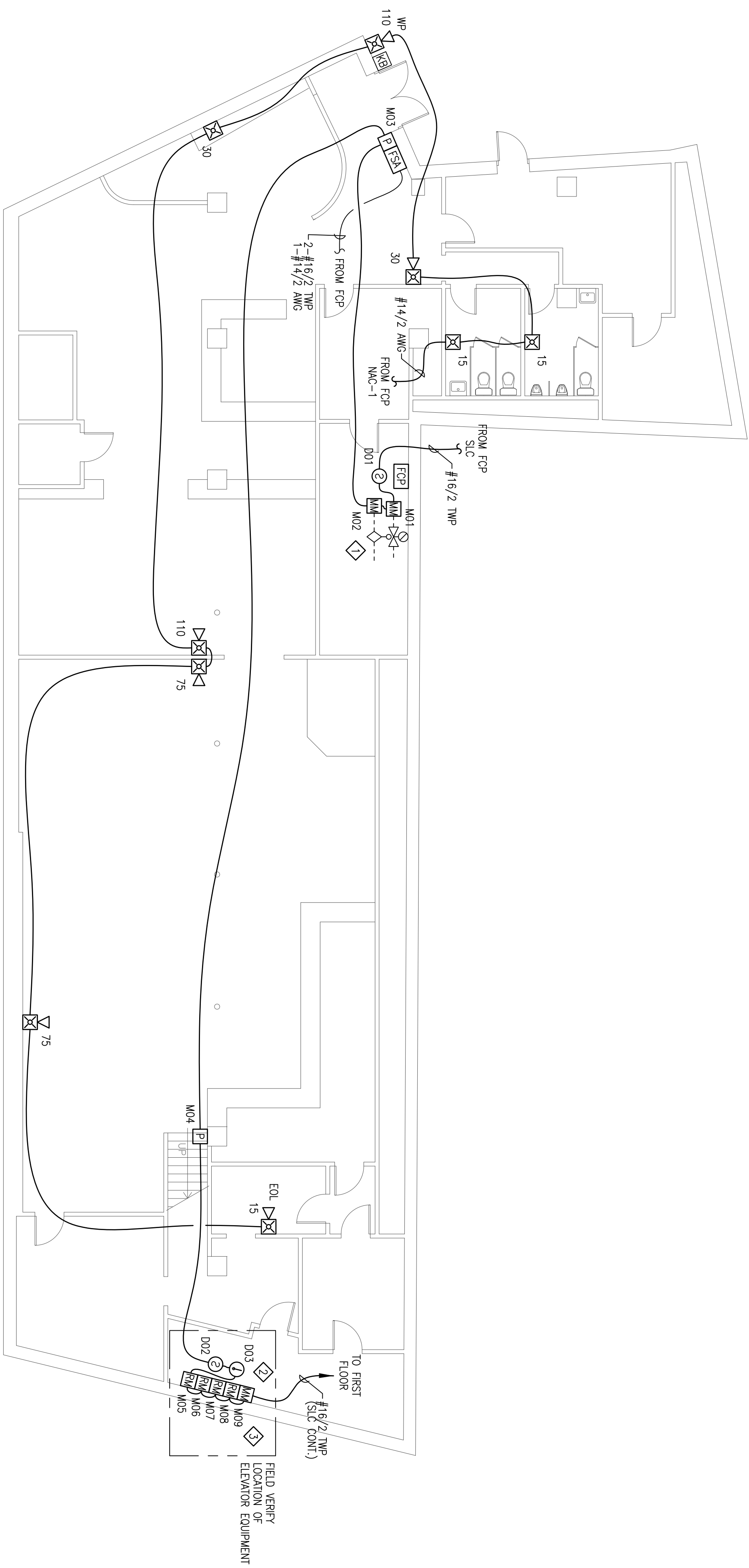


RESERVED FOR CITY STAMP



**BASEMENT FIRE ALARM PLAN**  
SCALE: 1/8"=1'-0"

**SHEET NOTES:**

- ① 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 MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).
- ② PROVIDE HEAT DETECTOR(S) WITHIN 24" OF EACH SPRINKLER HEAD IN THE ELEVATOR CONTROL ROOM AND HOISTWAY(S). HEAT DETECTORS SHALL HAVE A LOWER TEMPERATURE RATING THAN THE SPRINKLERS IN THE AREA AND BE MONITORED FOR INTEGRITY.
- ③ ADDRESSABLE RELAY MODULES (4) PROVIDED FOR THE ELEVATOR RECALL AND SHUT DOWN. THE TO ELEVATOR EQUIPMENT ROOM DETECTOR(S), HOISTWAY DETECTOR(S) AND LOBBY DETECTOR(S) TO INITIATE RECALL AND SHUT DOWN. ADDRESSABLE MONITOR MODULE PROVIDED TO MONITOR THE CONTROL CIRCUIT TO THE ELEVATOR SHUNT TRIP BREAKER FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE SHALL CAUSE A SUPERVISORY SIGNAL AT THE CONTROL PANEL. FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.

**NAC Circuit Voltage Drop Calculation** 4/9/2015

Project Name	6 CITY CENTER
Circuit Number	NAC-1
Nominal System Voltage	207.4 volts
Minimum Design Voltage	186 volts
Distance from source to 1st device	20
Wire Gauge for balance of circuit	14
Max Output Current	1.4 amps
Total Circuit Current	1.188 amps

Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.066	9	20.25	0.15	1%
Device 2	0.107	18	20.19	0.21	1%
Device 3	0.212	30	20.08	0.32	2%
Device 4	0.094	21	19.81	0.50	2%
Device 5	0.212	57	19.81	0.59	3%
Device 6	0.176	57	19.57	0.82	4%
Device 7	0.176	57	19.48	0.83	4%
Device 8	0.079	48	19.46	0.92	5%
Device 9	0.066	263	19.46	0.94	5%
Totals	1.188				

**NAC Circuit Voltage Drop Calculation** 4/9/2015

Project Name	6 CITY CENTER
Circuit Number	NAC-2
Nominal System Voltage	207.4 volts
Minimum Design Voltage	186 volts
Distance from source to 1st device	30
Wire Gauge for balance of circuit	14
Max Output Current	1.7 amps
Total Circuit Current	1.501 amps

Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.212	34	20.12	0.28	1%
Device 2	0.066	16	19.85	0.55	3%
Device 3	0.176	34	19.73	0.67	3%
Device 4	0.079	72	19.27	1.13	6%
Device 5	0.107	12	19.20	1.20	6%
Device 6	0.066	12	19.14	1.26	6%
Device 7	0.066	11	19.13	1.27	6%
Device 8	0.066	4	19.08	1.32	6%
Device 9	0.176	4	18.90	1.50	7%
Device 10	0.212	4	18.90	1.50	8%
Device 11	0.066	4	18.64	1.79	9%
Device 12	0.066	4	18.61	1.79	9%
Totals	1.501	374			

**NAC Circuit Voltage Drop Calculation** 4/9/2015

Project Name	6 CITY CENTER
Circuit Number	NAC-3
Nominal System Voltage	207.4 volts
Minimum Design Voltage	186 volts
Distance from source to 1st device	50
Wire Gauge for balance of circuit	14
Max Output Current	1.4 amps
Total Circuit Current	1.215 amps

Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.176	38	20.03	0.37	2%
Device 2	0.176	15	19.78	0.62	3%
Device 3	0.066	3	19.71	0.69	3%
Device 4	0.066	3	19.69	0.71	3%
Device 5	0.066	7	19.66	0.74	4%
Device 6	0.079	53	19.44	0.96	5%
Device 7	0.079	23	19.36	1.04	5%
Device 8	0.176	22	19.29	1.11	5%
Device 9	0.066	15	19.29	1.14	6%
Device 10	0.066	15	19.26	1.16	6%
Device 11	0.079	8	19.23	1.17	6%
Device 12	0.079	8	19.23	1.17	6%
Totals	1.215	275	19.22	1.18	6%

**NAC Circuit Voltage Drop Calculation** 4/9/2015

Project Name	6 CITY CENTER
Circuit Number	NAC-4
Nominal System Voltage	207.4 volts
Minimum Design Voltage	186 volts
Distance from source to 1st device	55
Wire Gauge for balance of circuit	14
Max Output Current	1.3 amps
Total Circuit Current	1.035 amps

Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.176	56	20.05	0.35	2%
Device 2	0.079	25	19.76	0.64	3%
Device 3	0.107	52	19.65	0.75	4%
Device 4	0.079	13	19.46	0.94	5%
Device 5	0.094	26	19.42	0.98	5%
Device 6	0.176	26	19.35	1.05	5%
Device 7	0.066	67	19.26	1.14	6%
Device 8	0.176	3	19.26	1.14	6%
Totals	1.035	291			

**6 CITY CENTER**

**PORTLAND, MAINE 04101**

**CALCS & BASEMENT FIRE ALARM PLAN**

**CUNNINGHAM**  
**Security Systems**

10 Princes Point Road, Yarmouth, Maine 04096  
Office: 207.846.3350 • Fax: 207.846.6080

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	4/2/2015
1	REVISED PER CLIENT REVIEW	4/10/2015

SCALE	1/8"=1'-0"
REVISION	1
CHECKED	WYNNE B. HANS
DATE	4/2/2015
DRAWN	JFB UNIGAD JOB #15211