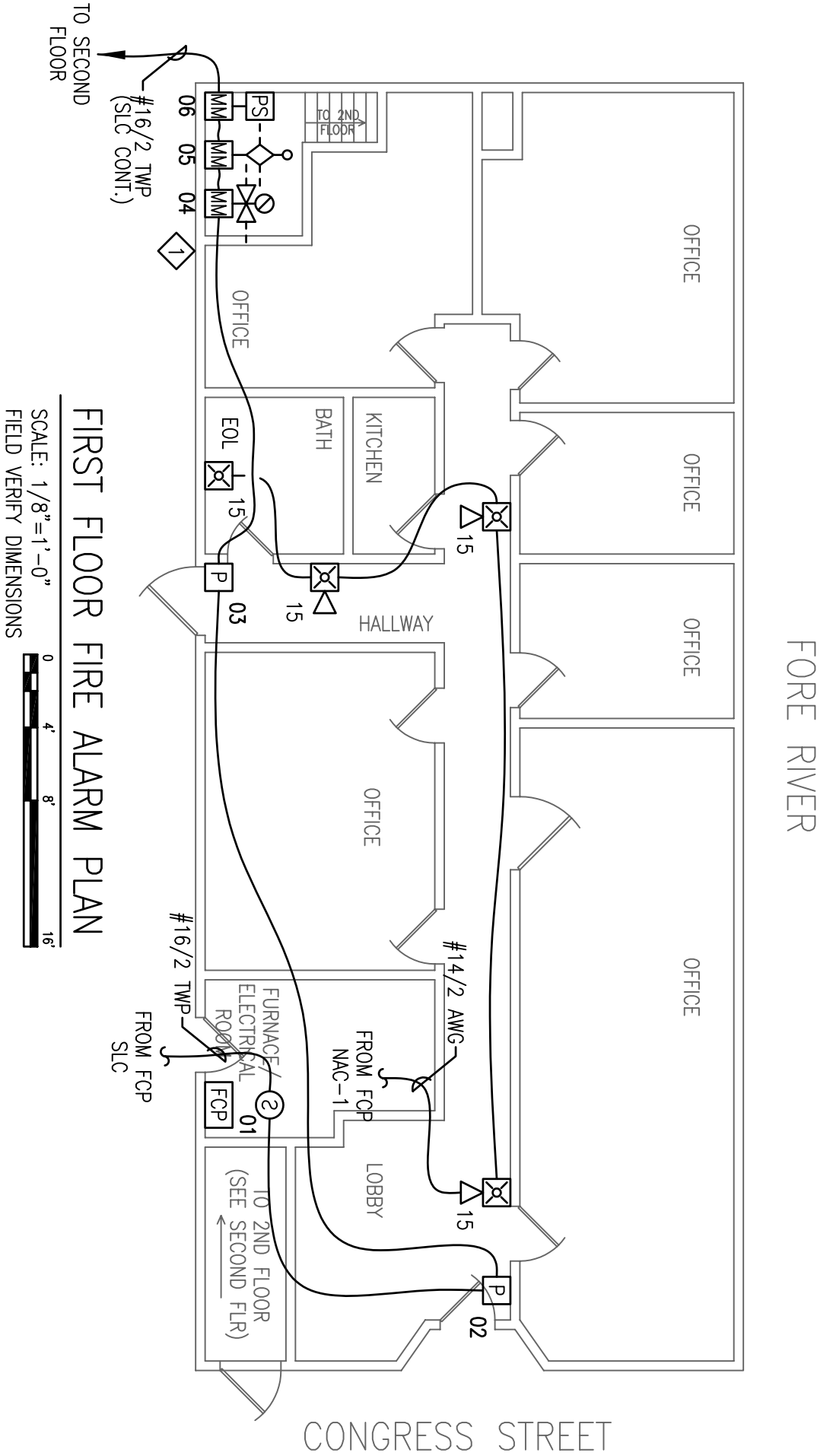
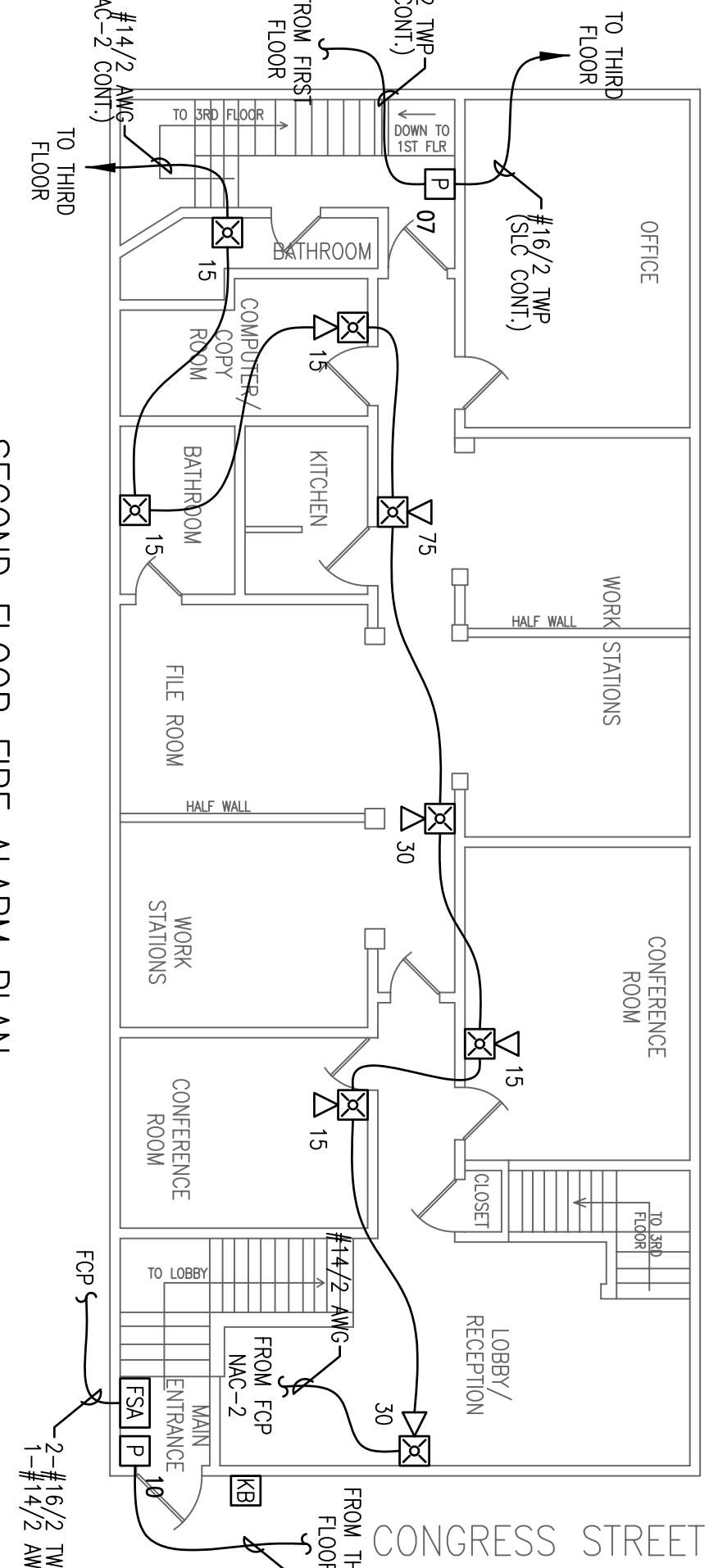


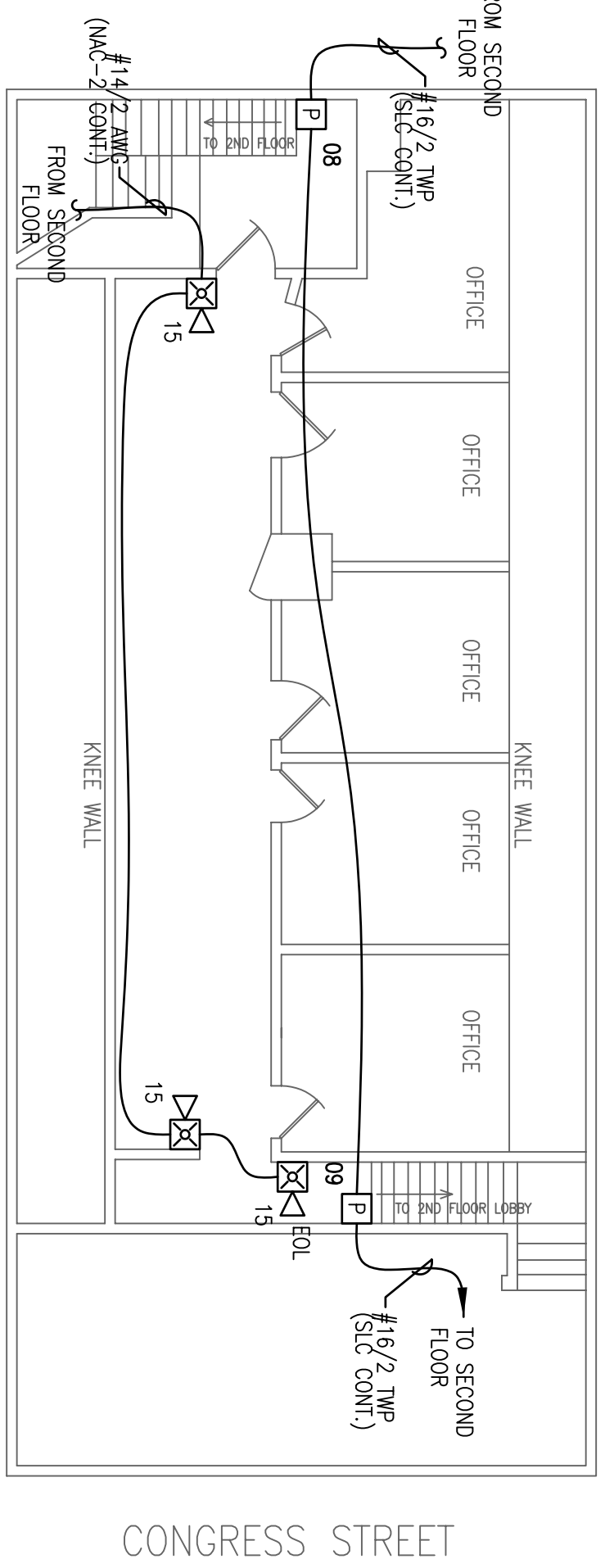
OPERATIONS MATRIX	
FIRE ALARM INPUT	FIRE ALARM OUTPUT
SMOKE DETECTORS	ACTIVATE ALARM INDICATOR
PULL STATIONS	ACTIVATE AUDIBLE ALARM
WATERFLOW SWITCHES	ACTIVATE SUPERVISORY INDICATOR
VALVE TAMPER SWITCHES	ACTIVATE AUDIBLE SUPERVISORY SIGNAL
PRESSURE SWITCHES	ACTIVATE TROUBLE INDICATOR
FIRE ALARM AC POWER FAIL	ACTIVATE AUDIBLE TROUBLE INDICATOR
FIRE ALARM LOW BATTERY	TRANSMIT ALARM SIGNAL
OPEN CIRCUIT	TRANSMIT SUPERVISORY SIGNAL
GROUND FAULT	TRANSMIT TROUBLE SIGNAL
NAC SHORT CIRCUIT	
LOSS OF AC TO BUILDING	



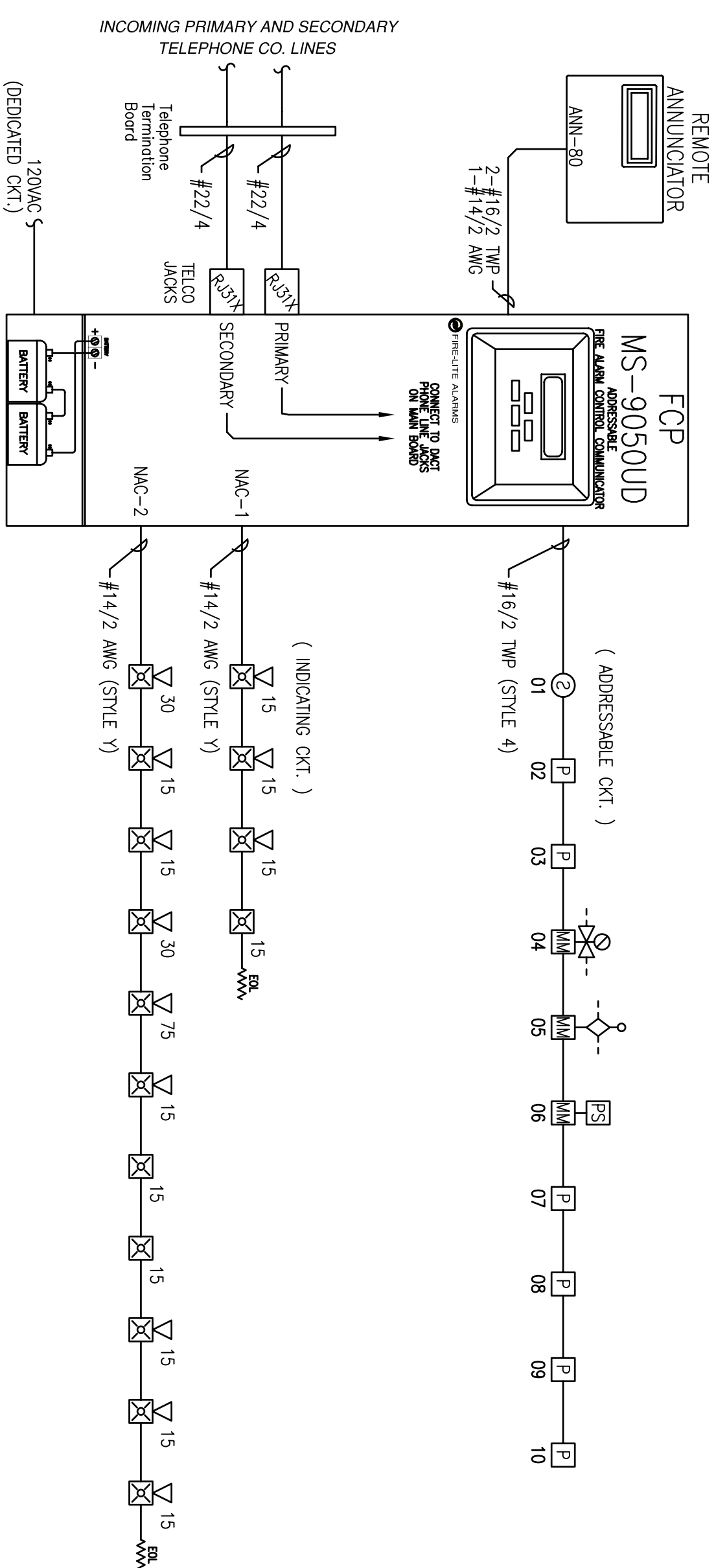
FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"
FIELD VERIFY DIMENSIONS



SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"
FIELD VERIFY DIMENSIONS



THIRD FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"
FIELD VERIFY DIMENSIONS



FIRE ALARM RISER DIAGRAM
SCHEMATIC: NO SCALE

- GENERAL NOTES:
- THESE DRAWINGS ARE DIAGNOSTIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
 - INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WIRING DERIVED ON THESE PLANS IS SCHEMATIC - ACTUAL WIRE LOCATIONS MAY VARY FROM SHOWN. THE CONTRACTOR SHALL VERIFY THE EXISTING WIRING THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RECEIVER IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RECEIVER.
 - FIRE RINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
 - POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
 - POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
 - WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
 - WHEN UTILIZING SHIELDED CABLE THE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
 - ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
 - SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
 - LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS, WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 4" AND A MAXIMUM OF 12" FROM CEILING. CEILING-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON CEILING AND NOT ON THE BOTTOMS OF BEAMS OR JOISTS.
 - PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS.
 - PROVIDE ALL REQUIRED SMC MODULES. PROVIDE A MULTI-SMC MODE STAVE CONNECTION BETWEEN ALL SMC MODULES.
 - VERIFY ALL FIELD SELECTABLE AUDILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
 - UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
 - PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
 - INSTALLING CONTRACTOR SHALL PHYSICALLY LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHERE WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.

- SHEET NOTES:
- ADDRESSABLE MONITOR MODULE(S) PROVIDED TO MONITOR ALL WATER FLOW, PRESSURE SWITCHES, TAMPER SWITCHES AND POST INDICATING VALVES ASSOCIATED WITH THE FIRE SPRINKLER SYSTEM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT QUANTITY AND LOCATION(S).
 - PROGRAMMING REQUIREMENTS: FIELD VERIFY

FCP Battery Calculation

Project Name:	1711 CONGRESS STREET	2/3/2012	
Required Standby Time:	24 Hours		
Required Alarm Time:	5 Minutes		
Regulated Load in Standby			
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
MS-9050UD Main Circuit Board	1	0.20000	0.20000
ANN-80	1	0.01500	0.01500
50355 Smoke Detector	3	0.00030	0.00090
MF-300 Monitor Modules	6	0.00040	0.00240
BE-TALK Pull Stations	3	0.00023	0.00069
TOTAL STANDBY LOAD			0.13788
Regulated Load in Alarm			
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
MS-9050UD Main Circuit Board	1	0.20000	0.20000
ANN-80	1	0.04000	0.04000
50355 Smoke Detector	3	0.30300	0.90900
NAC-1	1	0.30300	0.30300
NAC-2	1	0.99600	0.99600
TOTAL ALARM LOAD			1.93900
Battery Requirements			
Standby Load (Amps)	0.13788	X	Required Standby Time in Hours
Alarm Load (Amps)	1.93900	X	Required Alarm Time in Hours
Current (Amps)	0.08333	=	1.8158
Total Ampere Hours (before derating factor)		X	3,470.0
Derating Factor		X	1.2
TOTAL AMPERE HOURS REQUIRED			4,164.84
BATTERIES TO BE PROVIDED (2 - 12V)			7 AH

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
Ⓢ	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
Ⓢ	FIRE ALARM POWER SUPPLY	FIELD VERIFY
Ⓢ	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
Ⓢ	KNOX BOX	FIELD VERIFY
Ⓢ	SMOKE DETECTOR	CEILING
Ⓢ	DUCT SMOKE DETECTOR	BY OTHERS
Ⓢ	HEAT DETECTOR	CEILING
Ⓢ	ADDRESSABLE CONTROL MODULE	FIELD VERIFY
Ⓢ	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
Ⓢ	MANUAL PULL STATION	WALL @ 48"
Ⓢ	CONTROL BEAM (MULTI-WOLVED)	FIELD VERIFY
Ⓢ	ADDRESSABLE RELAY MODULE	FIELD VERIFY
Ⓢ	MAGNETIC DOOR HOLDER	FIELD VERIFY
Ⓢ	WATER FLOW SWITCH	BY OTHERS
Ⓢ	VALVE TAMPER SWITCH	BY OTHERS
Ⓢ	BELL	BY OTHERS
Ⓢ	CEILING MOUNT SMOKE	FIELD VERIFY
Ⓢ	CEILING MOUNT HORN / STROBE	FIELD VERIFY
Ⓢ	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
Ⓢ	HORN	WALL @ 10'-0"
Ⓢ	HORN / STROBE	WALL @ 10'-0"
Ⓢ	SPEAKER / STROBE	WALL @ 9'-0"
Ⓢ	SPEAKER	WALL @ 9'-0"
Ⓢ	STROBE	WALL @ 9'-0"
ABBREVIATION	DESCRIPTION	
E	EXISTING	
P	FIELD MOUNT	
R	RESIDENTIAL (110V)	
S	SLIMLINE BASE	
W	WEATHER PROTECTOR	
ED	END OF LINE RELAY	
AW	AMERICAN WIRE GAUGE	
TP	TWISTED PAIR	
TPSP	TWISTED SHIELDED PAIR	
W	WIRE (SEE REMARKS)	
FLTR	FIRE SIGNAL LIMITED RESER	

NAC Circuit Voltage Drop Calculation

Project Name:	1711 CONGRESS STREET	2/3/2012		
Circuit Number:	NAC-1			
Nominal System Voltage:	20.4 volts			
Minimum Device Voltage:	18 volts			
Distance from source to 1st device:	29			
Wire Gauge for balance of circuit:	14			
Max Output Current:	1.9 amps			
Total Circuit Current:	0.303 amps			
Circuit is within limits				
Device	Distance from source	Voltage at Device	Drop from source	Percent Drop
Device 1	0.079	20.36	0.04	0%
Device 2	0.079	20.31	0.09	0%
Device 3	0.079	20.30	0.10	1%
Device 4	0.303	20.29	0.11	1%
Totals			0.503	1%

NAC Circuit Voltage Drop Calculation

Project Name:	1711 CONGRESS STREET	2/3/2012		
Circuit Number:	NAC-2			
Nominal System Voltage:	20.4 volts			
Minimum Device Voltage:	18 volts			
Distance from source to 1st device:	29			
Wire Gauge for balance of circuit:	14			
Max Output Current:	1.9 amps			
Total Circuit Current:	0.396 amps			
Circuit is within limits				
Device	Distance from source	Voltage at Device	Drop from source	Percent Drop
Device 1	0.107	20.22	0.18	1%
Device 2	0.079	20.10	0.30	1%
Device 3	0.079	19.98	0.42	2%
Device 4	0.107	19.91	0.49	2%
Device 5	0.176	19.87	0.53	3%
Device 6	0.079	19.87	0.53	3%
Device 7	0.088	19.82	0.58	3%
Device 8	0.25	19.72	0.64	3%
Device 9	0.079	19.76	0.64	3%
Device 10	0.079	19.72	0.68	3%
Device 11	0.396	19.71	0.69	3%
Totals			2.22	9

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REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	2/3/2012

1711 CONGRESS STREET
PORTLAND, ME 04102
FIRE ALARM PLAN

UNIGAD
SCALE: 1/8" = 1'-0"
FA-1