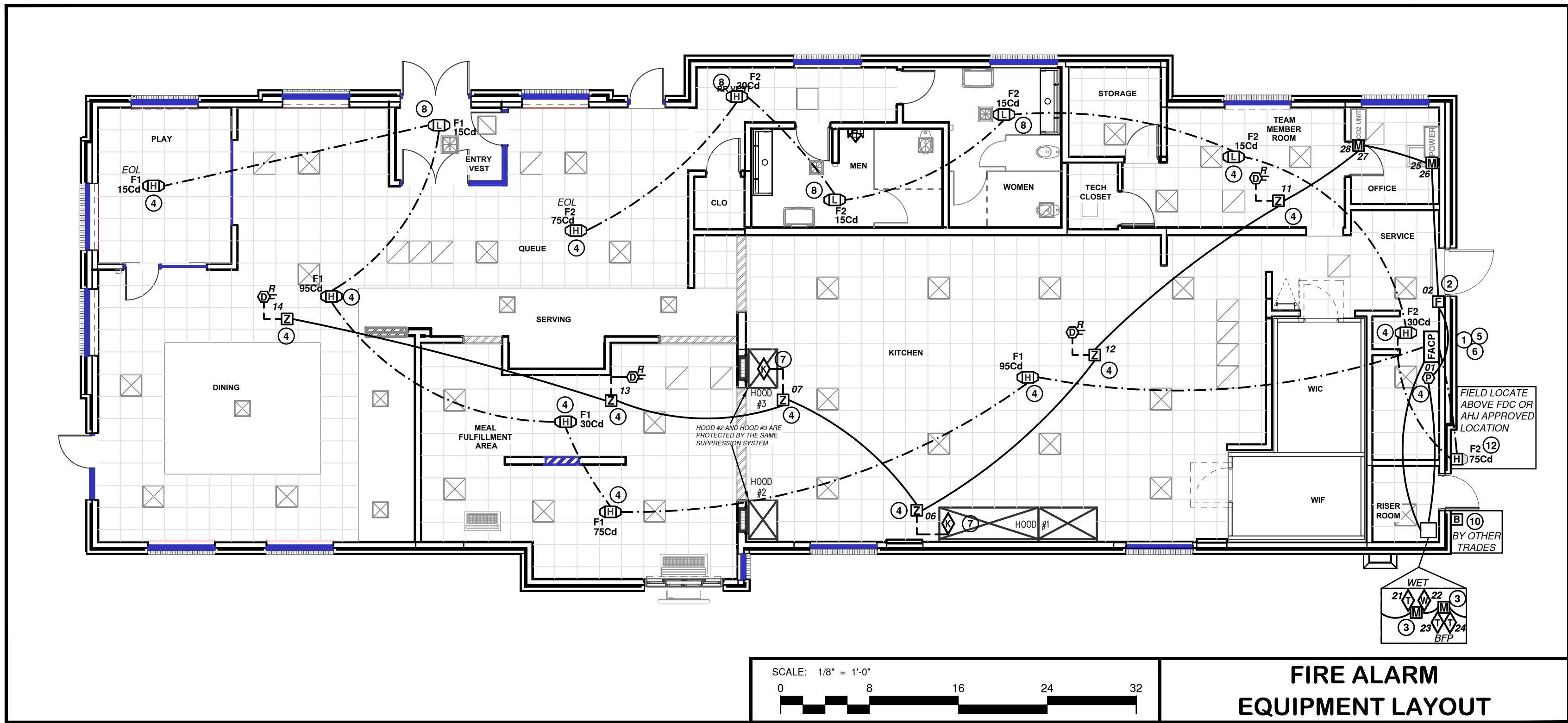


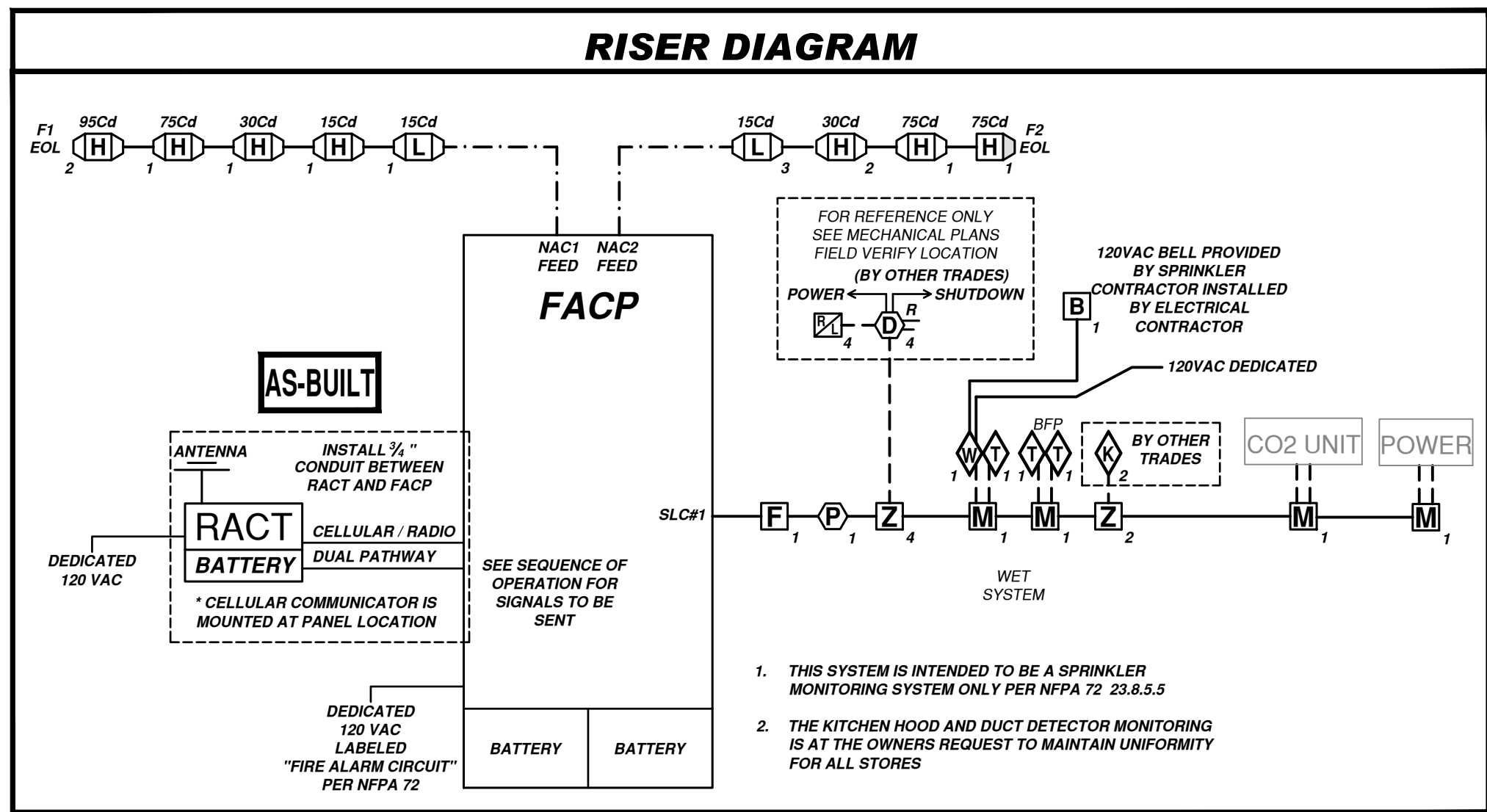
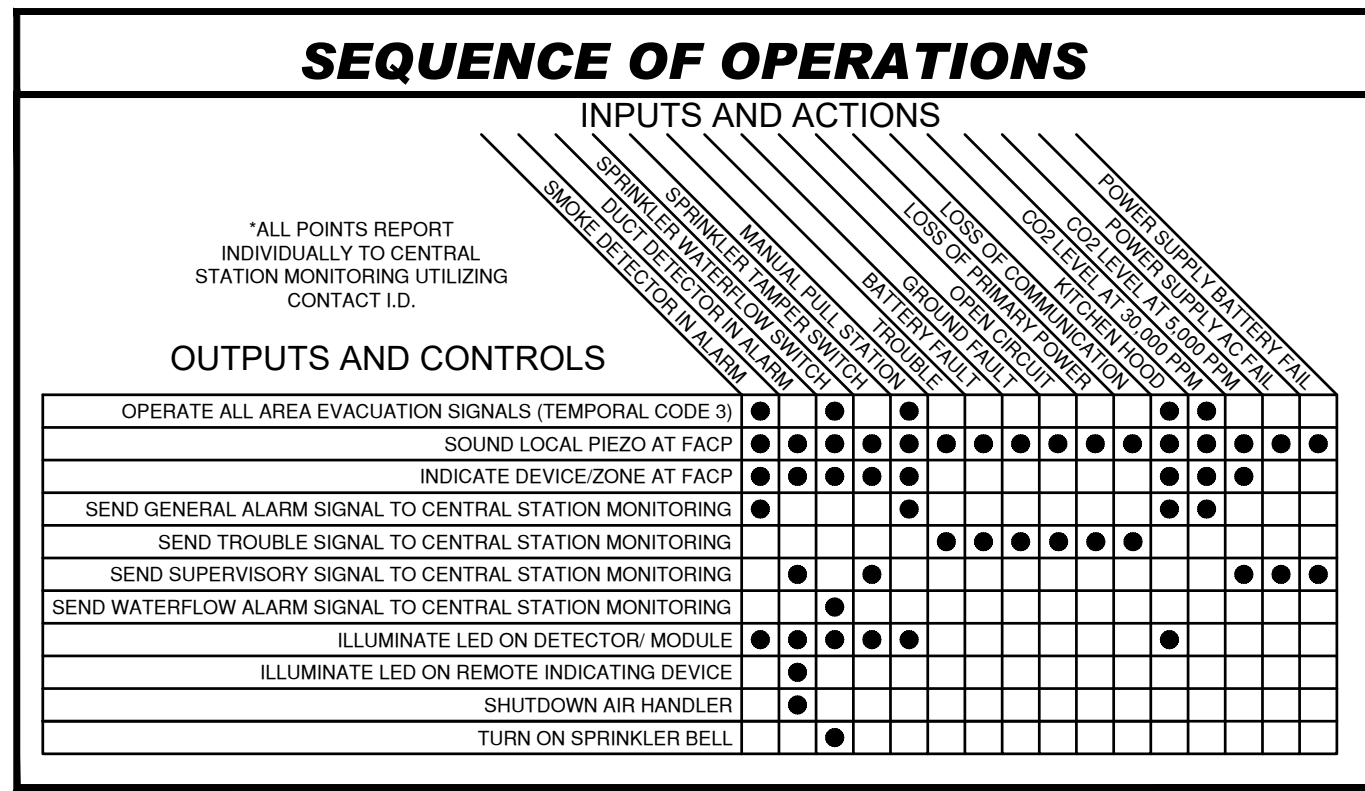


EQUIPMENT LIST					
TYPE	MANUFACTURER	PART NUMBER	DESCRIPTION		QTY
FACP	FIRE LITE	ES-50X	ADDRESSABLE FIRE ALARM CONTROL PANEL		1
COMM	FIRE LITE	IPOTS-COM	IPOTS-COM COMMUNICATOR (INCLUDED WITH PANEL)		1
BATTERY	ENERSYS	NP7-12	12 VOLT 7 AMP HOUR STORAGE BATTERY		3
COMM	STARLINK	SLE-MAX2-CFB-PS	INTERNET AND DIGITAL CELLULAR COMMUNICATOR		1
PATCH CABLE	STARLINK	#SS6-4545-8F-XX	RJ PATCH CABLE		1
AS-BUILT	MIER	BW-DOCBOX	AS-BUILT DOCUMENT STORAGE CABINET		1
PHOTO	SYSTEM SENSOR	SS-PHOTO	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR		1
INPUT	FIRE LITE	MMF-300	ADDRESSABLE MONITOR MODULE		6
DUAL INPUT	FIRE LITE	MDF-300	ADDRESSABLE DUAL MONITOR MODULE		4
PULL	FIRE LITE	BG-12LX	ADDRESSABLE MANUAL PULL STATION		1
CST	SYSTEM SENSOR	SCRLED	SELECTABLE CANDELA LED CEILING LED MOUNT STROBE		4
CHS	SYSTEM SENSOR	PC2RLED	SELECTABLE CANDELA LED CEILING MOUNT HORN/STROBE		8
WPHS	SYSTEM SENSOR	P2GRKLED	SELECTABLE CANDELA LED WEATHERPROOF HORN/STROBE		1

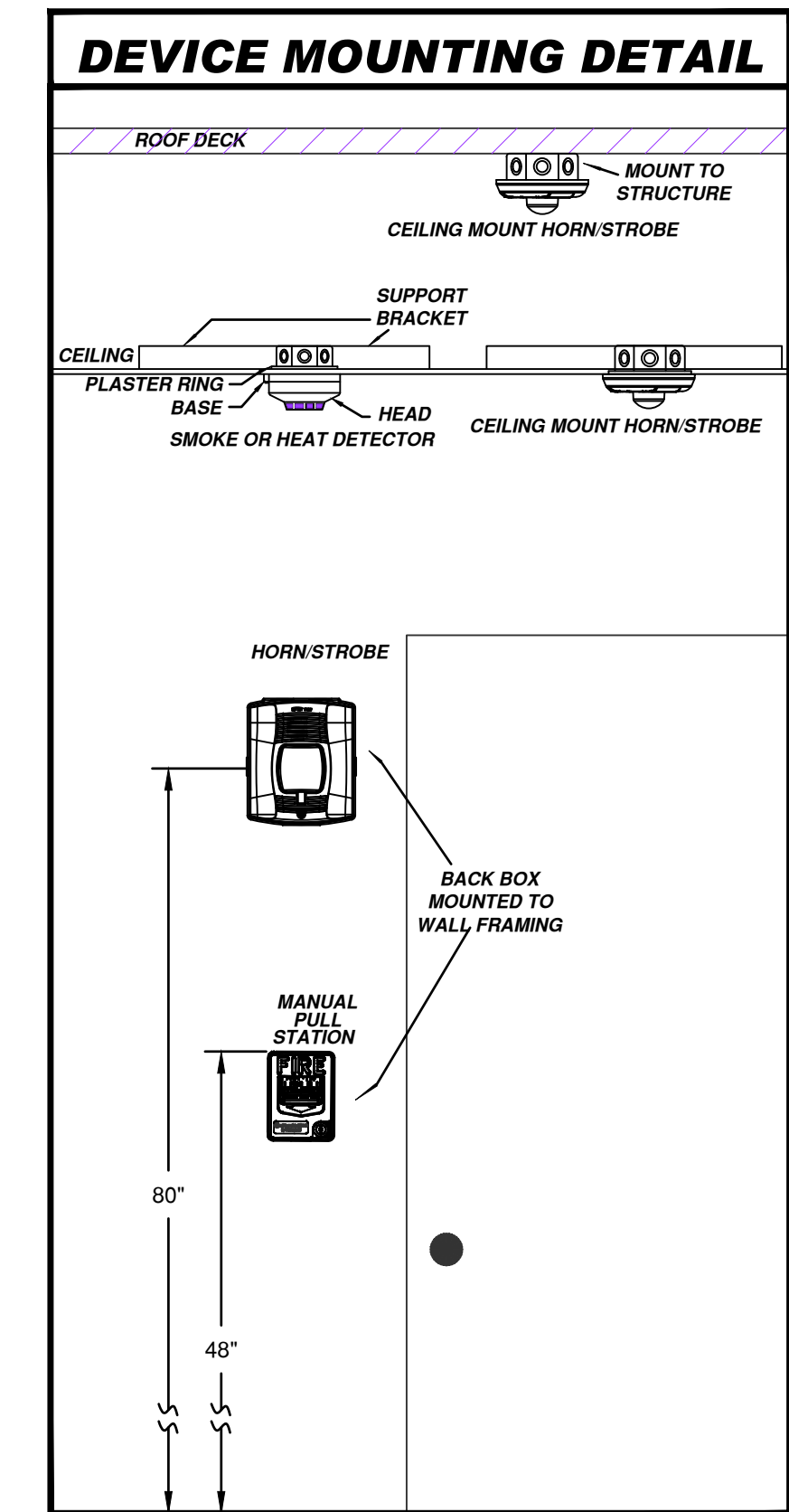
BATTERY CALCULATIONS						
FIRE ALARM CONTROL PANEL BATTERY CALCULATION						
QTY	TYPE	PART NUMBER	STANDBY	TOTAL STANDBY	ALARM	TOTAL ALARM
1	FACP	ES-50X	0.1410 Amps	0.1410 Amps	0.2570 Amps	
1	COMM	IPOTS-COM	0.0400 Amps	0.0400 Amps	0.0410 Amps	
1	PHOTO	SS-PHOTO	0.0002 Amps	0.0002 Amps	0.0045 Amps	
6	INPUT	MMF-300	0.0004 Amps	0.0021 Amps	0.0050 Amps	
4	DUAL INPUT	MDF-300	0.0008 Amps	0.0030 Amps	0.0256 Amps	
1	PULL	BG-12LX	0.0002 Amps	0.0002 Amps	0.0002 Amps	
4	CST	SCRLED	0.0000 Amps	0.0000 Amps	0.0180 Amps	
1	CHS	PC2RLED	0.0000 Amps	0.0000 Amps	0.0350 Amps	
3	CHS	PC2RLED	0.0000 Amps	0.0000 Amps	0.0380 Amps	
2	CHS	PC2RLED	0.0000 Amps	0.0000 Amps	0.0870 Amps	
2	CHS	PC2RLED	0.0000 Amps	0.0000 Amps	0.0920 Amps	
1	WPHS	P2GRKLED	0.0000 Amps	0.0000 Amps	0.0870 Amps	
TOTAL			0.1865 Amps		1.0243 Amps	
24 Hrs					0.083 Hrs	
4.48 Ah					AMP HOUR	0.09 Ah
5.60 Ah					DERATING	1.25
TOTAL REQUIRED						0.11 Ah
SEE EQUIPMENT LIST FOR SIZE						

VOLTAGE DROP CALCULATIONS						
NOTIFICATION APPLIANCE CIRCUIT SCHEDULE						
CIRCUIT	TYPE	CANDELA	PART NUMBER	ALARM	QTY	TOTAL
F1	CST	15Cd	SCRLED	0.018 Amps	1	0.018 Amps
F1	CHS	15Cd	PC2RLED	0.035 Amps	1	0.035 Amps
F1	CHS	30Cd	PC2RLED	0.038 Amps	1	0.038 Amps
F1	CHS	75Cd	PC2RLED	0.087 Amps	1	0.087 Amps
F1	CHS	95Cd	PC2RLED	0.092 Amps	2	0.184 Amps
F2	CST	15Cd	SCRLED	0.018 Amps	3	0.054 Amps
F2	CHS	30Cd	PC2RLED	0.038 Amps	2	0.076 Amps
F2	CHS	75Cd	PC2RLED	0.087 Amps	1	0.087 Amps
F2	WPHS	75Cd	P2GRKLED	0.087 Amps	1	0.087 Amps
VOLTAGE DROP CALCULATION						
POWER SUPPLY	CIRCUIT	TOTAL AMPS	FOOTAGE	OHMS PER 1K	TOTAL OHMS	VOLTAGE DROP
F1	F1	0.362 Amps	400	3.19	1.28 Ohms	0.46 Vdc
F1	F2	0.304 Amps	350	3.19	1.12 Ohms	0.34 Vdc

ZONE LIST					
TYPE	MANUFACTURER	PART NUMBER	ADDRESS	ADDRESS2	LOCATION
PHOTO	SYSTEM SENSOR	SS-PHOTO	01		RISER
PULL	FIRE LITE	BG-12LX	02		SERVICE
INPUT	FIRE LITE	MMF-300	06		KITCHEN
INPUT	FIRE LITE	MMF-300	07		KITCHEN
INPUT	FIRE LITE	MMF-300	11		TEAM MEMBER ROOM
INPUT	FIRE LITE	MMF-300	12		KITCHEN
INPUT	FIRE LITE	MMF-300	13		MEAL FULFILLMENT AREA
INPUT	FIRE LITE	MMF-300	14		DINING
DUAL INPUT	FIRE LITE	MDF-300	21	22	RISER
DUAL INPUT	FIRE LITE	MDF-300	23	24	RISER
DUAL INPUT	FIRE LITE	MDF-300	25	26	OFFICE
DUAL INPUT	FIRE LITE	MDF-300	27	28	OFFICE



BATTERY CALCULATIONS				
RACT BATTERY CALC				
TOTAL STANDBY CURRENT				
DESCRIPTION	PART #	STAND BY CURRENT	QTY	TOTAL
COMM	SLE-MAX2-CFB-PS	0.20000 Amps	1	0.20000 Amps
TOTAL STAND BY				0.20000 Amps
TOTAL ALARM CURRENT				
DESCRIPTION	PART #	ALARM CURRENT	QTY	TOTAL
COMM	SLE-MAX2-CFB-PS	0.20000 Amps	1	0.20000 Amps
TOTAL ALARM				0.2000 Amps
BATTERY CALCULATION				
STAND BY CURRENT	0.2000 Amps	X	24 Hrs	4.800 Ah
ALARM CURRENT	0.200 Amps	X	0.083 Hrs	0.017 Ah
SUB TOTAL				4.817 Ah
DERATING FACTOR (1.25)				1.204 Ah
BATTERY TOTAL				6.021 Ah
BATTERIES PROVIDED				7.00 Ah



WIRE SCHEDULE		
LINE TYPE	TYPE	CIRCUIT DESCRIPTION
---	2C#14 - FPL	NOTIFICATION APPLIANCE CIRCUIT
---	2C#16 - FPL	SLC CIRCUIT (DATA) TWISTED PAIR
---	2C#16 - FPL	INITIATION CIRCUIT

EXAMPLE - 2C#14 - FPL - SH
LINE TYPE SHOWN ON THE FLOOR PLAN TO IDENTIFY CABLE
#14 = GAUGE OF WIRE (#14 AWG)
FPL = FIRE ALARM POWER LIMITED CABLE
SH = SHIELDED CABLE

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
RACT	INTERNET AND DIGITAL CELLULAR COMMUNICATOR
AS-BUILT	FIRE ALARM AS-BUILT DOCUMENT CABINET
POWER	POWER PANEL
CO2 UNIT	CO2 CONTROL DISPLAY
XXX	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR (XXX = ADDRESS)
EX	ADDRESSABLE MANUAL PULL STATION (XX=ADDRESS/DUAL ACTION)
Z	ADDRESSABLE MONITOR MODULE (XXX = ADDRESS)
XXX	ADDRESSABLE DUAL MONITOR MODULE (XXX = ADDRESS)
CHS	FIRE ALARM CEILING MOUNT HORN/STROBE
CHS	FIRE ALARM CEILING MOUNT STROBE
CHS	WEATHER PROOF FIRE ALARM HORN/STROBE
CHS	WEATHER PROOF SPRINKLER WATERFLOW BELL (BY OTHER TRADES)
CHS	REMOTE LED (BY OTHER TRADES)
CHS	DUCT SMOKE DETECTOR (H-RETURN) (BY OTHER TRADES)
CHS	KITCHEN HOOD SYSTEM (BY OTHER TRADES)
CHS	SPRINKLER WATERFLOW SWITCH (BY OTHER TRADES)
CHS	SPRINKLER (DRY / WET) TAMPER SWITCH (BY OTHER TRADES)

PROJECT NOTES

PROJECT GENERAL INFORMATION

AREA: APPROX. SQUARE FOOTAGE: **144 sq. ft.**

SYSTEM TYPE: ADDRESSABLE SPRINKLER MONITORING SYSTEM.

DESCRIPTION: ADDRESSABLE FIRE LITE ES-50X SPRINKLER MONITORING SYSTEM. UTILIZING A POWER LIMITED, FULLY SUPERVISED, MANUAL, AND AUTOMATIC INITIATION/DETECTION SYSTEM. THIS SYSTEM SHALL MONITOR THE BUILDING FIRE SPRINKLER SYSTEM AND SEND AUTOMATIC SIGNALS TO A UL LISTED / FM APPROVED "CENTRAL STATION" MONITORING SYSTEM.

DESIGN STANDARDS

1. MANUFACTURERS' GUIDELINES
2. NFPA 72 (2016)
3. NFPA 70 (2014)
4. IFC (2018) AS AMENDED BY THE AHJ

SCOPE OF WORK:

1. INSTALL ONE (1) NEW FIRE ALARM SYSTEM TO PROVIDE TOTAL EVACUATION FOR THE CHICK-FIL-A STORE # 05248.
1. THE FIRE ALARM SYSTEM SHALL SEND AUTOMATIC SIGNALS TO A UL LISTED / FM APPROVED "CENTRAL STATION" MONITORING SYSTEM. REFER TO THE RISER DIAGRAM AND THE SEQUENCE OF OPERATIONS FOR THE SPECIFIC SIGNALS TO BE TRANSMITTED.
3. THE FIRE ALARM SYSTEM SHALL PROVIDE BATTERY BACKUP AS A SECONDARY POWER SOURCE. REFER TO THE BATTERY CALCULATIONS LOCATED ON THESE DRAWINGS FOR THE STANDBY TIME AND SIZE OF BATTERIES REQUIRED.
4. THIS PROJECT'S FIRE ALARM SYSTEM SHALL BE DESIGNED UTILIZING THE STANDARDS LOCATED IN THE "DESIGN STANDARDS" SECTION ON THESE DRAWINGS.
5. THIS SYSTEM SHALL MAINTAIN 15 DB ABOVE AMBIENT SOUND IN ORDER TO ENSURE PROPER EVACUATION FOR A PERIOD OF 5 MIN.
6. INSTALLATION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE FIRE MARSHAL TO OBTAIN A PERMIT.

GENERAL NOTES:

1. THIS PROJECT'S FIRE ALARM SYSTEM SHALL BE INSTALLED IN A "WORKMAN LIKE MANNER" UTILIZING "GOOD COMMERCIAL PRACTICE".
2. TO ENSURE THE PROPER OPERATION OF THE FIRE ALARM SYSTEM, A COMPLETE FUNCTIONAL TEST SHALL BE PERFORMED PRIOR TO THE FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION (A.H.J.).
3. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL TESTING WITH THE LOCAL A.H.J., GENERAL CONTRACTOR AND ANY ASSOCIATED CONTRACTORS.
4. UPON COMPLETION OF THE PROJECT, THE INSTALLING CONTRACTOR SHALL PROVIDE INSPECTION REPORTS, OPERATIONS MANUALS, AND SHOP DRAWINGS TO THE OWNER REPRESENTATIVE.
5. ALL OF THE FIRE ALARM SYSTEM PROGRAMMING THAT IS REQUIRED SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR.
6. ALL OF THE FIRE ALARM CONTROL PANEL TERMINATIONS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR.
7. THE FIRE ALARM INSTALLATION SHALL BE IN ACCORDANCE WITH THESE PLANS. CHANGES IN DEVICES, LOCATIONS, AND/OR CIRCUITS MUST BE APPROVED. IF THE CHANGES ARE SUFFICIENT TO REQUIRE RE-ENGINEERING A FEE MAY BE CHARGED TO THE CONTRACTOR REQUESTING THE CHANGES.

CONDUCTOR PROPERTIES CHART

THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION OF STRONG SYSTEMS INTERNATIONAL, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ALL RIGHTS ARE EXPRESSLY RESERVED. THIS DRAWING IS NOT TO BE USED FOR ANY OTHER PROJECTS NOR COPIED, REPRODUCED, OR PART THEREOF DESIGN FEATURES USED IN OTHER PRODUCTS WITHOUT WRITTEN CONSENT.

MOUNTING INSTRUCTIONS:

1. ALL DEVICES SHALL BE INSTALLED UTILIZING THE STANDARDS LOCATED IN THE "DESIGN STANDARDS" ON THESE DRAWINGS.
2. SMOKE DETECTORS SHALL BE MOUNTED AS FOLLOWS:
 - 2.1. CENTER OF CEILING TILES
 - 2.2. NO CLOSER THAN THREE (3) FEET FROM AN AIR MOVING REGISTER
 - 2.3. NO LESS THAN 4" FROM A SIDE WALL.
3. DUCT SMOKE DETECTORS SHALL BE INSTALLED AND CERTIFIED BY OTHER TRADES. THE DUCT SMOKE DETECTORS SHALL BE MONITORED BY THE FACP.
4. MANUAL PULL STATIONS SHALL BE MOUNTED AS FOLLOWS:
 - 4.1. 48" TO THE TOP OF THE DEVICE ABOVE THE FINISHED FLOOR.
 - 4.2. WITHIN 5' OF THE EXIT DOOR WHERE POSSIBLE.
5. HORN/STROBE AND STROBE UNITS SHALL BE MOUNTED AS FOLLOWS:
 - 5.1. SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 8' ABOVE THE FINISHED FLOOR.
 - 5.2. WHEN CEILING HEIGHTS ARE LESS THAN 8', MOUNT THE DEVICE 8' BELOW THE CEILING.
 - 5.3. ALL CEILING MOUNT DEVICES SHALL BE IN THE CENTER OF THE TILE.
 - 5.4. SET ALL HORN STROBES TO HIGH 48A SETTING.
 - 5.5. SET CANDELA RATING AS NOTED ON PLANS.

ELECTRICAL INSTALLATION NOTES:

1. THE FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED UTILIZING THE STANDARDS LOCATED IN THE "DESIGN STANDARDS" ON THESE DRAWINGS.
2. REFER TO THE "WIRE CHART" LOCATED ON THESE DRAWINGS FOR CONDUCTOR TYPE & SIZE OF THE WIRE.
3. ALL SIGNAL LINE CIRCUITS (i.e. SLC DATA) SHALL BE CLASS "B".
4. ALL INITIATION DEVICES CIRCUITS (IDC) SHALL BE CLASS "B".
5. ALL NOTIFICATION APPLIANCE CIRCUITS (NAC) SHALL BE CLASS "B".
6. A LICENSED ELECTRICAL CONTRACTOR SHALL PROVIDE THE INSTALLATION, LABOR, CONDUIT, AND WIRING FOR ALL 120VAC POWER CIRCUITS CONNECTED TO THE FIRE ALARM SYSTEM.
7. ALL CABLE RUNS SHALL RUN PARALLEL TO THE BUILDING LINES, DIAGONAL RUNS ARE NOT ACCEPTABLE.
8. ALL CABLE SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE, CONNECTION TO CEILING GRID, CONDUIT, SPRINKLER PIPE, ETC. SHALL NOT BE PERMITTED. ALL CABLE SHALL BE SUPPORTED WITH FIRE RATED CABLE TIES AT 6'-0" ON CENTER. ALL SUPPORT SYSTEMS SHALL BE INSTALLED PER THE DESIGN STANDARDS ON THESE DRAWINGS.
9. ALL JUNCTION BOXES SHALL BE SECURELY MOUNTED. JUNCTION BOXES WITHIN THE CEILING GRID SHALL BE SUPPORTED UTILIZING T-BAR TYPE HANGERS. ALL CABLE WITHIN THE WALL SYSTEM SHALL BE IN CONDUIT OR FLEXIBLE CONDUIT PER THE DESIGN STANDARDS ON THESE DRAWINGS.
10. ALL CABLE BELOW CEILING LEVEL SHALL BE INSTALLED WITHIN METALLIC SURFACE MOUNTED RACEWAY (i.e. WIREMOLD, WALLTRAK, PANDUIT, ETC.) OR BE CONTAINED WITHIN WALL SYSTEM.

COORDINATION WITH OTHER TRADES:

THE LIST WITHIN THIS SECTION ARE NOT PART OF THE SCOPE OF WORK OF THE FIRE ALARM CONTRACTOR, BUT ARE VITAL FOR THE COMPLETION OF THE SYSTEM. THIS LIST SHALL BE PROVIDED BY OTHER TRADES AND COORDINATED BY THE GENERAL CONTRACTOR.

1. ALL 120VAC DEDICATED POWER CIRCUIT, CONDUIT, AND WIRING.
2. ALL AIR HANDLING UNIT SHUTDOWN CONDUIT AND WIRING.
3. ALL DUCT SMOKE DETECTORS, DETECTOR HOUSING, DETECTOR POWER, RELATED INSTALLATION LABOR, CONDUIT, AND WIRING.
4. DUCT SMOKE MANOMETER TESTING AND DOCUMENTATION.
5. DUCT SMOKE DETECTORS AND REMOTE LED/TEST STATIONS.
6. DAMPER CONTROLS INSTALLATION, CONDUIT, AND WIRING.

SPECIFIC NOTES:

1. INSTALL TYPE 1 HOFFMAN ENCLOSURE 6X6X3 (ASG6X6X3N) OR EQUAL AT 52" AFF WITHIN WALL. INSTALL 1" EMT CONDUIT EXTENDED TO 6' ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE.
2. INSTALL A SINGLE GANG DEEP JUNCTION BOX AT 48" AFF WITHIN WALL. INSTALL 1" EMT CONDUIT EXTENDED TO 6' ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE.
3. INSTALL A 4 SQUARE DEEP JUNCTION BOX IN AN ACCESSIBLE AREA HALFWAY BETWEEN WATERFLOW SWITCH AND TAMPER SWITCH. INSTALL 1" EMT CONDUIT EXTENDED TO 6' ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE. FOR RISERS LOCATED ON THE EXTERIOR OF THE BUILDING MOUNT 4 SQUARE DEEP JUNCTION BOX 6' ABOVE THE ACCESSIBLE CEILING IMMEDIATELY ON THE INTERIOR OF THE BUILDING AND LOCATE ADDRESSABLE MODULE IN THIS JUNCTION BOX.
4. INSTALL A 4 SQUARE DEEP JUNCTION BOX IN THE CENTER OF THE CEILING TILE. RIGIDLY MOUNT JUNCTION BOX WITH 1-BAR FASTENER.
5. 120VAC 15A DEDICATED CIRCUIT REQUIRED TO BE HARD-WIRED TO THE CONTROL PANEL BY THE ELECTRICAL CONTRACTOR.
6. CELLULAR/RADIO COMMUNICATION TO BE SOLE PATHWAY PER NFPA GUIDELINES AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION.
7. AN EXTRA ANSUL MICRO-SWITCH IS REQUIRED.
8. INSTALL A 4 SQUARE DEEP JUNCTION BOX WITHIN DRYWALL CEILING. RIGIDLY MOUNT JUNCTION BOX PER NEC.
9. INSTALL A SINGLE GANG DEEP JUNCTION BOX AT 60" AFF WITHIN WALL. INSTALL 1" EMT CONDUIT EXTENDED TO 6' ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE. CONSULT WITH THE PROJECT SUPERINTENDENT FOR EXACT LOCATION.
10. WITHIN THE WALL STRUCTURE INSTALL A 4 SQUARE DEEP JUNCTION BOX WITH SINGLE GANG MUD RING IN AN ACCESSIBLE AREA ON AN INTERIOR WALL AT 80" AFF WITH 1/2" SLEEVE TO EXTERIOR FOR WEATHER PROOF HORN/STROBE. INSTALL 1" EMT CONDUIT EXTENDED TO 6' ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE.
11. NOT USED
12. INSTALL WEATHER PROOF HORN/STROBE DEVICE 10 FEET ABOVE FINISHED GRADE OVER THE FDC TO IDENTIFY LOCATION OF THE FDC.

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INSTALLING CONTRACTOR

CONSULTANT

DESCRIPTION

REVIEW

DATE

BY

REV

DATE

BY

STATE OF MISSOURI
SEYAMUK SEDLAW
NUMBER
PS-201027863
EXPIRATION DATE
12/31/2024
PERSONAL REVIEW

CHICK FIL-A
05248
1025 SOUTHWEST JEFFERSON ST.
LEES SUMMIT, MO 64081
FIRE ALARM
SHOP DRAWING

PROJECT

ADDRESS

DESCRIPTION

LEES SUMMIT FIRE DEPT

DRAWN BY: KMF **DATE:** 11/05/2024

DESIGNED BY: KMF **DESIGNED BY DATE:** 11/05/2024

CHECKED BY: TAB II **CHECKED BY DATE:** 11/05/2024

JOB#: 1001-05248 **SCALE:** AS NOTED

DRAWING SIZE: E-SHEET (30 X 42)

FILE NAME/NUMBER: FP1.1 OF 1