


BASEMENT FIRE ALARM PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



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 MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

FCP Battery Calculation				
<div> <div>PROJECT NAME:</div> <div>SHALOM HOUSE-503 WOODFORD STREET</div> </div> <div> <div>Required Standby Time:</div> <div>240 Hours</div> </div> <div> <div>Required Alarm Time:</div> <div>5 Minutes</div> </div>				
Regulated Load in Standby				
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)	
MS-9200DLS Main Circuit Board	1	X	0.145000	=
MS-9200DLS Remote Annunciator	1	X	0.000000	=
SD355 300 Monitor Modules	25	X	0.000000	=
MAF-300 Monitor Modules	12	X	0.000400	=
BC-12LX Pull Stations	1	X	0.000000	=
Carbon Monoxide Detector	4	X	0.020000	=
TOTAL STANDBY LOAD			0.252600	
Regulated Load in ALARM				
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)	
MS-9200DLS Main Circuit Board	1	X	0.750000	=
AN-80 Remote Annunciator	1	X	0.040000	=
Carbon Monoxide Detector	4	X	0.040000	=
Max. Alarm Draw – All Addressable Devices	1	X	0.400000	=
NAC-1 (See voltage drop calcs for device quantity)	1	X	0.804000	=
NAC-2	1	X	0.405000	=
TOTAL ALARM LOAD			2.084000	
Battery Requirements				
Standby Load (Current (Amps))	0.25260 X		Required Standby Time in Hours	6.08240
Alarm Load (Current (Amps))	2.08400 X		Required Alarm Time in Hours	24.00000
Total Amperes Hours (before derating factor)			0.08333	0.17367
Derating Factor			X	1.2
TOTAL AMPERE HOURS REQUIRED			=	7.48328
BATTERIES TO BE PROVIDED (≥ 12v)				12 AH

NAC Circuit Voltage Drop Calculation				9/30/2013	
Project Name		SHALOW HOUSE-503 WOODFORD STREET			
Circuit Number		NAC-1			
Nominal System Voltage		20.7 volts		Wire Gauge	
Minimum Device Voltage		16 volts		14	
Distance from source to 1st device		10		14	
Wire Gauge for balance of circuit					
Max Output Current		1.0 amps			
Total Circuit Current		0.804 amps			
Circuit is within limits					
		Device Count		Distance previous device	
Device 1		0.176		20.35	
Device 2		0.176		20.22	
Device 3		0.066		20.21	
Device 4		0.290		20.17	
Device 5		0.017		20.17	
Device 6		0.079		20.15	
Totals		0.804		103	
				Drop from source	
				0.05	
				0.18	
				0.19	
				0.23	
				0.23	
				0.25	
				1%	
				1%	
				1%	
				1%	
				1%	
				1%	

NAC Circuit Voltage Drop Calculation										9/30/2013
Project Name		SHALOW HOUSE-503 WOODFORD STREET								
Circuit Number		NAC-2								
Nominal System Voltage		20.4 volts		Wire Gauge		14		Resistance Per 1000		6.14
Minimum Device Voltage		16 volts		Wire Gauge		14		Resistance Per 1000		6.14
Distance from source to 1st device		45'								
Wire Gauge for balance of circuit										
Max Output Current		1.0 amps								
Total Circuit Current		0.405 amps								
Circuit is within limits										
Device 1	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop					
Device 2	0.079	14'	20.29	0.11	1%					
Device 3	0.079	9'	20.26	0.14	1%					
Device 4	0.079	9'	20.24	0.16	1%					
Device 5	0.079	6'	20.22	0.17	1%					
Device 6	0.079	6'	20.22	0.18	1%					
Device 7	0.079	11'	20.21	0.19	1%					
Device 8	0.079	20'	20.18	0.22	1%					
Device 9	0.079	10'	20.17	0.23	1%					
Device 10	0.079	20'	20.15	0.25	1%					
Device 10	0.079	12'	20.15	0.25	1%					
Totals		0.405		136'						

Alarm Load	0.0000	X	0.17367
Current (Amps)	2.08400	X	0.08333
Total Ampere Hours (before derating factor)			6.33607
Derating Factor			1.2
TOTAL AMPERE HOURS REQUIRED			7.48328
BATTERIES TO BE PROVIDED (2 - 12v)			12 AH

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shop drawings
created by:
UNICAD Inc.
5704 W. 4000 So.
Hooper, UT 84315
Office: 801.585.0410

 ATM

www.unicad.net
Fire Alarm Design & Drafting Services

