

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/10/2016

SEACOAST SECURITY
Office: (207) 706-3369 • Fax: (207) 865-0852
4 Summer Street • Freeport, Maine 04032

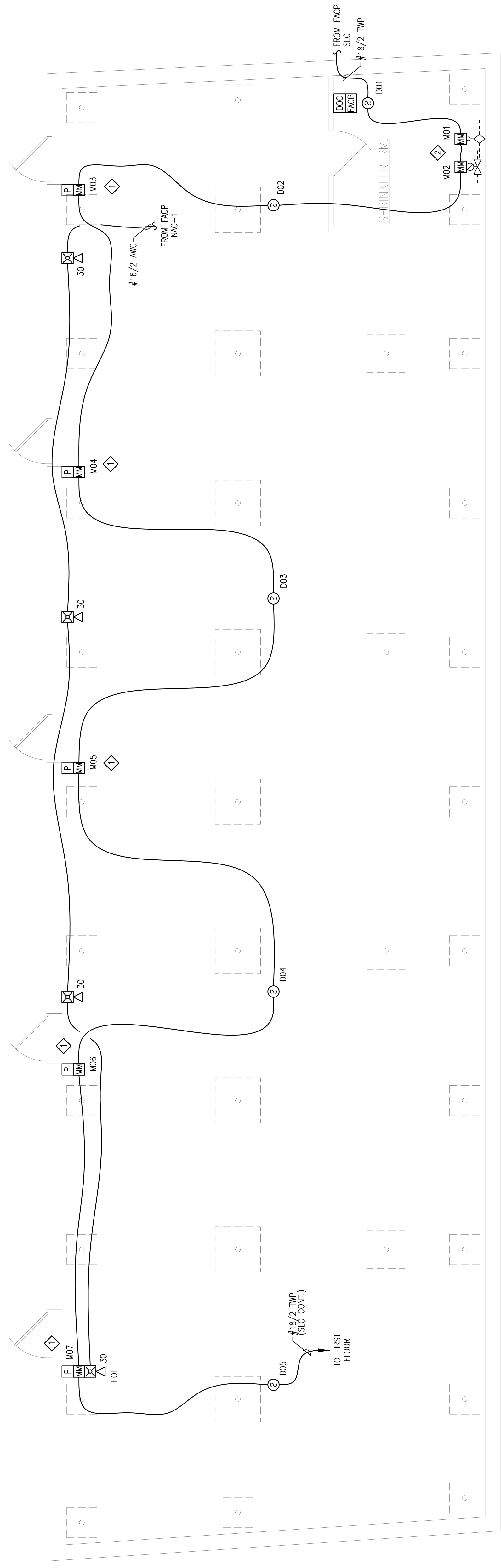


BASEMENT FIRE ALARM PLAN & VOLTAGE CALCCS

15 UNIT APARTMENT BUILDING 48 WILMOT STREET PORTLAND, MAINE 04101

DRAWN	JPB UNICAD JOB #16883
CHECKED	WAYNE B. HAWES NICET # 90496
DATE	11/10/2016
REVISION	0
SCALE	1/4"=1'-0"

FA-2



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

- SHEET NOTES:**
- ◇ ADDRESSABLE MONITOR MODULE PROVIDED TO MONITOR THE CONVENTIONAL PULL STATION. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).
 - ◇ 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).

RESERVED FOR CITY STAMP

Point to Point NAC Voltage Drop Calculation 11/9/2016

Project Name	48 WILMOT ST APARTMENTS
Circuit Number	NAC-1
Nominal System Voltage	20.4 volts
Minimum Device Voltage	16.0 volts
Distance from source to 1st device	35 feet
Wire Gauge for balance of circuit	#16
Resistance Per 1000	4.89
Max Output Current	1.50 amps
Total Circuit Current	0.438 amps
End of Line Voltage	20.10 volts

Circuit is within limits		
Device	Distance previous device	Voltage at Device
Device 1	35	20.25
Device 2	24	20.18
Device 3	26	20.12
Device 4	25	20.10
Totals	110	

Notes: Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation 11/9/2016

Project Name	48 WILMOT ST APARTMENTS
Circuit Number	NAC-2
Nominal System Voltage	20.4 volts
Minimum Device Voltage	15.0 volts
Distance from source to 1st device	29 feet
Wire Gauge for balance of circuit	#16
Resistance Per 1000	4.89
Max Output Current	1.50 amps
Total Circuit Current	0.322 amps
End of Line Voltage	20.04 volts

Circuit is within limits		
Device	Distance previous device	Voltage at Device
Device 1	25	20.32
Device 2	27	20.24
Device 3	28	20.18
Device 4	15	20.15
Device 5	27	20.10
Device 6	28	20.07
Device 7	22	20.05
Device 8	27	20.04
Totals	199	

Notes: Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation 11/9/2016

Project Name	48 WILMOT ST APARTMENTS
Circuit Number	NAC-3
Nominal System Voltage	20.4 volts
Minimum Device Voltage	16.0 volts
Distance from source to 1st device	45 feet
Wire Gauge for balance of circuit	#16
Resistance Per 1000	4.89
Max Output Current	1.50 amps
Total Circuit Current	0.322 amps
End of Line Voltage	20.10 volts

Circuit is within limits		
Device	Distance previous device	Voltage at Device
Device 1	45	20.26
Device 2	10	20.23
Device 3	11	20.20
Device 4	23	20.16
Device 5	13	20.13
Device 6	10	20.12
Device 7	18	20.10
Device 8	14	20.10
Totals	144	

Notes: Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation 11/9/2016

Project Name	48 WILMOT ST APARTMENTS
Circuit Number	NAC-4
Nominal System Voltage	20.4 volts
Minimum Device Voltage	16.0 volts
Distance from source to 1st device	55 feet
Wire Gauge for balance of circuit	#16
Resistance Per 1000	4.89
Max Output Current	1.50 amps
Total Circuit Current	0.322 amps
End of Line Voltage	20.08 volts

Circuit is within limits		
Device	Distance previous device	Voltage at Device
Device 1	55	20.23
Device 2	7	20.21
Device 3	11	20.18
Device 4	27	20.13
Device 5	10	20.11
Device 6	11	20.10
Device 7	18	20.08
Device 8	7	20.08
Totals	146	

Notes: Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).

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