

FIRE ALARM SYSTEM VOLTAGE DROP CALCULATION								
FORMULA:	VD = I x D x 21.6 / CM							
	I = CURRENT IN AMPS							
	D = DISTANCE IN FT.							
	CM = 4110 (FOR #14 AWG WIRES)							
	CM = 6530 (FOR #12 AWG WIRES)							
	% VD = VD x 100 / 24							
DEVICE NO.	N-1	N-2	N-3	N-4	N-5	N-6	N-7	N-8
DEVICE DESC.	EXT. HORN	HORNSTROBE	SL (30)	SL (30)	SL (15)	SL (15)	HORNSTROBE	HORNSTROBE
WIRE (AWG) TO BE USED	#12	#12	#12	#12	#12	#12	#12	#12
WIRE CM	6530	6530	6530	6530	6530	6530	6530	6530
DISTANCE BET. DEVICES (FT)	150	4	22	15	15	1	6	18
DEVICE AMPS	0.040	0.141	0.125	0.125	0.085	0.085	0.141	0.141
I (AMPS) @ DEVICE	0.903	0.863	0.722	0.587	0.472	0.377	0.282	0.141
VD (BET. DEVICES)	0.448	0.011	0.053	0.030	0.023	0.001	0.006	0.008
TOTAL VD @ DEVICE	0.580	0.132	0.121	0.068	0.039	0.015	0.014	0.008
% VD @ DEVICE	2.418	0.551	0.503	0.285	0.161	0.063	0.058	0.035

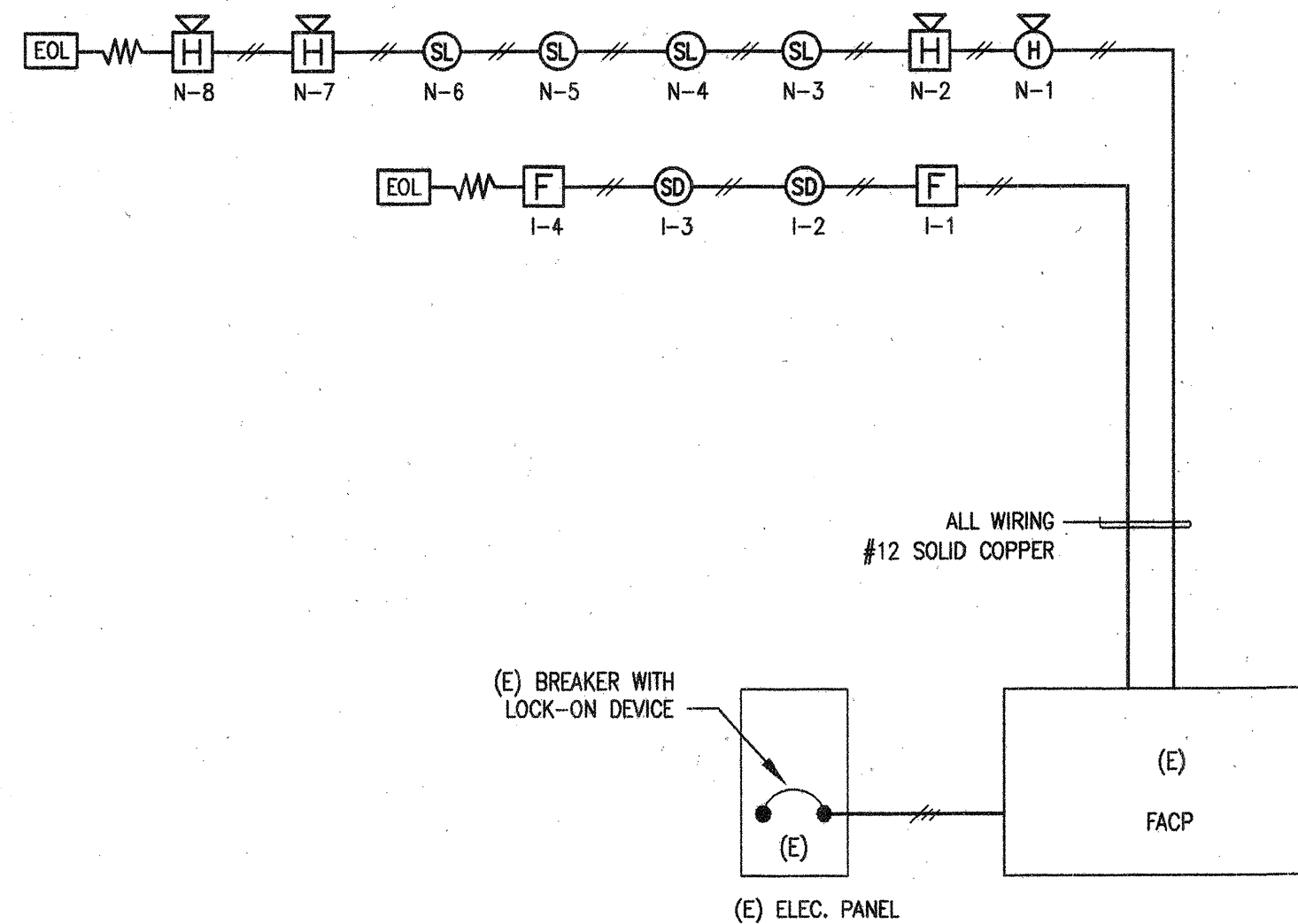
FIRE ALARM SYSTEM BATTERY CALCULATION

DEVICE	QTY.	STANDBY CURRENT (mA)		ALARM CURRENT (mA)	
		UNIT	TOTAL	UNIT	TOTAL
(E) CONTROL PANEL	1	-	-	-	-
SMOKE DETECTORS	2	0.045	0.090	41	82
HORNS	1	-	-	40	40
ALARM HORN / STROBE	3	-	-	141	423
VISUAL ALARM (15cd)	2	-	-	45	90
VISUAL ALARM (30cd)	2	-	-	125	250
TOTAL	-	-	0.090	-	991

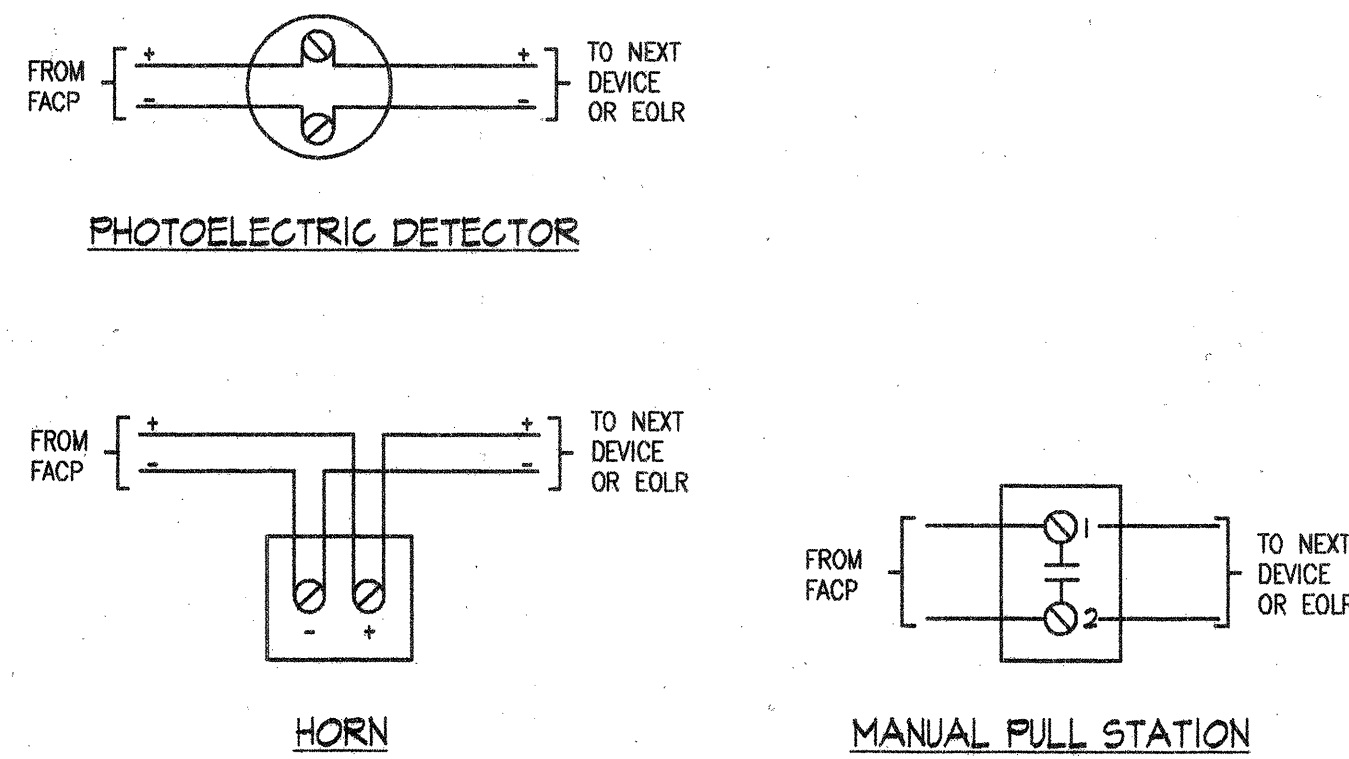
AMPERE-HOUR LOAD CALCULATIONS

24 HOURS OF STANDBY: $0.090 \times 24 / 1000 = 0.002$ AH
 5 MINUTES OF ALARM: $991 \times 5 / 60 / 1000 = 0.083$ AH
 NEW BATTERY AH REQUIRED = 0.085 AH
 EXISTING SYSTEM REQUIRED = 2.630 AH
 TOTAL BATTERY AH REQUIRED = 2.715 AH
 (E) FIRE ALARM CONTROL PANEL IS EQUIPPED WITH A 10 AH BATTERY UNIT.

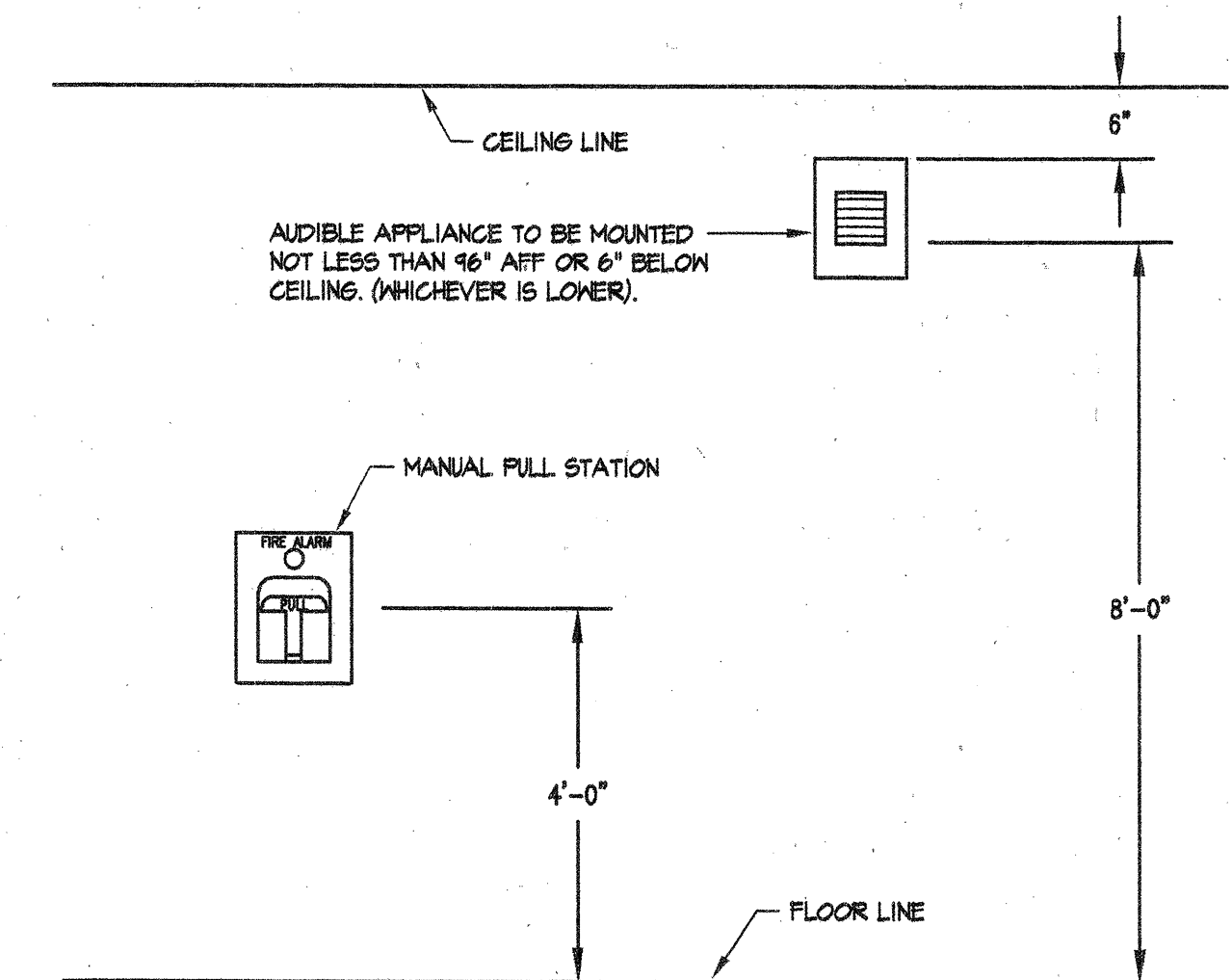
SYSTEM OPERATION MATRIX			
DEVICE	ACTIVE EVACUATION SIGNALS	ANNUNCIATE AT FACP	SEND SIGNAL TO (N) FIRE ALARM CONTROL PANEL
MANUAL PULL STATION	X	X	X LOCAL ALARM
SMOKE DETECTOR	X	X	X LOCAL ALARM



1 FIRE ALARM DIAGRAM
SCALE: SCHEMATIC

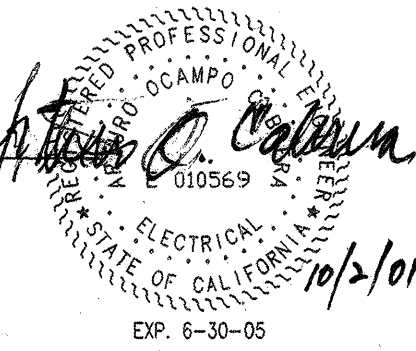


2 TYPICAL DEVICE WIRING DETAILS
SCALE: SCHEMATIC



3 DEVICE ELEVATION DETAILS
SCALE: SCHEMATIC

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FIRE ALARM DETAILS AND CALCULATIONS
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SKYLINE COLLEGE
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SAN BRUNO, CA 94006

REVISIONS		
NO.	ITEM	DATE

CLIENT APPROVAL: _____

DRAWN BY: **LCC**
 CHECKED BY: **AOC**
 JOB NO: 2137 DATE: 10/3/01

IDENTIFICATION STAMP
 DIVISION OF THE STATE ARCHITECT
 APPL 01 104070
 AC DS FLS SS CLK/PT
 DATE _____

LICENSED ARCHITECT
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