECTION
PIV	- POST INDICATOR VALVE W/TAMPER SWITCH
FDV	- STANDPIPE WITH FIRE DEPARTMENT VALVE
	- SPRINKLER AND DRAIN RISER
	- BACKFLOW PREVENTOR W/TAMPER SWITCHES
	- ROOF MANIFOLD
SP	- SPRINKLER SYSTEM PIPING
F	- FIRE MAIN PIPING
F.C.	- FLUSHING CONNECTION
1	- REVISION REFERENCE
	- POINT OF DEMOLITION EXTENTS
	- POINT OF CONNECTION TO EXISTING
1 / FP-1	- ENLARGED PLAN REFERENCE: TOP-PLAN#, BOTTOM-DRAWING# SHOWN ON

FIRE PROTECTION GENERAL NOTES

1. THE FIRE PROTECTION SYSTEMS AND INFORMATION SHOWN WITHIN THESE DRAWINGS AND THE SPECIFICATIONS, REPRESENT THE DESIGN INTENT OF THE ENGINEER OF RECORD. THESE DRAWINGS AND SPECIFICATION ARE IN COMPLIANCE WITH THE STATE OF TENNESSEE STANDARD OF CARE. HAVING JURISDICTION FOR PERMITTING AND REVIEW. THE CONTRACTOR'S SHOP DRAWINGS SHALL BE IN COMPLIANCE WITH THE STANDARD OF CARE CRITERIA.
2. FINAL INSPECTION AND APPROVAL BY LOCAL FIRE MARSHAL AND ARCHITECT/ENGINEER.
3. CONTRACTOR'S SPRINKLER SYSTEM LAYOUT (SHOP DRAWINGS), HYDRAULIC CALCULATIONS AND MATERIAL DATA SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND THE AUTHORITIES HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION.
4. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FIRE PROTECTION SYSTEMS WITH ALL OTHER TRADES AND ARCHITECTURAL FEATURES/REQUIREMENTS. PROVIDE ALL NECESSARY OFFSETS, FITTINGS AND PIPING FOR PROPER INSTALLATION AND TO AVOID CONFLICTS WITH OTHER TRADES.
5. COORDINATE PIPE ROUTING WITH ALL DUCT ROUTING, STRUCTURAL MEMBERS, LIGHT FIXTURES AND ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER PANELS OR OVER LIGHT FIXTURES THAT PREVENT THEIR INSTALLATION SHALL BE REROUTED AT NO ADDITIONAL COST.
6. SLOPE ALL PIPING TO THE SYSTEM MAIN DRAIN AS REQUIRED TO INSURE PROPER DRAINAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL PIPING IS DRAINABLE. ADDITIONAL DRAINS AND PLUGS SHALL BE INSTALLED WHERE REQUIRED TO COMPLY WITH THE REFERENCED CODES.
7. FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE WALLS. FIRE STOP ASSEMBLIES SHALL BE U.L. LISTED AND MEET ASTM E-814 REQUIREMENTS.
8. ROLL GROOVED AND CUT GROOVED COUPLINGS AND FITTINGS SHALL BE PROVIDED BY A SINGLE MANUFACTURER, NO EXCEPTION.
9. PROVIDE TAMPER SWITCHES ON ALL CONTROL VALVES.
10. PROVIDE A PERMANENTLY ATTACHED NAME TAG TO THE RISER OR FLOOR CONTROL VALVE STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM AND AREA SERVED.
11. CONTRACTOR SHALL PROVIDE FIRE SPRINKLER COORDINATION DRAWINGS WITH ALL FIRE SPRINKLERS, ASSOCIATED PIPING AND HVAC DUCTWORK SHOWN. COORDINATION PLANS SHALL BE SUBMITTED SEPARATELY FROM THE REQUIRED FIRE SPRINKLER SHOP DRAWINGS.
12. THIS BUILDINGS STRUCTURAL SYSTEM SHALL BE DESIGNED TO SUPPORT THE ADDITIONAL WEIGHT ASSOCIATED WITH THE SPRINKLER SYSTEM.
13. THROUGH PENETRATIONS OF FIRE RESISTANCE RATED HORIZONTAL ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH OF WATER (2.49 PA). THE SYSTEM SHALL HAVE AN F RATING/T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED. SEE ARCHITECTURAL DRAWINGS FOR RATED ASSEMBLY LOCATIONS, RATINGS AND DETAILS.

EXCEPTIONS: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL ABOVE THE FLOOR OR BELOW THE FLOOR DO NOT REQUIRE A T RATING.

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SEAL:

1 MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

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1	ADDENDUM #1	9/5/25

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DRAWN BY:	MRW
CHECKED BY:	MRW

DRAWING TITLE:

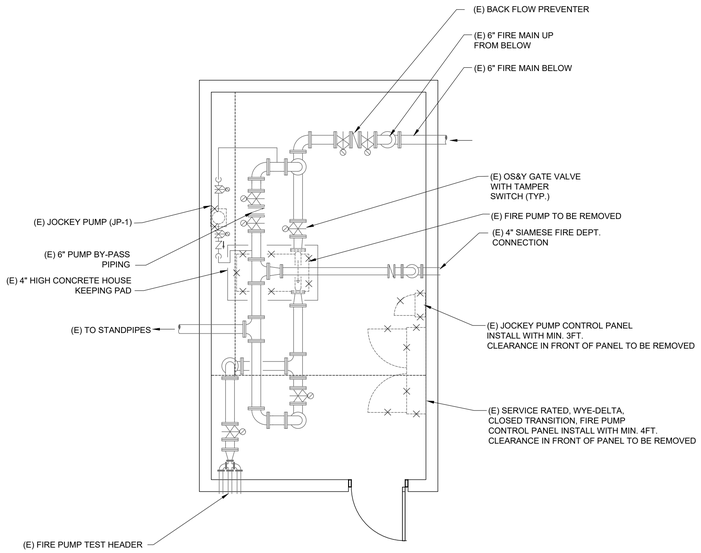
GENERAL NOTES AND LEGENDS

1 ALTERNATE #1

1 ALTERNATE #2

1 DRAWING NO.

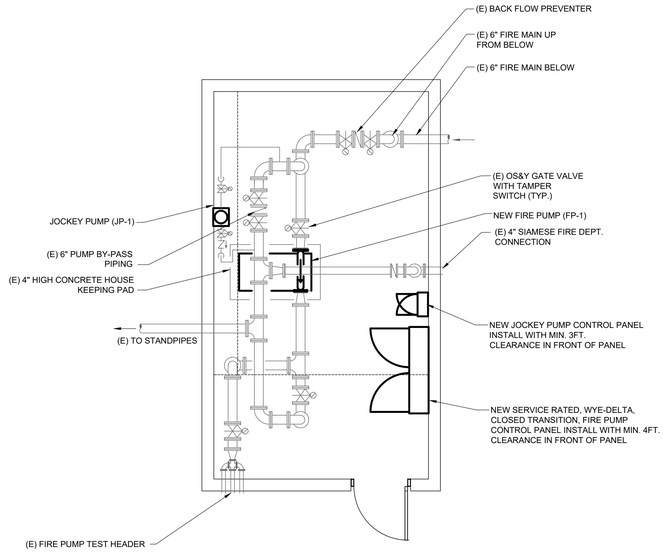
FP0.1(E)



1 FIRST FLOOR DEMOLITION PLAN

1/4" = 1'-0"

0' 8' 16' 32'



2 FIRST FLOOR PLAN

1/4" = 1'-0"

0' 8' 16' 32'

1 ALTERNATE #2

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1

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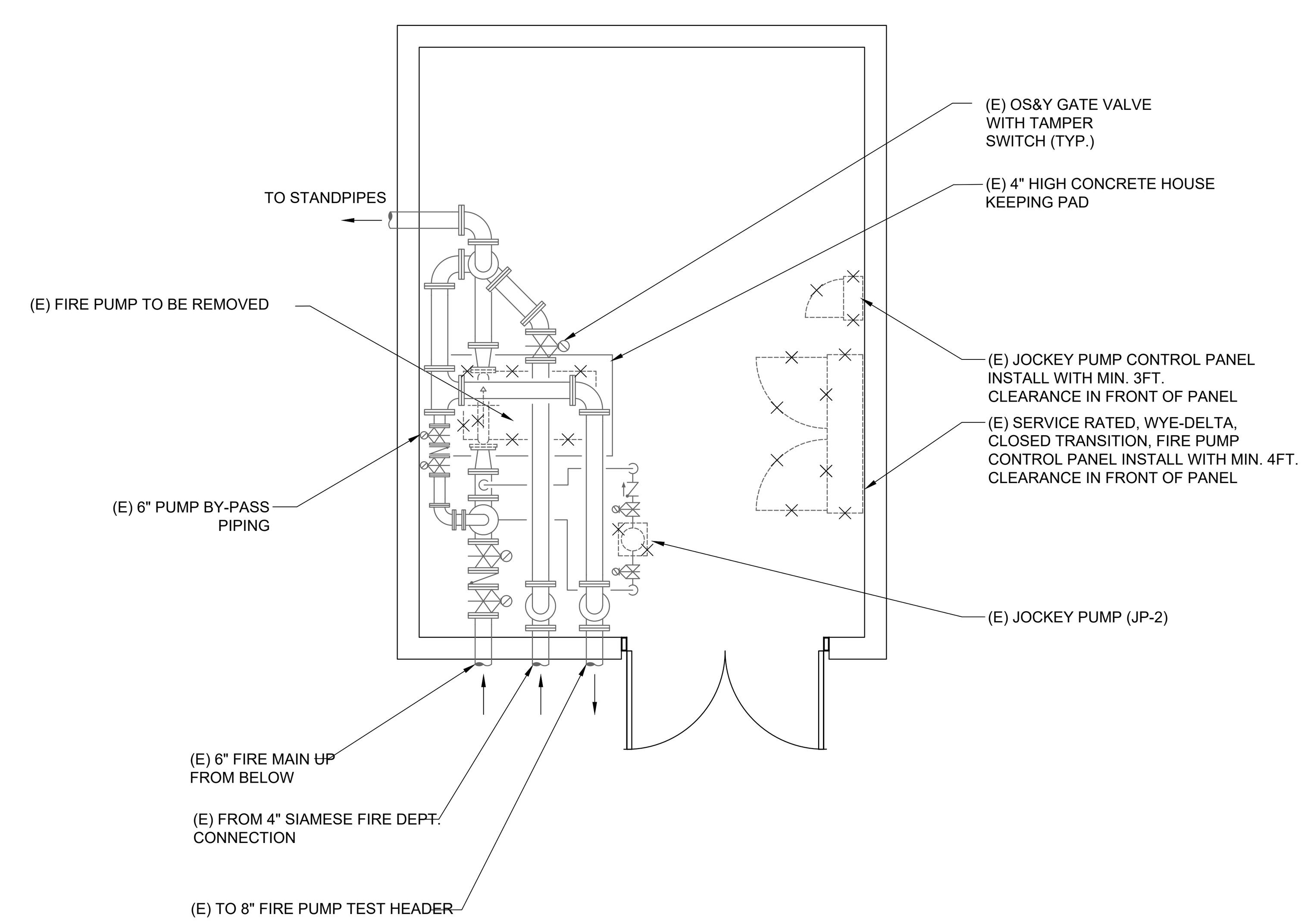
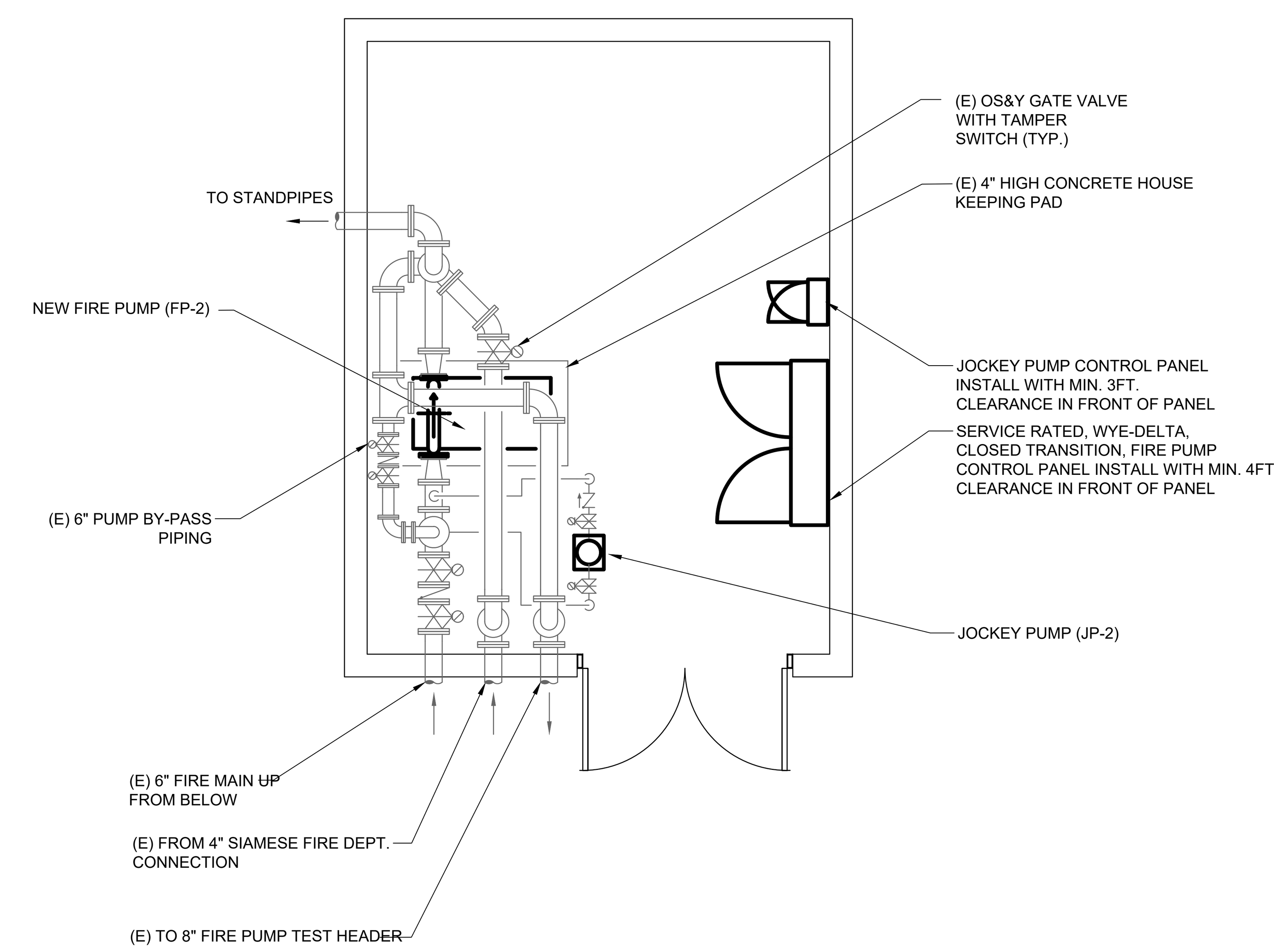
TODD BUILDING FIRE PROTECTION

1 DRAWING NO.

FP1.1(E)

ALTERNATE #1





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0' 8' 16' 32'

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1/4" = 1'-0"
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DRAWN BY: MRW
CHECKED BY: MRW
DRAWING TITLE:
DRAMATIC ARTS FIRE PROTECTION

DRAWING NO.
FP1.2(E)

GENERAL NOTES

A. CONNECT FIXTURES AND DEVICES TO PANELBOARD AND CIRCUIT NUMBER AS INDICATED. REFER TO PANELBOARD SCHEDULES FOR BREAKER SIZES AND ADDITIONAL INFORMATION. CONDUCTORS SHALL BE SIZED PER NEC ACCORDING TO THE ASSOCIATED CIRCUIT BREAKER RATING.

B. LOCATIONS OF EQUIPMENT AND DEVICES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS. COORDINATE WITH FIRE PROTECTION PLANS AS WELL AS NEC DEVICE SPACING AND CLEARANCE REQUIREMENTS.

C. COMPLY WITH NEC REQUIRED WORKING CLEARANCES FOR ALL EQUIPMENT INSTALLATIONS. MAKE ALL MODIFICATIONS AND PROVIDE ALL NECESSARY WORK AND EQUIPMENT TO MOUNT ELECTRICAL EQUIPMENT IN GENERAL LOCATIONS SHOWN.

D. PROVIDE GROUNDING PER NEC FOR ALL EQUIPMENT AND DEVICES.

E. COORDINATE REQUIRED BUILDING SHUTDOWN FOR DISCONNECTION OF FIRE PUMP FEEDER AT SERVICE TRANSFORMER WITH UTILITY COMPANY (MIDDLE TENNESSEE ELECTRIC - MTE) AND OWNER MINIMUM OF 7 DAYS PRIOR TO SHUTDOWN. PHASE WORK SO AS TO MINIMIZE BUILDING DOWNTIME OF UTILITY POWER AND FIRE PROTECTION SERVICE. PROVIDE FIRE WATCH FOR BUILDING FOR FIRE PROTECTION DOWNTIMES LASTING LONGER THAN EIGHT (8) HOURS.

F. COORDINATE ALL WORK WITH FIRE PROTECTION CONTRACATOR.

KEYED NOTES

1. EXISTING FIRE PUMP FEEDER TO BE REUSED. DISCONNECT AND RECONNECT AS REQUIRED TO ALLOW FOR PUMP AND CONTROLLER REPLACEMENT.
2. DISCONNECT AND REMOVE EXISTING FIRE PUMP CONTROLLER, PUMP, AND WIRING FROM CONTROLLER TO PUMP IN THEIR ENTIRETY TO ALLOW FOR IN-KIND PUMP AND CONTROLLER REPLACEMENT.
3. EXISTING JOCKY PUMP FEEDER TO BE REUSED. DISCONNECT AND RECONNECT AS REQUIRED TO ALLOW FOR PUMP AND CONTROLLER REPLACEMENT.
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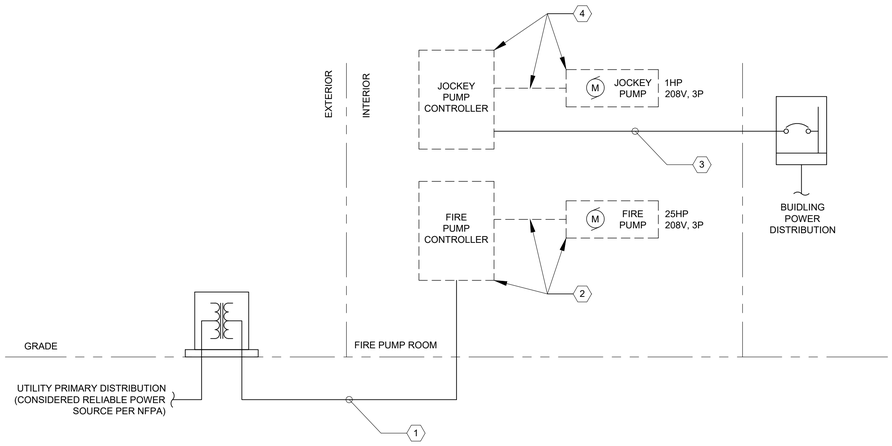
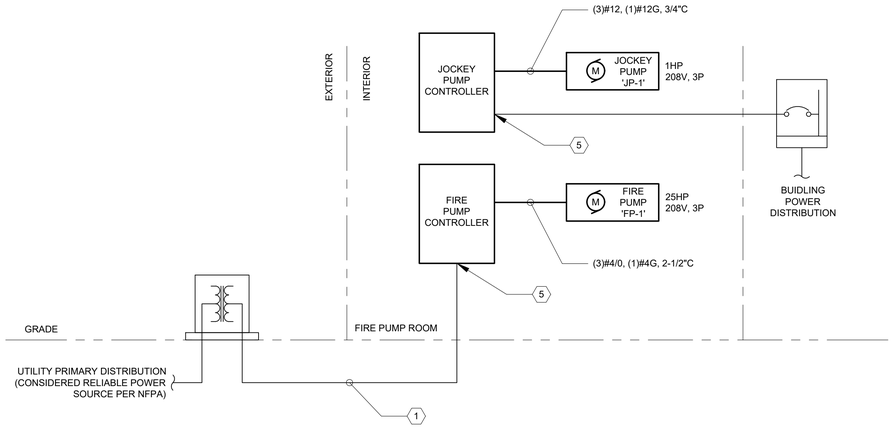
5. CONNECT PUMP CONTROLLER TO RETAINED EXISTING FEEDER.
6. DISCONNECT EXISTING TAMPER SWITCHES AND FLOW SWITCHES (CONNECTED TO BUILDING FIRE ALARM SYSTEM) IN THIS AREA TO ALLOW FOR PIPE REPLACEMENT AND/OR WORK AS A PART OF THE PUMP REPLACEMENT. RETAIN FIRE ALARM CONNECTION AND RECONNECT TO REINSTALLED TAMPER SWITCHES AND FLOW SWITCHES.



1 FIRE PUMP POWER DEMOLITION RISER DIAGRAM

1/4" = 1'-0"



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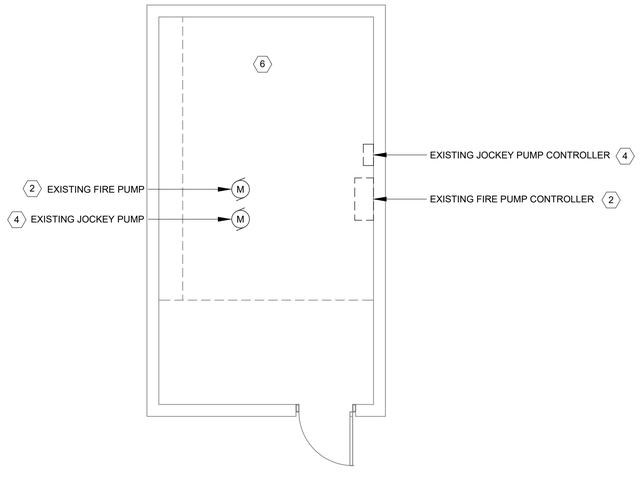
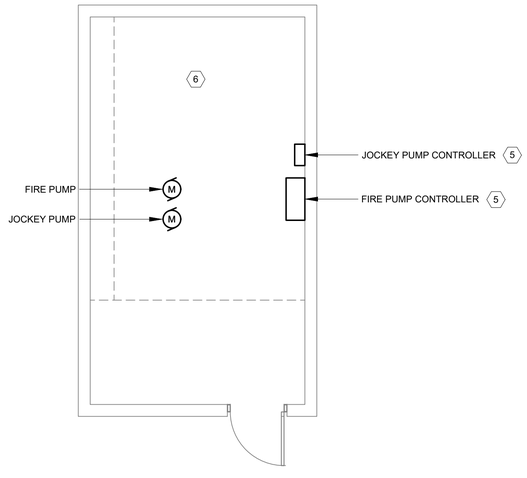


1 POWER & SYSTEMS DEMOLITION PLAN

1/4" = 1'-0"

0' 2' 4' 8'



1 POWER & SYSTEMS PLAN

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1 ALTERNATE #2

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9/5/25

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TODD
DEMO & NEW
PLANS

1 DRAWING NO.

(E)E1.1

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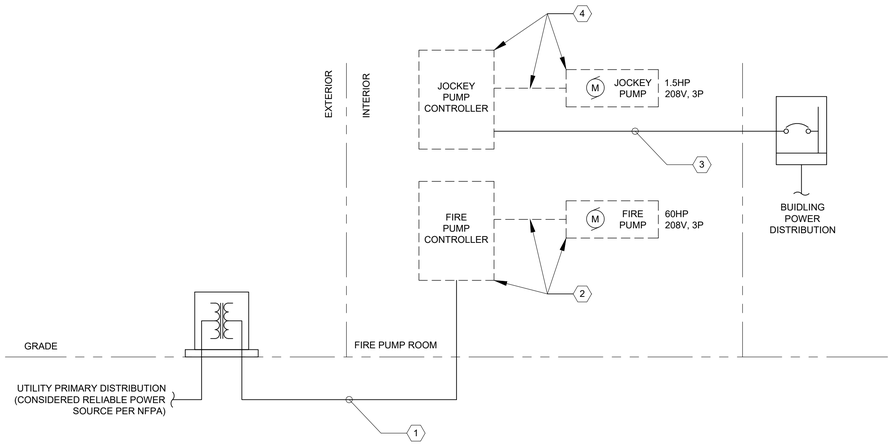

1 FIRE PUMP POWER DEMOLITION RISER DIAGRAM

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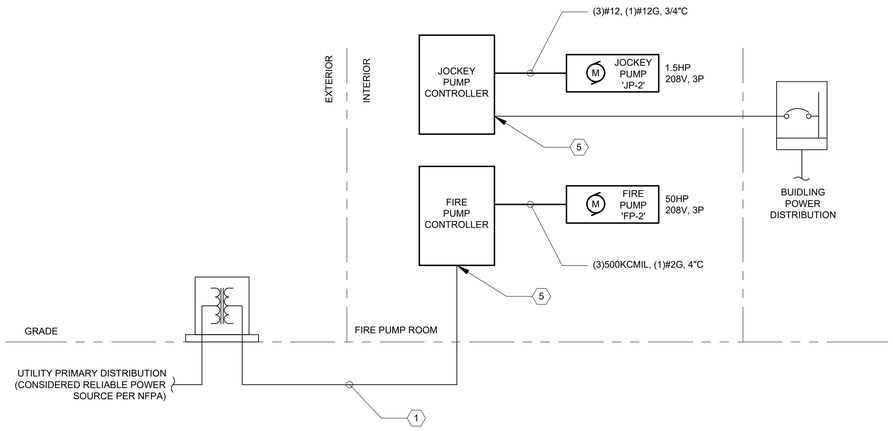

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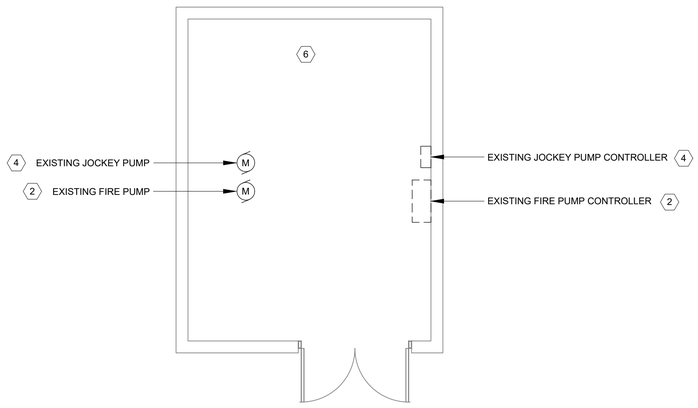
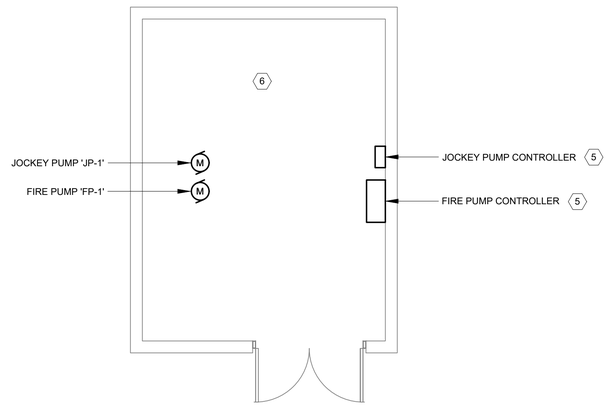


1 POWER & SYSTEMS DEMOLITION PLAN

1/4" = 1'-0"

0' 2' 4' 8'



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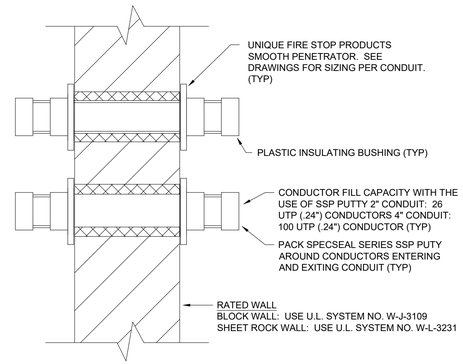
DRAMATIC ARTS DEMO & NEW PLANS

1 DRAWING NO.

(E)E1.2

1 ALTERNATE #1

1 ALTERNATE #2

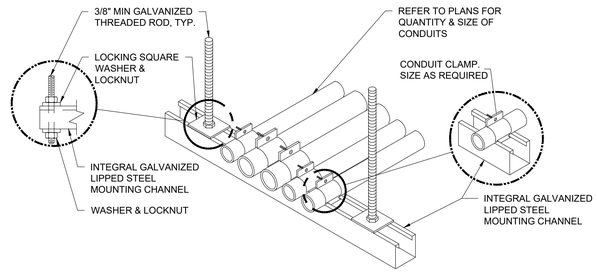


DETAIL NOTES

1. PENETRATIONS SHALL BE NO MORE THAN 2'-0" ABOVE CEILING. TYPICAL AT ALL PENETRATION LOCATIONS.

3 CONDUIT PENETRATION OF RATED WALL

NOT TO SCALE

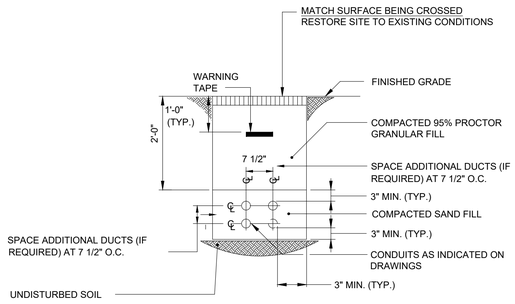


DETAIL NOTES

1. METAL CHANNEL STRUT SUPPORT LONGER THAN THAN 36" SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD. FIELD VERIFY EXACT CONDITIONS.
3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO APPROVED METHODS.

2 CONDUIT TRAPEZE SUPPORT

NOT TO SCALE

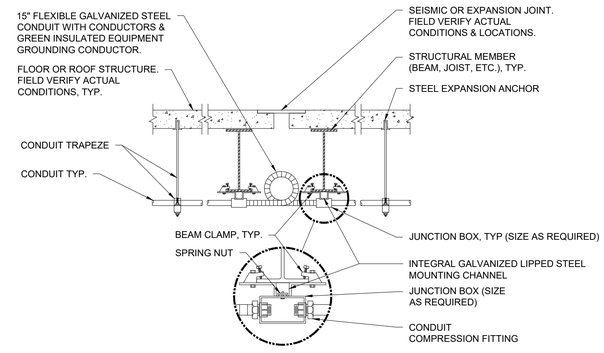


GENERAL NOTES, DIRECT BURIED CONDUIT INSTALLATION

1. SPACING REQUIREMENTS ARE UNLESS OTHERWISE NOTED.
2. POWER AND CONTROL CONDUITS TO HAVE MINIMUM 12" OF SEPARATION BETWEEN CONDUITS.

4 DIRECT BURIED CONDUIT INSTALLATION

NOT TO SCALE



1 CONDUIT JOINT CROSSING

NOT TO SCALE

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7/25/25

1 **MIDDLE TENNESSEE STATE UNIVERSITY**
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE:	07/25/2025
JOB NUMBER:	24-121-TN
FILE NAME:	
DRAWN BY:	
CHECKED BY:	
DRAWING TITLE:	DETAILS

1 DRAWING NO.

(E)E5.1

EQUIPMENT CONNECTION SCHEDULE (ECS)

EQUIPMENT							EQUIPMENT DISCONNECT				CONTROLLER			CIRCUITING			REMARKS
EQUIP. #	DESCRIPTION	LOCATION	HP/KW	MCA	VOLT	PHASE	LOCATION	RATING	TYPE	NEMA ENCL.	LOCATION	TYPE	NEMA ENCL.	PANEL/CKT	CIRCUIT BREAKER	WIRING	
JP-1	JOCKEY PUMP	TODD BUILDING	1HP		208	3	INTEGRAL TO CONTROLLER				BY FP CONTRACTOR			UTILIZE EXISTING			1
JP-2	JOCKEY PUMP	DRAMATIC ARTS	1.5HP		208	3	INTEGRAL TO CONTROLLER				BY FP CONTRACTOR			UTILIZE EXISTING			
FP-1	FIRE PUMP	TODD BUILDING	25HP		208	3	INTEGRAL TO CONTROLLER				BY FP CONTRACTOR			UTILIZE EXISTING			
FP-2	FIRE PUMP	DRAMATIC ARTS	50HP		208	3	INTEGRAL TO CONTROLLER				BY FP CONTRACTOR			UTILIZE EXISTING			

GENERAL NOTES, EQUIPMENT CONNECTION SCHEDULE

1. SCHEDULE IS TO INDICATE CONNECTIONS TO MECHANICAL DEVICES, AUXILIARY DEVICES, AND OTHER SUCH UTILIZATION EQUIPMENT. DISTRIBUTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO PANELBOARDS, TRANSFORMERS, AND STARTERS IS GENERALLY SHOWN ON PLANS AND ONE-LINE DIAGRAMS.
2. COORDINATE FINAL EQUIPMENT LOCATIONS WITH APPLICABLE DRAWINGS AND TRADE.
3. ALL EQUIPMENT TO BE PROVIDED WITH REQUIRED MOUNTING HARDWARE FOR INSTALLATION TYPE SHOWN.
4. NOT ALL REQUIRED CIRCUITING AND WORK IS NECESSARILY SHOWN ON SCHEDULE. PROVIDE ALL WORK AS SHOWN AND AS INDICATED ELSEWHERE FOR A COMPLETE AND OPERABLE SYSTEM.
5. PROVIDE CIRCUITING COMPLETE FROM SOURCE TO EQUIPMENT (LOAD). CIRCUIT SHALL BE PROVIDED TO AND FROM ALL CONTROLLERS, DISCONNECTS, AND AS OTHERWISE INDICATED OR SHOWN.
6. EQUIPMENT SHOWN PER BASIS OF DESIGN. COORDINATE ALL WIRING, OVERCURRENT PROTECTION, DISCONNECTS, CONTROLLERS, AND LOCATIONS WITH ACTUAL INSTALLED EQUIPMENT.
7. CIRCUIT NUMBERS ARE TO INDICATE PIECES OF EQUIPMENT CIRCUITED TOGETHER. PROVIDE CIRCUIT NUMBERING AS REQUIRED TO BALANCE LOADS ACROSS ALL PHASES.
8. NOT ALL DISCONNECT LOCATIONS SHOWN ON PLANS. WHERE NOT SHOWN, INSTALL WITHIN SITE OF EQUIPMENT AND PER ALL NEC REQUIREMENTS FOR DISCONNECT LOCATIONS, INCLUDING DISTANCE FROM EQUIPMENT.
9. UNLESS NOTED OTHERWISE, DISCONNECTS AND CONTROLLERS SHALL BE FURNISHED AND INSTALLED BY EC.
10. ALL WIRING ON THE LOAD SIDE OF VFD'S SHALL BE PROVIDED AS SHIELDED VFD CABLE, SIZE AS INDICATED. COORDINATE WITH STARTER AND EQUIPMENT MANUFACTURER.
11. UNLESS NOTED OTHERWISE, DUCT SMOKE DETECTORS INDICATE FIRE ALARM CONNECTION TO DEVICES PROVIDED BY OTHERS.
12. WHERE CIRCUIT IS INDICATED TO ORIGINATE FROM A MOTOR CONTROL CENTER (MCC), COORDINATE STARTER TYPE AND MANUFACTURER WITH MCC MANUFACTURER TO ENSURE INSTALLATION COMPATIBILITY FOR A COMPLETE AND OPERABLE SYSTEM.

REMARKS, EQUIPMENT CONNECTION SCHEDULE

1. REPLACE EXISTING CIRCUIT BREAKER IN EXISTING PANEL WITH SCHEDULED CIRCUIT BREAKER AND CONNECT TO PUMP USING SCHEDULED FEEDER.

SCHEDULE ABBREVIATIONS LIST

AU	AT UNIT
NF	NOT FUSED
AF	AMP FUSE
SNAP	MOTER-RATED SNAP ON/OFF SWITCH
VFD	VARIABLE FREQUENCY DRIVE
MAG	MAGNETIC STARTER
COMB	COMBINATION MAGNETIC STARTER/DISCONNECT SWITCH
MAN	MANUAL MOTOR STARTER WITH RELAY
SS	SOLID STATE/SOFT-START

1 ALTERNATE #1

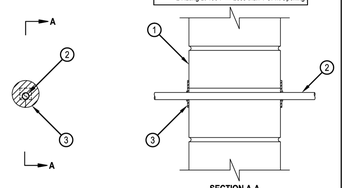
1 ALTERNATE #2

System No. W-J-1248

W-J 1248

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 Hr	F Ratings — 2 Hr
T Ratings — 2 Hr	FT Ratings — 2 Hr
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 2 Hr
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 2 Hr
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — Min 6 in. (152 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight. Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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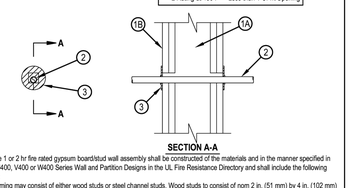
System No. W-L-1506

WL 1506

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (See Item 1)
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 1 and 2 Hr (See Item 1)
	L Rating at Ambient — Less than 1 CFM/Opening
	L Rating at 400 F — Less than 1 CFM/Opening



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm), or round with a max diam of 1-1/8 in. (29 mm).
   The hourly F, FH, FT and FTH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). When opening dimension exceeds 1 in. (25 mm), the max annular space is 3/8 in. (9.5 mm). Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
   D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
   F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the wall around periphery of opening. Disc seam to be firmly pressed and sealed tight. Disc to be installed at both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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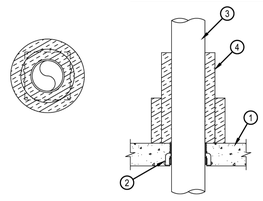
System No. F-A-1106

FA 1106

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 2 Hr	FT Rating - 2 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Rating - 2 Hr
W Rating — Class 1 (See Item 2A)	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. As an alternate, any min 2 hr fire rated D700, D800 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory having a min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete topping over the steel deck may be used.
2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions. Device sized to nom diam of penetrant. Device is to be trimmed flush with the top surface of the floor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6" Cast-In Firestop Device. CP 680-PX 2", CP 680-PX 3"
2A. Firestop Device* — Water Barrier Module — (Optional, Not Shown) - Used in combination with the CP 680-P(X) device to achieve a W Rating. Module is threaded onto top of device. W Rating applies only when water barrier module is used and pipe is installed from bottom of device.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

Hilti Firestop Systems

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Page: 1 of 2

System No. F-A-1106

FA 1106

3. Through-Penetrant — One metallic pipe installed concentrically or eccentrically within opening. Penetrant to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
4. Duct Wrap Material* — Encapsulated duct wrap tightly wrapped around penetrant to extend 24 in. (610 mm) above the floor for penetrants of nom 4 in. (102 mm) diam or smaller, and 36 in. (914 mm) above floor for penetrants greater than a nom 4 in. (102 mm) diam. An additional layer of encapsulated duct wrap tightly wrapped around the first layer of duct wrap to extend 12 in. (305 mm) (914 mm) above floor. All longitudinal seams of both layers of duct wrap and joints between layers of duct wrap are sealed with foil tape. One of the following types and thicknesses of duct wrap material shall be used.
   A. Nom 2 in. (51 mm) or 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      UNIFRAX I, L, C — FyreWrap 2.0 Duct Insulation or FyreWrap 1.5 Duct Insulation
   B. Nom 1-1/2 in. (38 mm) thick encapsulated duct wrap.
      THERMAL CERAMICS INC — FireMaster FastWrap XL Duct Insulation

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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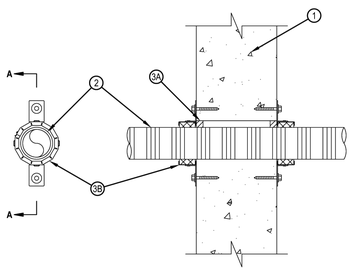
Page: 2 of 2

System No. W-J-2331

WJ 2331

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1-1/2 Hr	FT Rating — 1-1/2 Hr
	FH Rating — 2 Hr
	FTH Rating — 1-1/2 Hr



SECTION A-A

Hilti Firestop Systems

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Page: 1 of 2

System No. W-J-2331

WJ 2331

— System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 2-7/8 in. (73 mm).
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Electrical Nonmetallic Tubing* — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT). Annular space between periphery of opening to be min 0 in. (point contact) to max 1/2 in. (13 mm). ENT to be installed as specified in the National Electric Code. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
   B. Firestop Device* - Firestop Collar — Firestop collar sized to diam of penetrant shall be wrapped around the outer circumference of the pipe and installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of wall with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion type masonry fasteners, 1-1/4 in. (32 mm) long concrete screw anchors or 0.145 in. (3.5 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a nom 9/16 in. (15 mm) diam steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor or Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor, or Hilti X-DNI 27 P8S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam steel washer may be used.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 63/2"N, CP 643 63/1.5"N

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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Page: 2 of 2

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1 MIDDLE TENNESSEE STATE UNIVERSITY
CAMPUS LIFE SAFETY SYSTEM UPDATES
PHASE 1
1301 E. MAIN ST, MURFREESBORO, TN 37132
SBC#366/009-02-24

NO.	REVISION	DATE
1	ADDENDUM #1	9/5/25

DATE: 07/25/2025
JOB NUMBER: 24-121-TN
FILE NAME:
DRAWN BY:
CHECKED BY:
DRAWING TITLE:

DIAGRAMS & SCHEDULES

1 DRAWING NO.

(E)E6.1