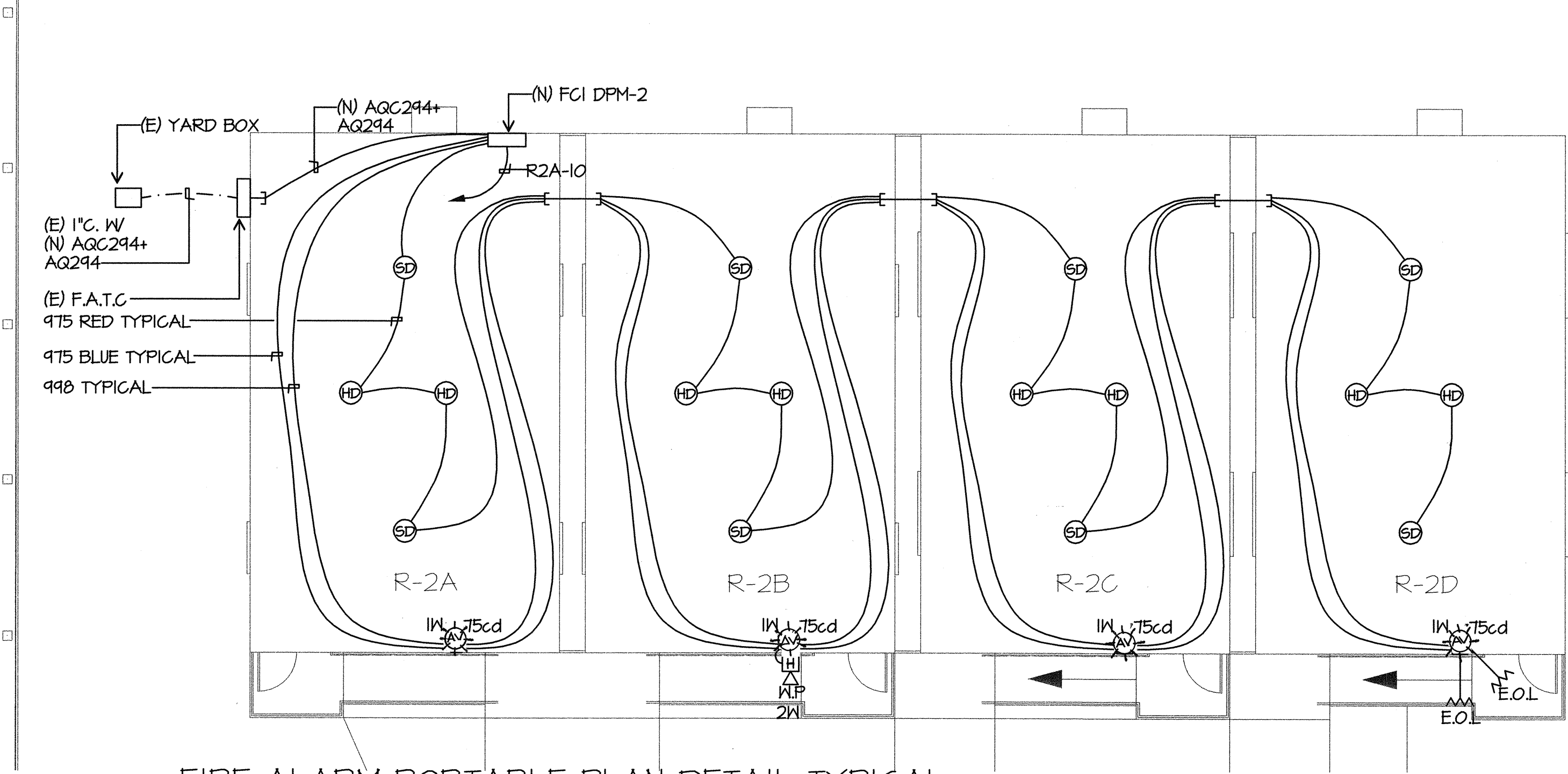




FIRE ALARM PORTABLE PLAN DETAIL TYPICAL

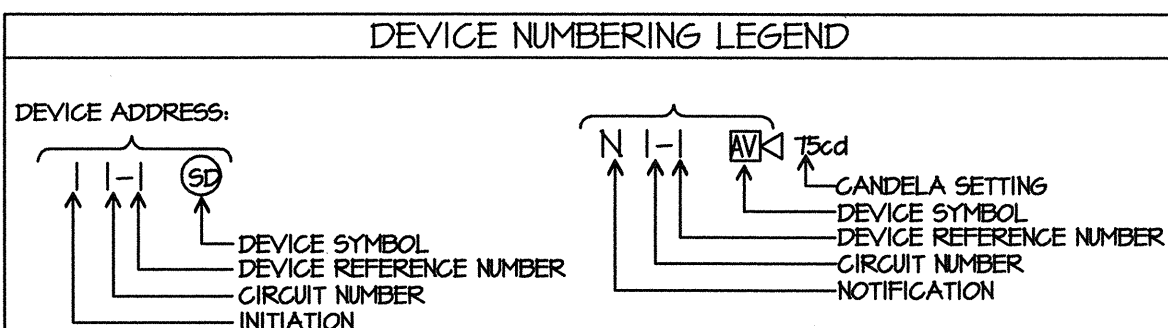
SCALE: 1/8"=1'-0"

FIRE WATCH, FIRE MARSHAL REQUIREMENTS:

REQUIREMENTS FOR DISABLING THE FIRE ALARM SYSTEM:

- As required by the 2010 CALIFORNIA FIRE CODE, Section 901.7 and Section 1404.5, standby personnel or systems temporarily "OUT OF SERVICE". The local Fire Marshal is authorized to require the Contractor to provide standby personnel as set forth in these sections, until the system is restored to operation.
- Such individual shall be subject to the local Fire Marshal's order at all times when so employed and shall remain on duty during the time such places are open to the public or when such public activity is being conducted. Fire watch personnel shall be provided with at least one approved means for notification of the Fire Department.
- Such individuals shall keep a diligent watch for fires and be able to take prompt and appropriate action in the event of a fire. Such individuals shall not be required or permitted, while on duty, to perform any other duties than these herein specified.

FA SYMBOL LIST MATRIX				
SYMBOL	DEVICE	MFR # CAT N.	REMARKS	CSFM LISTING
	(E) MAIN FIRE ALARM PANEL	GAMEWELL FCI E3	SURFACE MOUNTED	7165-1703.125
	NAC POWER EXTENDER	GAMEWELL/FCI FCI HPFFB		7315-1637.0102
	MONITOR MODULE	GAMEWELL/FCI AMH-2F	PROVIDE 45G DEEP BACK BOX	7300-1703.102
	SMOKE DETECTORS	ASD-FL2F	B210LP BASE	7212-1703.0121
	HEAT DETECTOR	ATD-HL2F	B210LP BASE	7210-1703.0115
	SPEAKER/SSTROBE	WHEELLOCK E60-24MCC	PROVIDE 45G DEEP BACK BOX	7320-0785.0134
	EXTERIOR SPEAKER	WHEELLOCK E-30-K	PROVIDE 45G DEEP BACK BOX	7125-0785.0165
	(N) FCI VOICE EVAC	GAMEWELL/INI-VGC	SURFACE MOUNT ADJACENT TO (E) MFCEP	7165-1703.125
---	FLP WIRE	WEST PENN 975	16/2 COPPER	7161-0859.0101
---	FLP WIRE	WEST PENN 998	12/2 COPPER	7161-0859.0101
---	FLP WIRE	WEST PENN AG294	12/2 COPPER	7161-0859.0101
---	FLP WIRE	WEST PENN AGC294	12/2 COPPER	7161-0859.0101

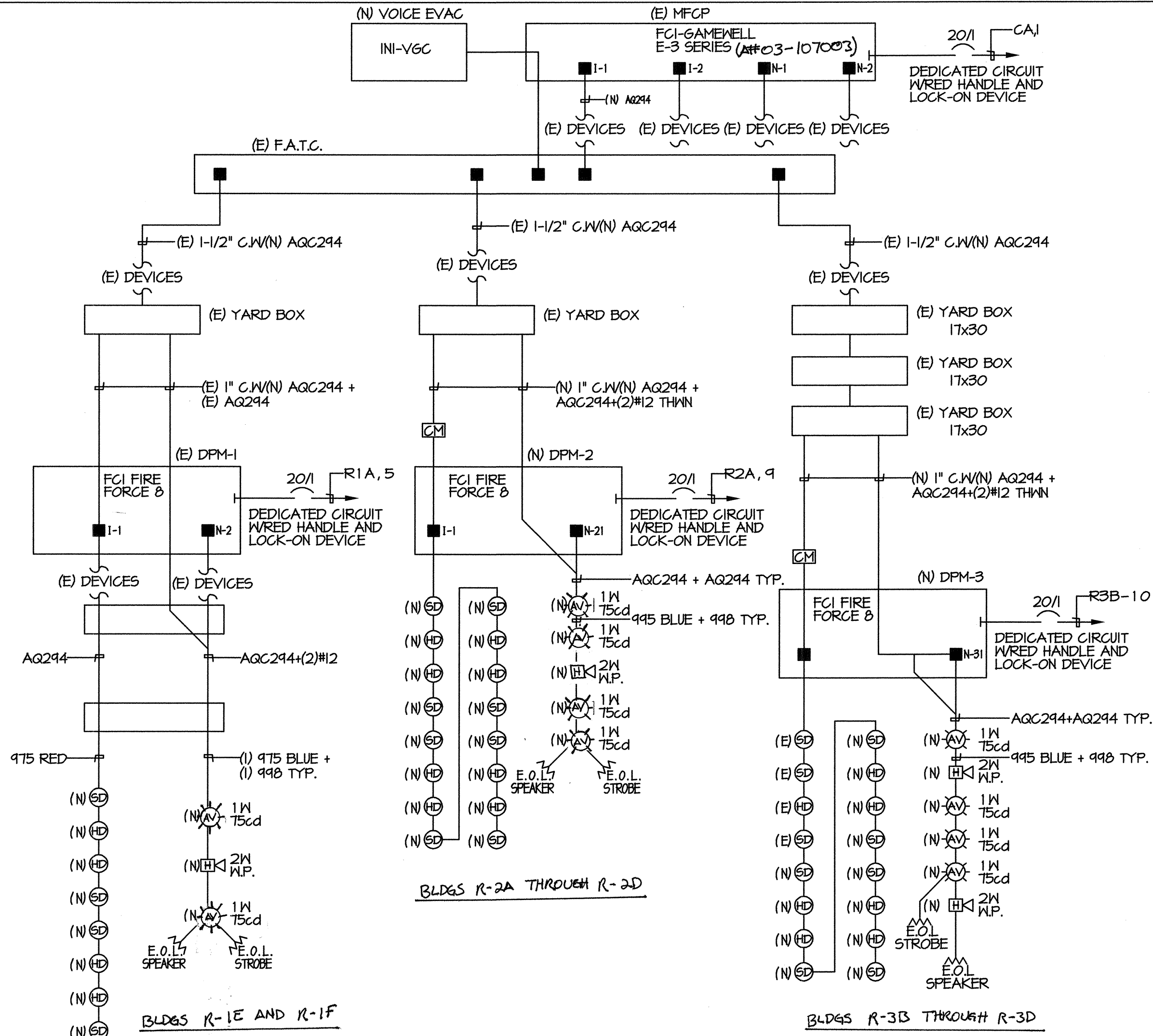


VOLTAGE DROP CALCULATIONS					
CIRCUIT	2x	LENGTH x	AMPS x	RESISTANCE	= VOLTS VOLTAGE DROP
N1	2	430	0.784	0.00205	1.382 5.76 %
N2	2	380	0.238	0.00205	0.371
N21	2	280	0.476	0.00205	0.546
N31	2	200	0.476	0.00205	0.390

FIRE ALARM SEQUENCE OF OPERATION			
INITIATION	AREA SMOKE DETECTOR	AREA THERMAL DETECTOR	AC POWER FAILURE
RESPONSE			
ANNUNCIATE AT FIRE CONTROL ROOM	YES	YES	YES (TROUBLE)
ANNUNCIATE AT 24 HOUR ATTEND LOCATION	YES	YES	YES (TROUBLE)
ALARM AND TROUBLE			
ACTIVATE AUDIO VISUAL THROUGHOUT FLOOR OF ALARM	YES	YES	YES
CENTRAL STATION MONITORING	YES	YES	YES

NEW FIRE ALARM BATTERY CALCULATION- GAMEWELL/FCI E3 SERIES BROADBAND					
EQUIPMENT DESCRIPTION	QUANTITY		SUPERVISORY CURRENT (AMPERES)		ALARM CURRENT (AMPERES)
	EXISTING	NEW	EACH	SUB-TOTAL	EACH SUB-TOTAL
FIRE ALARM PANEL	1	0	0.155	0.155	0.228
DIGITAL ALARM COMMUNICATOR	1	0	0.02	0.02	0.02
INI-VGC		1	0.211	0.211	2.462
SMOKE DETECTOR	80	22	0.00039	0.00054	0.05508
HEAT DETECTOR	60	19	0.00055	0.00066	0.05214
MANUAL PULL	1	0	0.0006	0.00066	0.00066
HORNS	5	0	0	0.05	0.25
AUDIBLE/VSUALS 75 cd	7	0	0	0.119	0.833
AUDIBLE/VSUALS 15 cd	12	0	0	0.045	0.54
ADDRESSABLE MODULES	2	0	0.002	0.004	0.013
SUB TOTAL AMPERES			0.47383 AMPS		4.45388 AMPS
			x 24 HOURS		x 0.084 HOURS
SUB TOTAL AMPERE-HOURS			11.37192 A.H.		0.374126 A.H.
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE					11.74605 A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR					x 1.2
TOTAL MINIMUM AMPERE HOURS REQUIRED					14.09526 A.H.
PROVIDED BATTERY CAPACITY					36.00 A.H.

Battery Calculation DISTRIBUTED POWER MODULE GAMEWELL: FF8					
EQUIPMENT DESCRIPTION	QUANTITY		SUPERVISORY CURRENT (AMPERES)		ALARM CURRENT (AMPERES)
	EXISTING	NEW	EACH	SUB-TOTAL	EACH SUB-TOTAL
DISTRIBUTED POWER MODULE	1	0	0.03	0.03	0.15
FCM-1	1	0	0.0003	0.0003	0.0003
HORNS	1	0	0	0	0.05
VISUALS 15 cd	0	0	0	0	0.066
VISUALS 15/75 cd	0	0	0	0	0.077
VISUALS 30 cd	0	0	0	0	0.094
VISUALS 75 cd	4	2	0	0.119	0.714
VISUALS 110 cd	0	0	0	0.202	0
WP SPEAKER	0	1	0	0	0
	0	0	0	0	0
SUB TOTAL AMPERES			0.0303 AMPS		0.9143 AMPS
			x 24 HOURS		x 0.084 HOURS
SUB TOTAL AMPERE-HOURS			0.7272 A.H.		0.076801 A.H.
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE					0.804001 A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR					x 1.2
TOTAL MINIMUM AMPERE HOURS REQUIRED					0.964801 A.H.
PROVIDED BATTERY CAPACITY					7.00 A.H.



FIRE ALARM RISER DIAGRAM

SCALE: NONE

Battery Calculation DISTRIBUTED POWER MODULE GAMEWELL: FF8					
EQUIPMENT DESCRIPTION	QUANTITY		SUPERVISORY CURRENT (AMPERES)		ALARM CURRENT (AMPERES)
	EXISTING	NEW	EACH	SUB-TOTAL	EACH SUB-TOTAL
DISTRIBUTED POWER MODULE	0	1	0.03	0.03	0.15
FCM-1	0	1	0.0003	0.0003	0.0003
WP SPEAKER	0	2	0	0	0.05
VISUALS 15 cd	0	0	0	0	0.066
VISUALS 15/75 cd	0	0	0	0	0.077
VISUALS 30 cd	0	0	0	0	0.094
VISUALS 75 cd	0	4	0	0.119	0.476
VISUALS 110 cd	0	0	0	0.202	0
SUB TOTAL AMPERES			0.0303 AMPS		0.7263 AMPS
			x 24 HOURS		x 0.084 HOURS
SUB TOTAL AMPERE-HOURS			0.7272 A.H.		0.061009 A.H.
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE					0.788209 A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR					x 1.2
TOTAL MINIMUM AMPERE HOURS REQUIRED					0.945851 A.H.
PROVIDED BATTERY CAPACITY					7.00 A.H.